Potential Market for Frozen Beche-de-mer in New Zealand

By-Pro Marketing (P.O. Box 38679, Petone, New Zealand), is trying to establish itself as a beche-de-mer middleman in the Cook Islands, as well as other South Pacific nations. By-Pro's field representative and co-owner, Raymond Joe, has met with Cook Islands Marine Resources to discuss the market potential of its beche-de-mer. Besides wanting to deal in the normal smoked/sun dried product, he claims that By-Pro has located a market for frozen beche-de-mer that has simply been gutted, or gutted and then boiled, depending on the species. Another interesting claim is that besides for any of the established commercial species, he has found a market for gutted/frozen leopard fish (*Bohadschia argus*), which is traditionally not a commercial species. The species found in the Cooks that they wish to buy, and rough prices for the different processing methods of each are as follows:

Species	**NZ$/kg dried**	**NZ$/kg frozen**
Thelenota ananas	5	3-4
Holothuria nobilis	4-5	3-4
Actinopyga mauritiana	2-3	2
Bohadschia argus		2-3

It is interesting to note that the price for gutted/frozen *B. argus* is in the same league as for the high commercial value species *T. ananas* and *H. nobilis*. *B. argus* may only be gutted and then frozen, because boiling water causes its body wall will disintegrate.

By-Pro Marketing is seeking as much beche-de-mer as it can get, and has proposed setting up a sea freight container/freezer, for storing beche-de-mer produced in the Cook Islands, and then shipping it off when full. If By-Pro Marketing's claim pan out, beche-de-mer processing in areas with freezers may become much simpler, and for those who also have commercial quantities of *B. argus* it may provide an opportunity to tap another profitable resource.

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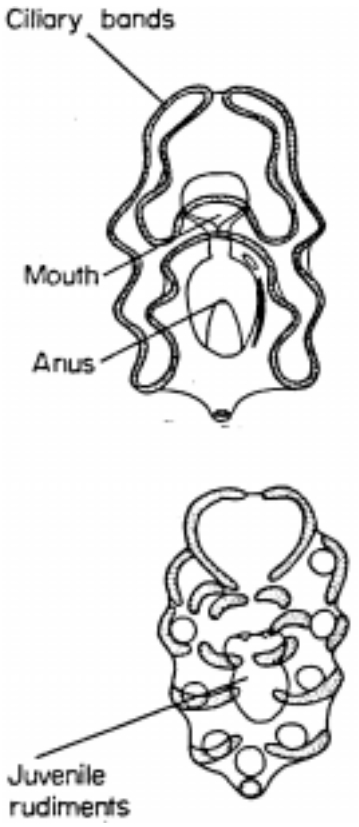
Beche-de-mer resource management studies in Guam

A team of researchers at the University of Guam, under the supervision of Marine Laboratory Director Bob Richmond, are undertaking a comprehensive research programme to investigate the biology and ecology of three commercially important sea cucumbers - *Actinopyga mauritiana* (surf red fish), *Holothuria nobilis* (black teatfish) and *Thelenota ananas* (prickly red fish). The programme involves experimenting with spawning induction and larval rearing, and artificial induction of fissioning (asexual reproduction), as well as abundance surveys in various parts of Micronesia. Much of the work is a preliminary to looking at the possibility of enhancing natural sea cucumber stocks by seeding with juveniles, and, ultimately, perhaps farming these animals.

Much of the work on reproductive biology is being carried out by graduate student Dave Hopper and colleagues. Sampling of local populations of the three species under study has enabled the periodicity of spawning readiness to be documented. At regular intervals samples are taken and the weights of the animals (whole and after evisceration) and their gonads recorded. This permits calculation of the gonadal index, or GI (weight of gonads divided by whole weight). Since the GI rises during the spawning period, monitoring the progress of the gonadal index allows the spawning regime of the species to be understood. For instance, the GI of *A. mauritiana* in Guam peaked in June 1988, and in April 1989, indicating that spawning in this species occurs at the end of the (northern hemisphere) spring or early in summer. This information, as well as contributing to our knowledge of the biology of the species, was valuable in allowing the UOG team to anticipate spawning and achieve success in the larval rearing work.



Auricularia (above) and doliolaria (below) larvae of a generalised holothurian.
(From Laverack, M. S. and J. Dando: Lecture Notes on Invertebrate Zoology. Blackwell Scientific Publications, London)