Many apologies for the delay in the production of this, the second issue of Tentacle. If you never received Tentacle I, please contact Fred Woodward (address below) who will send you a copy; we seem to have had some problems with the mailing list on the first issue. We do hope to get the newsletter going on a more regular basis, so please send in news of mollusc conservation issues and activities. We had a rather small response to our first issue.

IUCN holds its 18th General Assembly in Perth, Australia, at the end of November this year. No specifically invertebrate or mollusc-orientated meetings have been scheduled, but the Royal Entomological Society of London is sponsoring a recommendation on invertebrates. The draft of this has been circulated to Chairmen of the invertebrate Specialist Groups for comment. Unfortunately, it is too long to reproduce here, running to nearly three pages, but copies are available from Sue Wells (address below).

Essentially the recommendation calls for further support for invertebrate conservation activities both within IUCN and by other appropriate agencies, through the completion and implementation of Action Plans, the improvement of national legislation and international conventions to take invertebrates into account, the prevention of further introductions of exotic species without full environmental impact assessments, and the development and continuation of research programmes that have a bearing on invertebrate conservation, such as taxonomy and ecology.

The main problem with IUCN Resolutions and Recommendations is that because so many are passed, the task of following them up can become almost impossible (a total of 64 were passed at the last General Assembly in 1988). Recommendations 'invite action by third parties (with or without IUCN action)'. If the invertebrate recommendation is passed it is to be hoped that concerned individuals will make use of it to bring about conservation action within their area of expertise.

Please send contributions for the next issue of Tentacle by Feb 1st 1991 to:

Sue Wells, 56 Oxford Road, Cambridge CB4 3PW, UK.
Secretary, IUCN/SSC Mollusc Specialist Group
OBITUARY

In Memoriam ALAN SOLEM, 21 July 1931 - 26 February 1990.

All malacologists will have been shocked by the sudden death earlier this year of Alan Solem, a member of the IUCN/SSC Mollusc Specialist Group. Dr. George Alan Solem of the Field Museum of Natural History, Chicago, first and foremost was an expert on the land molluscs of Australia and the Pacific Region. As no other he was acquainted with the problems of conservation of land molluscs in the various island groups in the Pacific. Already in his semipopular book 'The Shell Makers' (1974) he discusses the threat of *Euglandina rosea* on Oahu and Bermuda, certainly one of the earliest records of impending extinction of, for example, *Achatinella* species. Incidentally, in the same book he also focussed attention on the plight of the freshwater clams of the United States.

Alan Solem obtained his Ph.D. in 1956 at the University of Michigan. In the same year he joined the staff of the Chicago Museum as Associate Curator, where he later took over from his predecessor Dr. F. Haas. As a scientist Solem was a prolific writer as shown by the long list of his sometimes bulky papers and books, and also a pioneer as regards the Scanning Electron Microscope (S.E.M.) and the personal computer - he was always interested in innovation. His most recent fad was collecting by helicopter on remote mountains and inaccessible islands! As a person he was impressive in more than one respect. He was usually present at international conferences and was almost always involved in some aspect of organisation of symposia and other specialized meetings. It was a joy to work with him; he detested sloppy work and also had no time for things considered fashionable in science. He was always prepared to let others partake of his knowledge and skills; many of us have enjoyed his quiet sense of humour. Conservation was close to his heart; frequently he made bitter remarks about our museums being filled with organisms extinct or soon to become extinct. At times he could be positively shy, yet he always enjoyed the company of his colleagues, particularly off duty. He had a very soft spot for his children and dogs (his whippers were the real masters of the house!). We will miss him .... Our warmest feelings of condolence are for Sylvia, his widow.

A.C. Van Bruggen.

Correspondence about the mailing list etc. should be addressed to:

Fred Woodward, Art Gallery and Museum, Kelvingrove, Glasgow G3 8AG, Scotland.
PARTULA PAGE.

The 1990 inventory of Partula snails in captivity has been produced by Simon Tonge of the Jersey Wildlife Preservation Trust. The inventory report also includes a summary of population trends between 1989 and 1990, minutes of the Partula workshop held at London Zoo in November 1989, and husbandry reports from some of the organisations involved. The total number of individuals in captivity still stands at about 4,000. Of the Moorean species, there are about 1,500 P. suturalis, 1,600 P. taeniata, 500 P. mooreana, 145 P. tohiveana, 30 P. mirabilis, and 1 P. aurantia. There are also 44 P. rosea and 19 P. varia from Huanine, 10 P. gibba from Saipan, and 2 P. clara, 24 P. otakeita, 3 P. affinis, 11 P. nodosa, and 100 P. hyalina from Tahiti.

The following organisations are involved: University of Nottingham, University of Virginia, Jersey Wildlife Preservation Trust, Perth Zoo, Baltimore Zoo (USA), St. Louis Zoo, London Zoo, Edinburgh Zoo, Detroit Zoo, Taronga Park Zoo (Australia), John Hopkins University (USA), West Berlin Zoo, Antwerp Zoo (Belgium), Chester Zoo (UK), and Robin Hill Adventure Park (UK); one private individual is breeding one species.

Long-term prospects for P. taeniata in captivity are considered to be good; prospects for P. mooreana, P. tohiveana and P. suturalis are moderate, but there is some concern for the remaining species. London Zoo will be putting together information on husbandry methods, factors affecting survival, diet, etc., with the aim of establishing a database to facilitate exchange of this type of material.

Partula snail meeting.

The next meeting of all those involved in the Partula captive breeding programme and 'rescue' operation will be held on Thursday 16th May 1991, at the Zoological Society of London. An agenda will be circulated in the New Year. Suggestions for topics to be included are welcome.

Further information from Simon Tonge, Jersey Wildlife Preservation Trust, Les Augres Manor, Trinity, Jersey, Channel Islands.

Threats to Partula on Guam, Mariana Islands.

The following information has been provided by David Hopper who is currently working on Partula on Guam with Barry Smith. P. salifana, endemic to Guam, is probably extinct, no living snails having been found at any of the previously recorded sites. P. gibba, known from several of the southern Mariana Islands, can only be found at one site on Guam, an isolated coastal valley in the north-west, Naputo Beach.
Ecological Preserve. This population shows signs of predation. P. radiolata, endemic to Guam, and Samoana fragilis, endemic to Guam and Rota, are still widespread but are showing signs of range-reduction.

P. langfordi, originally known only from the small island of Agiguan in the Southern Marianas Islands, has recently been found on Rota as well, restricted to a small population, although empty shells were found at four other locations, with empty shells of P. gibba.

Euglandina rosea, Conaxis kibwaziensis and G. quadrilateralis were introduced to Guam in 1957, 1954 and 1967 respectively as control agents for Achatina fulica and have probably contributed to the decline of these species. However, living Euglandina rosea can no longer be found on the island and appear to have gone extinct. The major threat now appears to be the flatworm Platyzoon manokwari which was introduced in 1978. It has been observed feeding on Partula both in the wild and in the laboratory, and was probably responsible for the predation observed on P. gibba. The three Partula species are not restricted to native vegetation but are commonly found on coconut palms, and other introduced and crop plants, and thus do not appear to be affected badly by habitat destruction. The flatworm has been reported from Rota as well, where dead shells of Euglandina have been found, but cat predation may be a more serious threat to this island.

It is hoped that the Guam wildlife department will give the endemic Partulidae protected status, and efforts are being made to place P. gibba on the U.S. Federal Endangered Species List. If the flatworm proves to be the main problem, this may be another case for captive breeding as chances of eradicating a flatworm are even thinner than for Euglandina.

Further information from: David Hopper, University of Guam, Marine Station, Mangilao, Guam.

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EUGLANDINA News

The great biotic betrayal: Euglandina rosea vs. Achatina fulica in the Andaman and Nicobar Islands

It is thought that either the British or the Japanese introduced Achatina fulica, the giant African snail, to the Andamans around the middle of this century. The British are said to have brought it to keep the lush growth of grass in the vicinity of the airfield under check, while the Japanese are supposed to have introduced it as a protein supplement to their food when they occupied these islands from 1942 to 1945. But, whoever was responsible for this scourge, the legacy of A. fulica could have far-reaching and as yet unknown consequences in the Andaman and Nicobar Islands. The damage it causes to crops is well known, but the impact on native species from the frantic and ill-conceived endeavours to control this pest through biological control is only now coming to light on many Pacific and Indian Ocean Islands.
A. fulica has spread since the 1940s from the little port city of Port Blair on the south-eastern coast of the main island of S. Andaman, both north and south along the Andaman and Nicobar chain of islands. Today it can be found on all the major islands including Long Island, North, Middle and Little Andaman.

It has reached the Nicobar group of islands, across the dreaded Ten Degree channel, which for centuries served as an effective barrier to the spread of plants and animals in the absence of human movement between the islands. Flourishing populations can now be found on the islands of Car Nicobar, Katchal, Mancovry and Great Nicobar. However, it is absent from the islands of Neil (a major vegetable growing area) and Havelock, situated in the Ritchies Archipelago, east of Great Andaman.

The predatory snails Euglandina rosea and Gonaxis quadrilateralis were both introduced from Hawaii to Port Blair in 1964. These failed to exercise control on A. fulica. The effects of the predatory activities of E. rosea on the endemic snail fauna is yet to be assessed. To date 75 endemic species out of a total of 85 species have been reported for these islands. No systematic malacological expeditions have been mounted to these islands in the recent past and endemism may well be higher. There is an urgent need for further malacological work in this area before E. rosea destroys this diverse fauna.

Prashanth M., [entomologist]
Address: Central Agricultural Research Institute, P.B. No. 431 Junglighat, Port Blair - 744103, Andamans, India.

Dr Prashanth also reports that he recently received a letter from the Planning Commission in New Delhi, asking for advice on the appropriateness of introducing Euglandina and other predators for Achatina control. He replied advising strongly against using either Euglandina or the problem flatworms (see note about Partula on Guam). He also stresses the need for good identification pictures of Euglandina - there is still a need to find out if this species is still alive in the Andamans. If anyone can help, please do contact Dr Prashanth.

Further introductions of Euglandina on American Samoa ??

Dr Phil Colman, of the Australian Museum, Sydney, has written to say that Euglandina may have been introduced into the Manua Islands of American Samoa. Apparently cyclones at the beginning of the year devastated crops, making competition between locals and Achatina more intense. We are still awaiting confirmation of this and further details, with suggestions of action to be taken. Euglandina was apparently introduced to Tutuila, another island in the group, a few years back but the impact of this has never been investigated. Further information on the American Samoa situation will be very useful; send it to Phil Colman or Sue Wells.
Trade in Unionids from the United States for the Cultured
Pearl Industry.

One of the most heavily represented groups of animals listed as
threatened or endangered under the United States Endangered
Species Act is the family Unionidae, the naiads, a highly
diverse group of freshwater bivalves, most of which are endemic
to the United States. Of the 297 taxa native to North America
(Turgeon et al., 1988), thirteen are believed to be extinct;
thirty-five are listed as endangered, and a further fifty-five
are or have been candidates for listing under the Act. Review
of status information for the remaining two-thirds of the taxa
in this group and state endangered and threatened species lists
would be likely to add a considerable number of taxa to what
should be considered an 'absolute minimum' list of threatened
species.

While over-exploitation of naiads and the freshwater pearl
oysters of the genus Margaritifera for the pearl button and
pearl industry reduced populations of these animals in the
United States at the turn of the century, the most recent
documented threats have been largely factors affecting
hydrology and water quality - impoundments and channelization,
siltation, and pollution; loss of fish hosts necessary for
reproduction has also been a problem. Recent research carried
out under the auspices of the IUCN/SSC Trade Specialist Group
points to an additional potential threat - over-exploitation
for use in the cultured pearl industry.

The Unionid fauna of the United States currently provide
the sole seed material for the world’s cultured pearl industry,
which extends far beyond Japan to other parts of Asia and the
Pacific, including Australia, Indonesia, Korea, Papua New
Guinea, the Philippines, Taiwan, and Thailand. Since 1983,
black pearls have been French Polynesia’s leading export
commodity: according to the Tahitian Ministère de la Mer, the
roughly 500 Kg of black pearls exported in 1988 were estimated
to value almost US $23 million.

Preliminary results of a review of U.S. Fish and Wildlife
Service and other trade data indicate minimum exports of raw
Unionid shell averaging between 5,000 and 6,000 tonnes per year
since 1986, a dramatic increase over previous levels dating as
far back as the late 1960s. Japan continues to be the
predominant importer, as it is almost exclusively Japanese
technicians that manufacture the shell beads or 'blanks' for
implantation into pearl oysters for culturing.

While commercial mussel growing employs a few thousand fisheermen
in the United States, the number of commercial mussel exporters
is limited to seven or eight companies and the number of
documented importers to fewer than twenty. No more than six
countries have been reported as importing raw shell from the
U.S. The number of species identified in trade is similarly
small: Megalonaia nervosa is by far the predominant species
exported; others include Ambloplites plicata, Fusconaia ebena,
Pleurobema cordatum, Quadrula pustulosa, and Quadrula quadrula.

Although export documents might suggest that the harvest of
unionid species is limited to only a few, generally common species, the nature of the harvest virtually ensures that protected species are taken incidentally wherever their ranges overlap with commercial activity. Mucky water and non-selective gear are the major factors responsible for this accidental take, which not only threatens the survival of a number of endangered species but also involves a substantial volume of non-target species and specimens of no commercial value. Steve Ahlstedt of the Tennessee Valley Authority, one of the world's experts on U.S. unionids, has estimated that as many as fifteen tons of mussels may be harvested and killed to yield one ton of mussels of commercial export value.

While the incidental take of protected species in the commercial harvest is obviously cause for concern, the sheer volume of the mussel harvest, particularly in the light of Ahlstedt's assertion, and past history of over-exploitation of these environmentally-sensitive animals raises equally compelling questions regarding the sustainability of harvest levels and survivability of mussel populations. An apparent consensus amongst malacologists and fisheries biologists most familiar with these species that they are being heavily overexploited has not yet translated into effective management at either the state or federal level, and additional harvest and trade controls and population monitoring programs are considered essential to ensuring the long-term viability of these species' populations. These programs will become increasingly necessary as the pearl industry further expands in Asia and the Pacific, for until experimentation with synthetic nuclei yields positive results, this industry will continue to be dependent on this rapidly disappearing U.S. resource.

Continuing work on this problem will include further research into harvest and trade and efforts to promote improved management of this harvest by the U.S. Fish and Wildlife Service and state agencies.

Comments and additional information on this issue will be most welcome.


Amie Brautigan, Deputy Chairman, IUCN/SSC Trade Specialist Group : address : 15, Herbert St., Cambridge CB4 1AG, U.K.

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THREATENED NON-MARINE MOLLUSCS OF EUROPE.

A generous grant has been awarded this year by the Worldwide Fund for Nature UK for the production of a report to identify conservation priorities for threatened non-marine molluscs of Europe. The report will be compiled by Dr June Chatfield and Sue Wills and will be published by the Council of Europe (in English) in their Nature and Environment Series, in early 1991. In 1983, following the 8th International Malacological
Congress in Budapest, where the need for such a report was discussed, data on the status of European molluscs began to be collected at the IUCN Conservation Centre (now the World Conservation Monitoring Centre - WCMC). This information formed the basis for a section on molluscs in the Council of Europe report 'Invertebrates in need of special protection in Europe' and led to the listing of 23 molluscs on the Berne Convention in 1987.

The WWF-UK grant allows completion of this project. It is hoped that it can have a major input into the recently established European Invertebrate Survey (EIS) project to compile data sheets for the Berne Convention invertebrates, in terms of helping to compile the mollusc data sheets and identifying possible future changes to the listings. Similarly, the project will permit refinement of the mollusc list for the proposed EEC Habitats Directive.

The compilers have already contacted many people for information and a first draft of the report will be complete at the end of November. If anyone else has information that would be of value, or would like to become involved, please contact us as soon as possible.

Sue Wells
56, Oxford Road
Cambridge CB4 3PW
Tel. 0223 350409
Fax (c/o WCMC) 0223 277136

Dr June Chatfield
Anglefield
44, Ashdell Road
Alton
Hampshire GU34 2TA
Tel. 0420 82214

THE XERCES SOCIETY

The Xerces Society is an international organisation dedicated to preserving global biodiversity through the conservation of invertebrates and their ecosystems. At the moment it is orientated towards insects, particularly butterflies, but if more malacologists knew of it, perhaps it could broaden its horizons. Most of its work at present is carried out in North America, although it is running a rainforest project in Madagascar. It also maintains an International Conservation Register of Invertebrate Specialists which provides sources of expert information on invertebrates for land use and conservation decision making.

Members of the society receive a nice full-colour magazine Wings: Essays on Invertebrate Conservation three times yearly. As a non-American, non-entomologist member, I have to say that the magazine needs more non-insect, international contributions; it could be a good outlet for mollusc conservation news, if any one would like to send material.

Membership dues are: Life ($1000), Patron ($250), Friend ($100), Supporter ($50), Institutional ($40), Regular ($25), Retired ($15), Student ($15). Overseas members must add $5 for postage. In addition to Wings, members also receive discounts on Xerces books and selected gift items.

Further information from: The Xerces Society, 10 Southwest St, Portland, Oregon 97204, USA.
RECENT ARTICLES AND PUBLICATIONS ON MOLLUSC CONSERVATION.


This substantial volume contains 72 papers on all aspects of invertebrate biology, ecology and conservation in Belgium. There are 8 papers on molluscan subjects, as well as a comprehensive overview of current legislation in Belgium relating to invertebrates.

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A nice example of positive publicity for molluscs - and it's for slugs, almost certainly the least 'popular' taxonomic group! Subtitled 'A close look at a Giant Forest Slug of Western North America', this booklet was produced in cooperation with the Santa Cruz City Museum Association and tells you all you ever wanted to know about this exceptionally colourful slug; the largest in North America (15-20 cm in length on average). Fortunately, at the moment, this species does not need to be considered for threatened species listing but as the author (who became known as the Banana Slug Lady) says:

"John Muir wrote 'When we try to pick out anything by itself, we find it hitched to everything in the universe' It is my hope that this very close examination of one small animal in the natural world will help illustrate the wonder and connection of all living things."

---Our language even reflects our attitudes toward this slime-covered invertebrate. It is obviously not a compliment to be called a slug, sluggish, or slumy. Slug caricatures are usually shown in silly, comical ways, whereas many other animals are anthropomorphically endowed with lofty human traits.

All this makes students at the University of California at Santa Cruz an exceptional group, when in 1986 they rebelled against their chancellor and demanded that the banana slug become their university mascot. A majority of the students took into account that the golden mollusk was a true native of their campus and more appropriate than the seahorse to decorate their sweatshirts and banners. Since then, the banana slug has also been proposed as California's official state mollusk.

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This paper provides an invaluable overview of the threatened non-marine molluscs of France, identifying primarily the narrow endemics, notably Hydrobiidae, that are probably at greatest risk due to their tiny ranges and vulnerability to pollution and environmental disturbance. The molluscan species protected under French legislation are reviewed, and Bouchet points out that several of these are inappropriately listed, including some that are agricultural pests in other countries! He stresses that the emphasis must be on habitat protection — for some of the species concerned, perfectly viable populations could be maintained in tiny areas, and thus protection could relatively easily be achieved. Further field work is required to identify other endemics and species largely well known for which the same principle could apply. We need reviews like this for other countries — this kind of information is essential for the work of the IUCN Mollusc Specialist Group.

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**Intron:**

**Slimy trail along the road to nowhere**

Animal behaviour

Malcolm Smith

Forget hedgehog jokes. Have you heard the one about the snail crossing the road?

You haven't? It is probably because they almost never do. That, anyway, is the conclusion of some painstaking Swedish research which followed their snail-paced movements.

Anette and Bruno Baur of the Zoology Department at Uppsala University monitored the meandering of a land snail called *Arion arboricola*.

It is a species found commonly — often in woods — across northwest Europe. It also seems to take a shine to the grassy verges of roads. But almost never to the road itself.

The Baur's captured, marked and released snails along the verges of three very different roads and tracks near Uppsala. They reckon that their is the first study of whether roads put a stop to a snail's yen for travel.

Their findings are revealing. Even an overgrown path just 0.3 metres wide — used only by an occasional walker — isn't often crossed.

In three months only 10 snails out of 64 living along its edges had ventured across the narrow divide.

Britain, for instance, has just over a hundred snail species. According to Dr Stuart (Bill) Bailey, an authority on British snails at Manchester University, six of these are rare and endangered.

"More small species are declining than are extending their ranges," he says.

Habitat destruction is the main reason. Pollution, pesticide use, fires and changes in the way farmland is managed are others.

More — and wider — roads could be the last straw for a few, already declining species.

But why can't snails pick up their shells and cross a road? Mostly because they risk desiccation.

To move at all, snails have to produce copious amounts of mucus. It is nearly all water. In the snail's pace hour or two it would take to cross even an eight metre wide road, its water reserves could be exhausted.

A wet road surface wouldn't make a great difference. The other reason why snails don't cross roads, according to Dr Bailey, is because they detect food by smell. Why risk a life-threatening trek without food across tarmac or path when the lush verges you are on is laced with food odours.

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Braved the eight metre wide single carriageway tarmac road?

This suggests three things. First, that dual carriageways or motorways would be as effective a barrier as the Berlin Wall once was.

Secondly, that snails...
MORE MOLLUSC NEWSLETTERS

Amici Gastropodorum (Friends of the Gastropods Newsletter)
Friends of the Gastropods is an informal group that exists to encourage and facilitate communication (and amusement) among students of fossil and living snails and snail-like organisms. The newsletter is issued twice a year and contains summaries of research interests and activities, notices of meetings, new publications and any other news or trivia of interest to gastropod workers. The group holds an annual get-together during the annual meeting of the Geological Society of America. Further information from: Warren D. Allmon, Dept Geology, University of South Florida, Tampa FL 33620, USA.

Slug Newsletter
This is a difficult one to describe - a sort of comic for mollusc fanatics, with cartoons, poems, jokes, and other whimsical pieces. It is produced in South Africa. This is apparently the current snail joke doing the rounds in South Africa:

'A tortoise on his way home from a party was assaulted and robbed by a gang of snails. When he was asked by the police whether he remembered any details of his assailants, he replied, "Unfortunately not, it all happened so fast."

Copies available from: Gus Ferguson, 30 Firfield Road, Plumstead, 7800 South Africa.

Pearl Oyster Information Bulletin
This is the newsletter of the Pearl Oyster Special Interest Group (SIG) and the first issue came out in February this year. The Pearl Oyster SIG has been established with the aim of promoting co-operative research and information exchange between pearl oyster workers within and outside the Pacific region. The bulletin is produced by the South Pacific Commission as part of PIMRIS - the Pacific Islands Marine Resources Information System. Further information from the editor: Niel Sims, c/o 13 Toxteth Ave., Austimmer, N.S.W., 2514 Australia.

Out of the Shell
This is the newsletter of the IRDC Mollusc Culture Network, and the first issue came out in September 1989. Ten of the projects run by IRDC - the International Development Research Centre (Canada) - have bivalves as their major focus, and the Mollusc Culture Network provides the links between them. Projects include culture of Pinctada margaritifera in Sudan, culture of oysters Ostrea chilensis and Choromytilus chori in Chile, and others in Peru and the Gambia. Further information from Gary Newkirk, Project Leader, Mollusc Culture Network, IRDC, Dalhousie University, Nova Scotia, Canada.
MARINE MATTERS

Giant Clam Poaching in Indonesia

The IUCN Mollusc Specialist Group intervened earlier this year as part of an effort to improve protection for one of the last remaining healthy populations of the Giant Clam Tridacna gigas in Indonesia. The population lies in the proposed Teluk Gendarwasih Marine Conservation Area in Indonesia, on a reef which has been nicknamed 'Tridacna Reef'. In the latter part of 1989, it was discovered that clams were being taken illegally on a regular basis by a Japanese fishing vessel in partnership with a local company. The adductor muscle was being exported to Asia, and the less valuable mantle being sold to a local crocodile farm as food. From the numbers of dead shells left and reports of the amount of adductor muscle being collected, it was estimated that well over 1000 old, large individuals had been taken.

When the alarm was raised, a number of international conservation bodies sent letters of intervention to the Governor of Irian Jaya and to the Director General of Forest Protection and Nature Conservation. Alison Kay wrote on behalf of the IUCN Mollusc Group. The situation seems to have eased, although until the area has full protection and enforcement as a Marine Conservation Area, the clams will be vulnerable.

First Shell Export Prosecution in Australia.

On 22 December 1989, in Perth Magistrates Court, Australia, Panagiotis Demertzis, a Greek citizen, was convicted on two charges, under the Wildlife Protection (Regulation of Exports and Imports) Act 1982, of illegally attempting to export shells of native molluscs. Demertzis was apprehended by Customs at Perth airport on 18 December 1989 with a suitcase full of shells. Later, a further 12 cases of shells were found awaiting airfreight to Greece. Demertzis was fined a total of A$ 3500 (US $2760) and the shells were forfeited.


As mentioned in the last issue of Tentacle, Australian Federal legislation requires that anyone wishing to export molluscs must obtain a permit from the Australian national Parks and Wildlife Service and these are issued only to established Australian Shell dealers. This is a temporary measure; normally wildlife may only be exported if it is subject to an approved "Management Program". Despite considerable debate, and the commissioning of a number of reports, a management program has not yet been drawn up and approved for molluscs. It is likely that the Wildlife Protection Act will be amended before long to make it easier to approve management programs and to give the Minister authority to exempt the need for a program in certain circumstances.