

THE SWIRE INSTITUTE OF MARINE SCIENCE ANNUAL REPORT FOR 1996



Professor Brian Morton, Professor C.Y. Jim, Dr L.H.Y. Lee, Mr Bowen Leung and Professor Y.C. Cheng officiate at the opening of the Cape d'Aguiar Marine Reserve on the 30 September 1996



The University of Hong Kong

The Swire Institute of Marine Science Annual Report for 1996



The Swire Institute of Marine Science

The Institute was officially opened on the 3 November 1990 as The Swire Marine Laboratory and renamed The Swire Institute of Marine Science with effect from the 1 July 1994. It has now completed its sixth year of research activity and development.

This Annual Report covers the period from 3 November 1995 to 2 November 1996.

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Research and other Activities in Marine Science

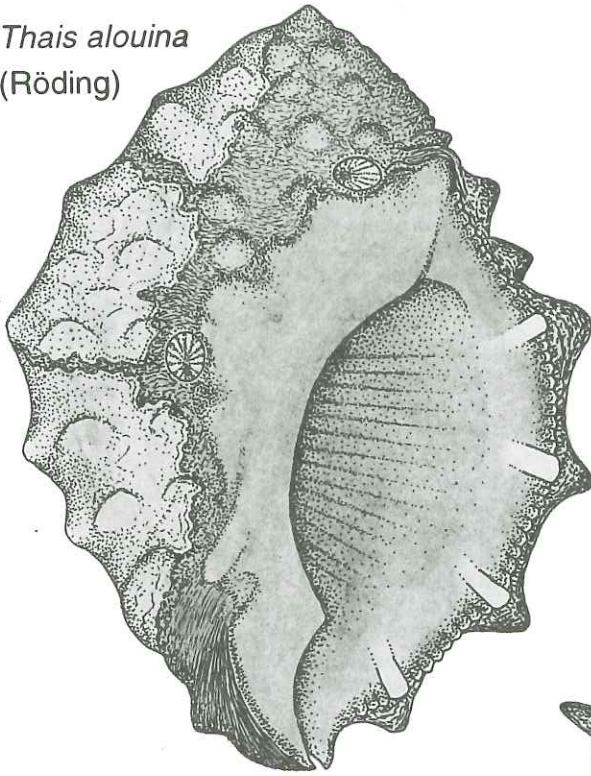
- Third International Conference on the Marine Biology of the South China Sea, Hong Kong
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- The Hong Kong Marine Conservation Society
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How can I undertake research at The Swire Institute of Marine Science?

Publications by Staff and Students (1995-1996)

Acknowledgments

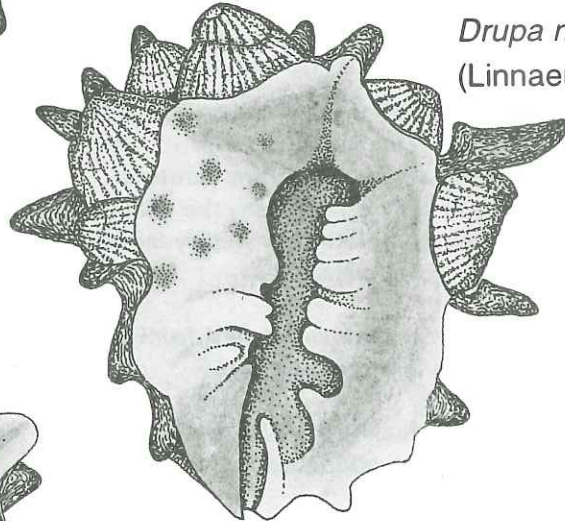
Thais alouina
(Röding)



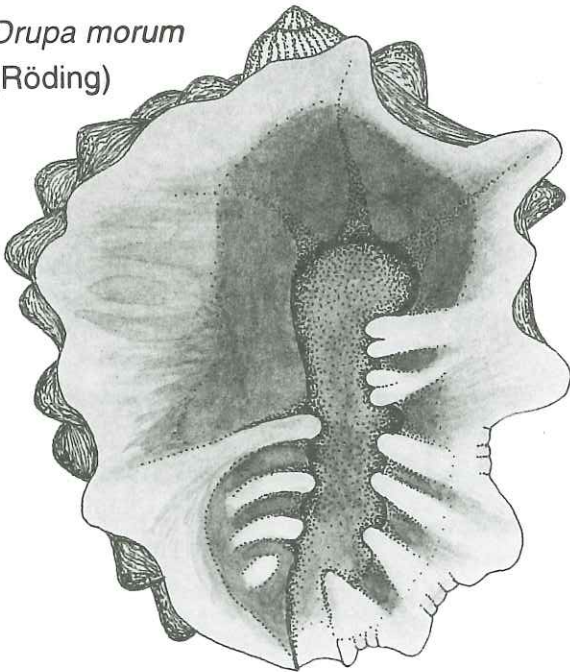
Morula ceylonica
(Dall)



Drupa ricinus
(Linnaeus)



Drupa morum
(Röding)



10mm



Drupa purpureocincta
(Preston)

Hipponix conica attached to various predatory muricid gastropods from Hon Mot Island, Nha Trang, Vietnam.

THE INSTITUTE

The Swire Institute of Marine Science is a facility of the University of Hong Kong and was built, initially, with a grant of HK\$12.5 million from The Swire Group of Companies. The laboratory was officially opened as the Swire Marine Laboratory on the 3 November 1990 by Sir John Swire CBE. With effect from the 1 July 1994, the Council of The University of Hong Kong agreed to the laboratory becoming an independent facility of the University of Hong Kong and to the establishment of a new name - The Swire Institute of Marine Science - in recognition of the laboratory's growing importance as an international centre for advanced marine research. The institute was officially re-opened and re-named on the 10 November 1994 by Professor Qu Geping, Chairman of the Environmental Resources Protection Committee of the National Peoples' Congress, China; Sir John Swire CBE, Honorary President of John Swire & Sons Ltd. and Professor Wang Gungwu, Vice-Chancellor of the University of Hong Kong.

Located on the tip of the Cape d'Aguilar Peninsula, Hong Kong Island, the institute allows easy access to a wide range of shore types experiencing various degrees of exposure to wave action. The surrounding waters are probably the cleanest in Hong Kong and the shores are geologically interesting and biologically diverse. The shores and eighteen hectares of sea around the institute were designated as Hong Kong's first marine reserve



The Cape d'Aguilar Marine Reserve was officially opened on the 30th September 1996.

on the 5 July 1996 and officially opened on the 30 September 1996 by Mr. Bowen Leung, Secretary for Planning, Environment and Lands.

The institute provides research accommodation and equipment for a wide range of both laboratory and field-oriented studies and is the most modern and best equipped marine facility in Hong Kong.

Visitors to the institute can stay in comfortably furnished rooms at the Residence. Capable of accommodating up to twenty four people in either single, double, or bunk rooms, the Residence also has a lounge/dining room, kitchen, sun balcony and spectacular views to the east and south. A second Residence, adjacent to the original one, and capable of housing up to ten more students and guests, was completed in November 1994 and plans are in hand to build a third Residence.

The institute has two vehicles, a five seater field-truck and a seven seater van. There is a custom-designed, 8 m Boston whaler for marine research and smaller boats for inshore work.

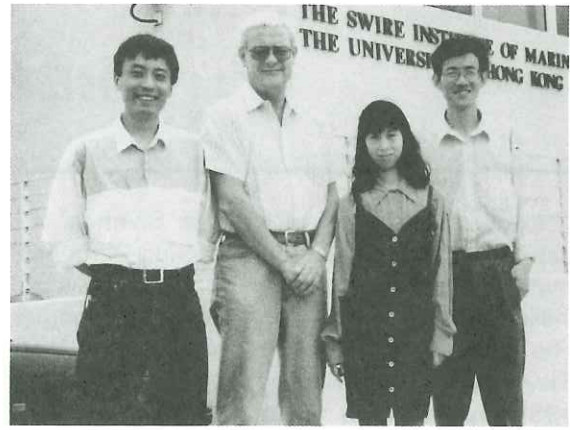
STAFF

The staff of the laboratory are:
Professor Brian Morton, Director
Dr. S.Y. Lee, Resident Scientist
Dr. Gray A. Williams, Resident Scientist
Dr. Yvonne Sadovy, Resident Scientist
Ms. Diana K.F. Ip, Senior Secretary
Mr. James C.T. Hui, Senior Technician
Mr. Albert C.C. Au, Technician
Mr. Cheung Ming, Driver/Boatman
Mr. Patrick P.C. Chan, Leading Artisan
Mr. M.H. Cheung, Laboratory Assistant
Ms. Pauline P.L. Lam, Clerical Assistant
Mr. K.K. Wong, Artisan/Caretaker
Ms. K.P. Chan, Cleaner/Caretaker
Ms. Tracy Clark, Postgraduate Resident Tutor

COMMITTEE OF MANAGEMENT

The Swire Marine Laboratory became an independent facility of the University of Hong Kong and was re-named the Swire Institute of Marine Science with effect from 1 July 1995. At that time too, a Committee of Management was established under the chairmanship of Prof. P.R. Hills, The Centre for Urban Planning and Environmental Management, The University of Hong Kong, with the following terms of reference.

1. To advise the Senate on all matters relating to the Swire Institute of Marine Science.
2. To report annually to the Senate on the activities of the institute.
3. To determine and keep under review the programme and activities of the institute.
4. To advise the Senate and the Vice-Chancellor on any matters which they may refer to it.
5. To determine the budget of the institute within the funds available.
6. To approve for submission to the Senate and Council any triennial proposals for the development of the institute.
7. To appoint Institute Fellows.
8. To approve visiting research appointments in the institute, other than those at professorial level.
9. To approve amendments to regulations for research funds, fellowships, conference grants and other awards for staff and postgraduate students which are wholly based in the institute.
10. To form sub-committees to which outside members may be appointed.



Mr. Yan Tao and Dr. Qin Qiwei, visitors from the South China Institute of Oceanology, Guangzhou, China, with the Director and Institute Secretary, Diana Ip.

The following are members of the Committee of Management for the period of 1996-1998:

Prof. P.R. Hills, Chairman of the Committee of Management.

Ms. Judy Chung, Secretary, The Registry, The University of Hong Kong.

Mr. J.W. Bradford, Department of Architecture, The University of Hong Kong.

Dr. R. Jack, Corporate Environment Manager, China Light and Power Co., Ltd..

Dr. L.H.Y. Lee, Director of the Agriculture and Fisheries Department, Hong Kong Government.

Dr. S.Y. Lee, The Swire Institute of Marine Science, The University of Hong Kong.

Dr. S.F. Leung, Agriculture and Fisheries Department, Hong Kong Government.

Prof. B. Morton, Director, The Swire Institute of Marine Science, The University of Hong Kong.

Mr. C.J. Pooley, John Swire and Sons (HK) Ltd..

Mr. M.J. Spurling, Appleby, Spurling & Kempe, Bermuda Barristers and Attorneys, Hong Kong.

Prof. T.M. Wong, Dean of the Faculty of Science, Open Learning Institute of Hong Kong.

In addition to the institute Staff Committee, a Staff/Student Consultative Committee was established with effect from 1 July 1995, under the chairmanship of Ms. Tracy Clark (Commonwealth Scholar), the Postgraduate Resident Tutor, and which now co-ordinates student matters and reports to and interacts with the Staff Committee and the Committee of Management.

RESEARCH PROFILE

In its sixth year of operation, the institute has solved most of its early teething problems although 1994 was a problem year in that during this time, the laboratory was expanded to approximately double its original size and a new Residence built. This involved considerable disruption to research even after its re-opening in November 1994. Similarly, from August to October 1996, the institute had its first major re-furbishment with the iron windows and doors replaced by PVC frames, most external piping replaced by PVC, re-tiling of some parts of the external walls, internal painting, refurbishment of the steps to the residence and water systems, re-furbishment of the sewage treatment plant and the construction of a seawater tanking system. In addition, the boat ramp was re-configured and is now working well, with an electric winch for the Boston Whaler. The front platform to the laboratory was also expanded to improve field work capabilities.

Finally, more effective filtration of the seawater entering the aquarium has been achieved by the purchase and installation of filters.

The staff of the institute look forward to 1997 with increasing confidence.

The ability of the institute's resident staff and students to do research has grown commensurate with the opening of the new staff and post-doctoral/visitor offices, a staff research room, a reference collection of local marine flora and fauna, an image analysis laboratory and an analytical laboratory in 1994. In 1995-1996, new equipment obtained includes a Phastgel system for genetic allozyme work, with an image

analyzer, a water quality analysis system and a Microtox acute toxicity test system.



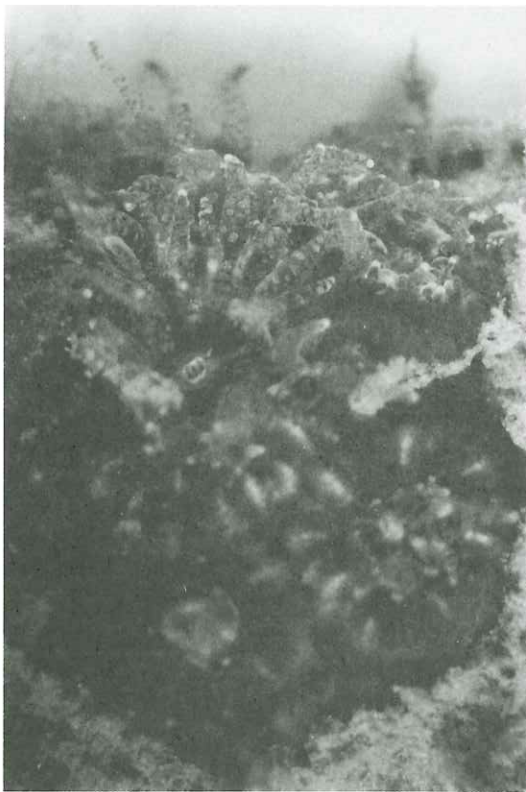
The institute's Boston Whaler on the newly-modified boat ramp.

As the institute's capabilities have grown, however, increasing emphasis is being placed on the subtidal, in particular the corals that grow in Lobster Bay adjoining the institute and rock pools. Ms. Susan Hawkins is completing a study of the productivity of Lobster Bay while Ms. Tracy Clark (a Commonwealth Scholar) is studying the corals of Lobster Bay and the pool, under the supervision of Prof. B. Morton. Ms. Denise McCorry (Hong Kong Jockey Club Scholar) has been appointed to study the overall biodiversity of Hong Kong's corals and Ms. Clare-Louise Nightingale (China Light and Power Scholar) is researching the Chinese Horseshoe crab, both under the supervision of Prof. B. Morton. Ms. Christine Lee is a new student undertaking research on the plankton of the Cape d'Aguilar Marine Reserve.

Prof. B. Morton and his students also work at Hoi Ha Wan, proposed as Hong Kong's first marine park. Mr. Peter R.J. Collinson is completing a study of the growth and reproduction of corals at Hoi Ha while Mr. Albert W.Y. Leung, Mr. K.F. Leung and Ms.

Katherine K.Y. Lam are completing studies of the ecology of an experimental artificial reef, also at Hoi Ha.

The ecological research begun in 1991 of the shores surrounding the institute will continue, largely under the supervision of Dr. G.A. Williams. Research in this area is still expanding and students are extending the initial studies made around Cape d'Aguilar to investigate other shores in the territory. Mr. Neil Hutchinson is examining the various processes which control patches of species found in the mid shore region, whilst Mr. Benny Chan Kwok Kan is studying the ecology of barnacles in the genus *Tetraclita*. Mr. Richard Huang has started research on the feeding behaviour of intertidal limpets and intertidal productivity. Ms. Celesta Lee is undertaking a higher degree in collaboration with Dr. Williams and Dr. Put Ang of The Chinese University of Hong Kong on the biology and epiphytes of the alga,



Oulastrea crispata: the only coral to have settled on the artificial reef at Hoi Ha Wan.

Sargassum. Mr. Charles S.C. Lee is also working on intertidal algae in joint collaboration with Dr. Williams and Dr. Geoff Brown of the Department of Chemistry of the University of Hong Kong, researching the

secondary chemicals of these species which may either attract or repel grazers.

Dr. S.Y. Lee and two new students, Mr. Lui Tak Hang and Mr. Wong Lun Cheong, work on various aspects of mangrove ecology at the Mai Po Marshes Nature Reserve. Mr. Terence C.W. Fong is completing a study of the sea-grass *Zostera japonica* at Lai Chi Wo in the northeastern New Territories.

Dr. Y. Sadovy is supervising three new students. Mr. Andrew Cornish (Hong Kong Jockey Club Scholar) and Mr. Ng Wai Chuen study the biodiversity of Hong Kong's coral reef fishes and the local rockfish *Sebasticus marmoratus*, respectively. Mr. Brian Y.L. Yeung is studying the reproductive behaviour of the anemone fish, *Amphiprion clarkii*.

Ms. Chan King, under the supervision of Prof. B. Morton, is studying the effects of pollutants, including TBT, on the intertidal snail *Nassarius festivus* while a new student Mr. Shaun Nicholson is studying the effects of trace metals on the heart rate of the mussel *Perna viridis*.



Limpets graze down to a band of mussels (*Septifer virgatus*) on the exposed shore at Cape d'Aguilar.

Ms. Julia Shaw, supervised by Dr. R.T. Corlett of the Department of Ecology and Biodiversity of the University of Hong Kong, is studying local sedges and rushes, including coastal species.

Two students, Mr. E.C.M. Parsons and Ms. Lindsay J. Porter are completing studies of the Chinese white dolphin, *Sousa chinensis*, in the northwestern waters of Hong Kong, under the supervision of Prof. B. Morton. These studies are being financed by a grant from The Hong Kong Government. A new student, Ms. Connie H.Y. Lai, was recently appointed to continue research on the dolphin, also under the supervision of Prof. B. Morton.

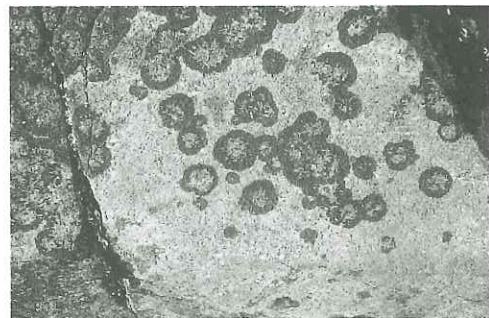
A third Swire Scholarship in Wetland Ecology was established in 1994 and its holder, Ms. Winnie S.M. Tang, commenced work on a marine coastal geographic information system (G.I.S.) database for Hong Kong in which the marine flora and fauna is to be inventoried with the ultimate aim of producing a marine management plan and better maps and other visual aids to interpret Hong Kong's coastal communities. This project is locally unique in that it is being supervised by Prof. B. Morton (Science) and Mr. J.W. Bradford (Architecture).

NEW DEVELOPMENTS

1996 was another important year for the institute in that the Swire Group of Companies have agreed to donate a further sum of HK\$34 million to the University of Hong Kong to build a Marine Conservation and Education Centre adjacent to the institute, plus a third residence. The architect for this Phase III development is Mr. K.Y. Kung of Atelier VIII and detailed plans are now being drawn up and a site investigation is in progress. It is anticipated that the buildings will be completed in 1997.

The Centre will serve as a University, public and school facility to allow staff to offer marine educational programmes to groups of local people who already visit the institute and the many more who would like to. The centre will also act as a Management Office for the Cape d'Aguilar Marine Reserve and accommodate the growing library and museum reference collection, allowing wider public use and releasing space within the institute itself for further research developments.

Work proceeded over the summer of 1996 to catalogue and computerize the infant Reference Collection of Hong Kong's Marine Flora and Fauna. This was aided considerably by the appointment of three summer students to work on this with the G.I.S. database. The students were: Mr. Tai Wai Yeung, Miss S.L. Yau and Mr. C. Moss from the University of Edinburgh. With the establishment of the Reference Collection in the Marine Conservation and Education Centre in 1997, all workers at the institute will be required to lodge voucher specimens in it to ensure conformity of identification and to build up our knowledge of the local marine flora and fauna.



Patches of *Ralfsia expansa* drying in the summer sun.

FUTURE PLANS

During 1997, the staff will consolidate the research activities currently underway at the institute into a research strategy that reflects the future needs of Hong Kong in the field of marine research. In 1996, legislative control of the Cape d'Aguilar Marine Reserve came into effect and efforts will have to be directed by the Country and Marine Parks Board of the Hong Kong Government towards its management, in co-operation with the staff and students of the institute. With the opening of the Marine Conservation and Education Centre, moreover, the institute's work will find new directions in terms of marine education and provide the potential to achieve the goal of having its research results translated into better marine educational materials and programmes. The institute will also become much more involved in coastal zone management.

THE LIBRARY

From 1 July 1995, when the institute became an independent facility, allocations for book purchases are sought directly from the Library Committee, along with other non-faculty units. The institute is still, however, far from fulfilling a basic aim of providing a comprehensive marine library for staff, students and visitors.

Upon his retirement from the Chair of Zoology at The University of Hong Kong in 1990, Professor B. Lofts generously donated runs of a number of important journals to the institute. In 1993, the widow of the late Professor R.D. Purchon also donated part of her husband's library to the institute. In 1995, Professor T.J. Biscoe (Deputy Vice-Chancellor) generously donated his collection of the *Journal of Physiology* and *British Journal of Pharmacology* to the institute. These important journals are an invaluable asset for the expanding research of the institute.

In May 1996, Dr. Y. Sadovy organized the

donation of four series of marine science journals to the institute's library from Dr. G. Huntsman, formerly of the Fisheries Laboratory, National Marine Fisheries Service, NOAA, Beaufort, North Carolina, U.S.A.

The institute also benefits from lodgment in it of the library of The Marine Biological Association of Hong Kong which has been built up through exchange of its journal *Asian Marine Biology*. We now shelve 217 titles through this exchange and have back runs of most Chinese marine journals.

HEALTH AND SAFETY

The institute has a comprehensive Health and Safety Policy which is spelt out clearly in a Health and Safety Manual issued to everyone working at the institute. The Manual was revised during 1996 to keep pace with the provision of new equipment, the use of a wider array of chemicals and boat and diving facilities. Mr. P.P.C. Chan is the First Aid Officer and Mr. J.C.T. Hui is the institute's Safety Representative.



Working on Cape d'Aguilar shores can sometimes be daunting.

EVENTS

20, 23 and 24 November 1995
Sixty pupils from Cleawater Bay School: to tour the institute.

11 December 1995
Dr. K.W. Ng, Department of Statistics, The University of Hong Kong: to conduct a seminar on statistics for the research students

13 February 1996
Prof. C.J. Grant and fifteen students from the Department of Geography and Geology, The University of Hong Kong: to tour the institute and work on shore geology.

23 February 1996
Fifteen students from Li Po Chun United World College: to participate in a field trip and study shore systems around Cape d'Aguilar.

6 March 1996
Twenty students from South Island School: to tour the institute

14, 25-27 March 1996
Mr. Ian Thomas, the British Sub Aqua Club Hong Kong: to conduct a basic training course for divers in the use of oxy-viva equipment.

20 March 1996
Cable TV: to interview Mr. E.C.M. Parsons about Finless porpoise deaths.

15 April 1996
Thirty-five students studying the course in Coastal Ecology: to participate in a day long mini-project seminar.

20 April 1996
Dr. S.Y. Lee, twelve boy scouts and their parents: to visit the institute and have a barbeque in the evening.

18 June 1996
Eight Form VI students of South Island School: to carry out practical field work and attend a seminar conducted by Dr. G.A. Williams and Dr. R.I. Lewis.

19 July 1996

Film shooting for the TVB programme "Tuesday Report: Save the Sea".

OFFICIAL VISITORS

3 November 1995
Dr. Clare Eno, Joint Nature Conservation Committee, Peterborough, U.K.: to tour the institute and have discussions on marine conservation.

14 November 1995
Mr. Li Kin Kwong of the Hong Kong Institute of Scuba Training Ltd., : to have a discussion with the Director on support for the diving research of the institute.

16 November 1995
Mr. Bunny M.B. Liu of Hong Kong Divers Ltd., Molly Soltary and Mr. Kiddie Liu from Bunn's Diving Equipment Corporation Ltd.: to have a discussion with the Director on support for the diving research of the institute.

21 November 1995
Prof. Hidoshi Zda, School of Fisheries Sciences, Kitasato University, Japan: to visit the institute.

30 November 1995
Mr. K.Y. Kung, Mr. C.M. Lee of Atelier VIII Architects Ltd.: to have discussions with Prof. B. Morton on the Phase III development.

30 November 1995
Mr. C. Gallimore and Dr. V. Gerdol from Li Po Chun United World College: to discuss diving activities with the students at the institute.

12 December 1995
Dr. C.E. Boone, Department of Malacology, Houston Museum of Natural Science, U.S.A.: to visit the institute.

13 December 1995
Dr. C.S. Wong, Institute of Ocean Sciences, Canada: to visit the institute.

14 December 1995
Prof. R.S.S. Wu, staff members and postgraduate students of the City University of Hong Kong: to participate in a signing

ceremony with Prof. B. Morton on academic and research co-operation with the institute.

12 January 1996

Mr. D. Foster, Assistant Director of the British Council: to have a discussion with Prof. B. Morton on financial support for The Third International Conference on the Marine Biology of the South China Sea 1996.



Mr. M. Edwards, a volunteer research assistant, prepares a video camera to record limpet movements.

15 January 1996

Prof. Laurie H.M. Chan, Faculty of Agricultural and Environmental Sciences, McGill University, Canada: to visit the institute and have a discussion with Prof. B. Morton on research co-operation.

24 January 1996

Staff of the Faculty of Education: to have a Dean and Heads meeting at the institute.

14 February 1996

Prof. Y.C. Cheng, Vice-Chancellor of the University of Hong Kong: to visit the institute and have discussions with the staff.

15 February 1996,

Mr. F.Y. Wong and Mr. Edward C.K. Wong of the Agriculture and Fisheries Department of the Hong Kong Government: to have a

discussion with Prof. B. Morton on the Marine Parks Ordinance.

25 February 1996

Mr. F.Y. Wong, Assistant Director of the Agriculture and Fisheries Department, Hong Kong Government: to have a discussion with Prof. B. Morton on the management of the proposed Cape d'Aguilar Marine Reserve.

27 February 1996

Sir John Swire, Honorary President of John Swire & Sons Ltd., Mr. N. Rhodes, Mr C. Pooley of John Swire & Sons (HK) Ltd., Prof. B. Morton, Prof. P.R. Hills, Mr. J. Bradford, Prof. I.J. Hodgkiss, Dr. S.Y. Lee, Dr. Y. Sadovy and Dr. G.A. Williams: to attend a presentation by Mr. K.Y. Kung of Atelier VIII and Mr. J. Peacock about the Phase III development.

6 March 1996

Dr. Xia Xuhua, Museum of Natural Science, Louisiana State University, U.S.A.: to visit the institute.

26 March 1996

Prof. Pan Shaoming, State Pilot Laboratory of Coastal and Inland Exploitation, Nanjing University: to visit the institute.

9 May 1996

Dr. H. Sekiguchi and Dr. T. Kimura, Faculty of Bioresources, Mie University, Japan: to visit the institute and discuss introduced species with Professor B. Morton.

29 May 1996

Prof. Ye Zhiquan, Director of the Science Centre, Prof. She Gangzhe, Director of the Marine Biological Laboratory, Dr. Gao Kunshan, Associate Director, Institute of Environmental and Energy Science and Prof. Chai Fasen, Department of Biology, Shantou University, China: to visit the institute and have discussions with the staff.

30 May 1996

Dr. and Mrs. K. Brander, Head of Plankton Research and Director of Fisheries Research, Ministry of Agriculture, Fisheries and Food, Lowestoft, U.K. and Ms. R. Brander of the British Council: to visit the institute.

6 June 1996

Prof. S.J. Hawkins, Head, Department of Biological Sciences, Southampton University, U.K.: to visit the institute and give an

informal seminar on patch dynamics on rocky shores.

2 July 1996

Mr. Wu Zhuang, Mr. Chen Guoming, Mr. Zhong Tianxing and Mr. Zeng Xiaoguang and Mr. Gao Li Ming of the Fisheries Management and Fishing Port Superintendance Bureau of the South China Sea, China: to visit the institute with Mr. Joseph Sham of the Agriculture and Fisheries Department of the Hong Kong Government.

3 July 1996

Prof. V. Forbes, Roskilde University, Denmark, Prof. P. Calow, University of Sheffield, U.K. and Dr. P.K.S. Lam of the City University of Hong Kong: to visit the institute.

9 August 1996

Mr. Johnathan Swire, Department of Biology, Imperial College, University of London: to visit the institute and talk with staff and students.

21 August 1996

Prof. J. Davenport, University Marine Department, Millport, U.K.: to visit the institute with Prof. T.M. Wong, Dean of Science of the Open Learning Institute of Hong Kong and have research discussions with Prof. B. Morton.

30 September 1996

The Cape d'Aguiar Marine Reserve was officially opened by Mr. Bowen Leung, Secretary of Planning, Environment and Lands, the Hong Kong Government, together with Dr. L.H.Y. Lee, Director of the Agriculture and Fisheries Department of the Hong Kong Government, Prof. Y.C. Cheng, Vice-Chancellor of the University of Hong Kong and Prof. C.Y. Jim of the Department of Geography and Geology of the University of Hong Kong.

10 October 1996

Dr. P.J. Radford, Plymouth Marine Biological Laboratory, Plymouth, U.K.: to visit the institute and have discussion with Prof. B. Morton.

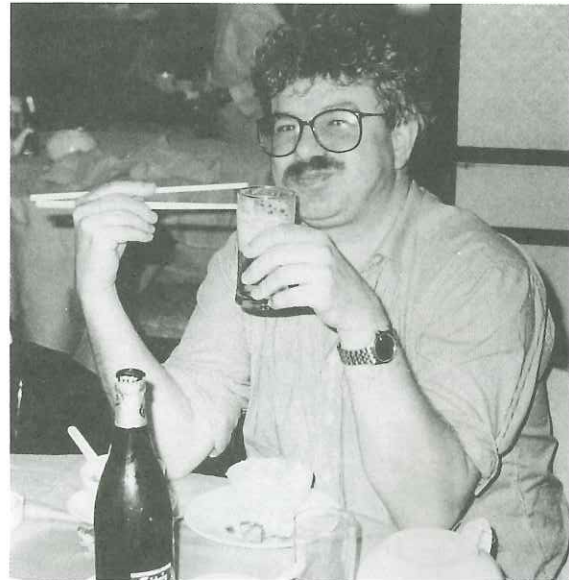
31 October 1996.

Prof. S. Maynard and Dr. L. Kumabe (University of Hawaii), Prof. S. Sudara (Chulalongkorn University, Thailand), Dr. Beverley Goh and Ms. K. Tun (National University of Singapore) and Dr. P.M. Alino

(University of the Philippines): to visit the institute.

2 November 1996.

Prof. Vo Si Tuan, Prof. Nguyen Huu Phung, Prof. Nguyen Van Long and Prof. Truong Si Ky, Institute of Oceanography, Nha Trang, Vietnam: to visit the institute.



Prof. S.J. Hawkins, from the University of Southampton, visited the institute and gave a seminar.

RESEARCH VISITORS

4 November 1994 - 31 May 1996

Ms. R. Cumming, James Cook University, Australia, was provided with facilities at the institute to complete the writing of her Ph.D. thesis.

14-16 January, 26 March - 3 April, 14 April and 25-26 April 1996

Dr. Amanda Vincent, University of Oxford: to work with Dr. Y. Sadovy on a book chapter.

26 February - 23 March 1996

Mr. J. Whitehead, School of Ocean Sciences, University of Wales, Bangor, U.K.: to undertake research on the effect of sediment loading on the early colony development of *Bugula recitina* and its epifaunal associates in Tai Tam Bay, Hong Kong.

25 March 19 April 1996

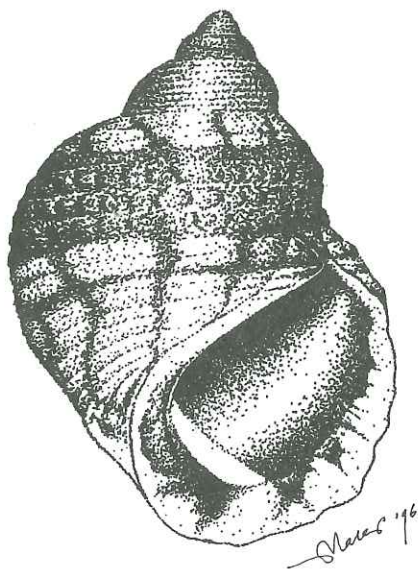
Dr. S. Proud, School of Ocean Sciences University of Wales, Bangor, U.K.: to undertake research on imposex in Hong Kong's predatory gastropods.

1-19 April 1996

Dr. E.M. Harper, Department of Earth Sciences, the University of Cambridge, U.K.: to undertake research with Prof. B. Morton on intertidal predators.

13 May - 4 July 1996

Dr. Tan Koh Siang, Department of Biological Sciences, the National University of Singapore: to undertake research with Prof. B. Morton on the taxonomy, anatomy and ecology of predatory gastropods (Neogastropoda: Muricidae).



A new species of high shore littorinid, *Nodilittorina novaezealandiae* (Reeve, 1857), was recorded from the Cape d'Aguilar Marine Reserve during the summer of 1996 by M.Y. Mak. This species ranges from Australia to the China Strait but is rare in Hong Kong, only one individual being found at a similar tidal height (1.5m above C.D.) as the common *Nodilittorina radiata*. It has, however, been recorded from other sites at Po Toi and Shek Mei Tau.

31 May - 24 July 1996

Prof. and Mrs. R.T. Kneib, University of Georgia Marine Institute, U.S.A.: to undertake research with Dr. S.Y. Lee on interactions among mangrove sesarmine crabs.

13-21 July 1996

Dr. R. Uglow, The University of Hull, U.K.: to undertake research on nitrogen excretion by intertidal gastropods with Dr. G.A. Williams.

18 September - 11 October 1996

Dr. M. Davies, Sunderland University, U.K. and Mr. E. Matts, University of Oxford: to undertake research on the behaviour of high shore limpets, *Cellana* and *Collisella* species, with Dr. G.A. Williams.

THE SHORT-TERM VISITORSHIP SCHEME

The institute's Short-Term Visitorship Scheme is financed through profits made from the sale of souvenir items and marine biological books published by Hong Kong University Press.

Funded by a loan of HK\$81,695 from the University of Hong Kong in 1990, the sale of souvenir items for the financial year up until 30 September 1996 amounted to HK\$8,330; proceeds from the sale of books was HK\$12,540.

VISITOR STATISTICS

In previous reports, statistics related to the usage of the institute by various categories of research workers and visitors has been provided. These data are no longer either worth analyzing or meaningful because the institute is now overfull and some groups of visitors have had to be turned away because of the lack of space. In the main laboratory, two research benches are shared by two students each and research visitors also have to share benches and staff offices. The staff research laboratory is occupied by students and visitors and the bench in the Museum is occupied by the genetics equipment and post-doctoral fellows.

THE RESIDENCE STATISTICS

In previous reports, statistics related to the occupancy of the Residence by students and visitors has been provided. Such data are again no longer either worth analyzing or meaningful because the Residence is essentially full. All rooms are occupied with the exception of two visitor's rooms one of which is reserved for an incoming student from China and the other is kept free for visitors whose visits now have to be co-ordinated closely so as not to clash.

DONATIONS TO THE INSTITUTE

The following donations of equipment and journals have been made to the institute to assist in its research.

Mr. Leslie C.Y. Chan
Larco Products Ltd.,
Kowloon Bay, Hong Kong.
An underwater camera and housing.

Mr. Kiddie Liu
Bunn's Diving Equipment Corporation Ltd.,
Chaiwan, Hong Kong.
Wet suits and other diving equipment.

Professor T. Biscoe
(Formerly Deputy Vice-Chancellor,
The University of Hong Kong)
Back runs of two major journals to the
institute's library.

ACADEMIC ACTIVITIES

STAFF

Professor B. Morton

- (i). Predatory gastropods of Cape d'Aguilar shores (with Dr. J.D. Taylor, Natural History Museum, London; Dr. E. Harper, University of Cambridge and Dr. K.S. Tan, National University of Singapore).
- (ii). The intertidal ecology of the Cape d'Aguilar Marine Reserve.
- (iii). The biology of marine Bivalvia.
- (iv). Shore ecology of the Azores (with Prof. J.C. Britton, Texas Christian University and Prof. A.M. Frias Martins, University of the Azores).
- (v). Cave fauna of limestone karsts in Slovenia.

Dr. S.Y. Lee

- (i). Ecology of the Mai Po Marshes Nature Reserve.
- (ii). Ecophysiology of the green mussel *Perna viridis* (with Dr. S.G. Cheung, City University of Hong Kong).
- (iii). Ecology of local seagrasses (with Prof. R.S.S. Wu, City University of Hong Kong).

Dr. Y. Sadovy

- (i). The reproductive biology of two fish species at Cape d'Aguilar, the wrasse, *Halichoeres dussumieri*, and the rockfish, *Sebastes marmoratus*.
- (ii). Early sexual development and the possible influence of social factors on sexual differentiation in juvenile groupers.

Dr. G.A. Williams

- (i). Algae-herbivore interactions on Cape d'Aguilar shores.
- (ii). The behaviour and physiology of high shore limpets.



Dr. R. Kennish and Dr. G.A. Williams profiling a shore at Cape d'Aguilar.

POST-DOCTORAL FELLOWS

From 1 February 1995 to 30 April 1996, Dr. Alice L.C. Chan was appointed as a Croucher Foundation Post-doctoral Fellow at the institute. Dr. Chan undertook research on the settlement behaviour of serpulid polychaetes.

From 31 May 1996 to 30 April 1999, Dr. Huang Qin was appointed as a University of Hong Kong Post-doctoral Fellow at the institute. Dr. Huang is researching the genetics of mangrove gastropods and commercially important oysters and clams.

Dr. Li Mingsun was resident at the institute from 15 November 1995 to 31 October 1996 during his time as a Post-doctoral Research Fellow of the University. During his stay, Dr. Li completed a study of the organic carbon budget for Deep Bay, northwest Hong Kong, in collaboration with Dr. S.Y. Lee.

From 1 July 1996 to 30 June 1998, Dr. Y.M. Mak was awarded a Honorary Research Fellowship in the Department of Ecology and Biodiversity of the University of Hong Kong by the Croucher Foundation and undertakes some research at the institute on the

taxonomy and ecology of southeast Asian rocky shore littorinids with special reference to the shores of China.

From 1 July 1996, Dr. R.I. Lewis was appointed as a Post-doctoral Fellow in the Department of Ecology and Biodiversity of the University of Hong. He undertakes some research with Dr. G.A. Williams at the institute. Dr. Lewis is a population geneticist and will investigate the effects of heat stress on the population genetics of sessile and mobile invertebrates.

RESEARCH FELLOWS

The following persons have been appointed as Research Fellows at the Swire Institute of Marine Science by the Swire Institute of Marine Science Committee of Management of the University of Hong Kong.

Prof. J.C. Britton Ph.D. (George Washington), Department of Biology, Texas Christian University, Forth Worth, Texas, U.S.A.

Dr. M.J. Broom Ph.D. (Malaysia), Environmental Protection Department, Hong Kong Government.

Dr. S.G. Cheung Ph.D. (Hong Kong), Department of Biology and Chemistry, The City University of Hong Kong.

Dr. R.Y.H. Cheung Ph.D. (Manchester), Department of Biology and Chemistry, The City University of Hong Kong.

Dr. M. Davies Ph.D. (Victoria University of Manchester), Ecology Centre, University of Sunderland, U.K.

Dr. E.M. Harper Ph.D. (Open University), Department of Earth Sciences, University of Cambridge, U.K.

Prof. Huang Zong Guo, Third Institute of Oceanography, State Oceanic Administration, Xiamen, China.

Prof. R.T. Kneib Ph.D. (University of North Carolina), University of Georgia Marine Institute, Sapelo Island, U.S.A.

Dr. S.F. Leung Ph.D. (Hong Kong.), Agriculture and Fisheries Department, The Hong Kong Government.

Dr. R.G. Ong Che Ph.D. (Hong Kong), Department of Applied Science, Vocational Training Council Technical College, Hong Kong.

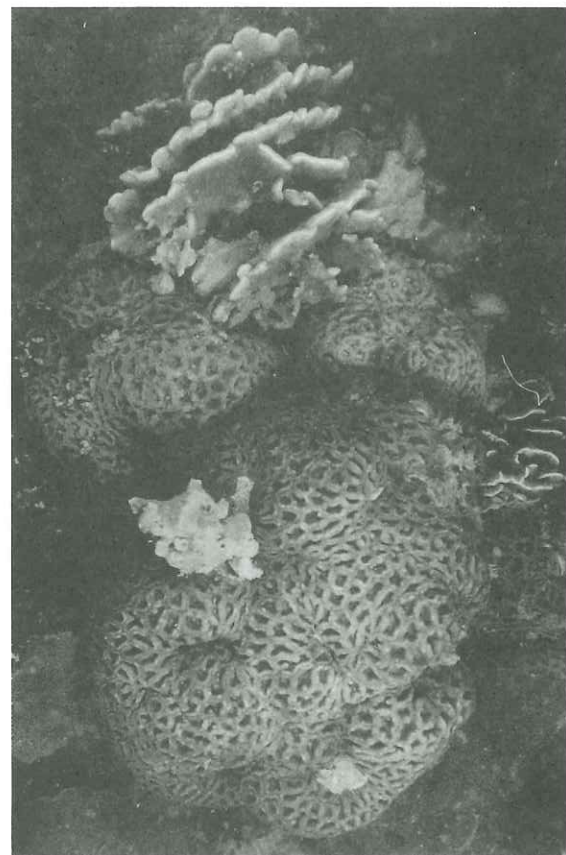
Prof. P.S. Rainbow Ph.D. (Wales), Queen Mary and Westfield College, University of London, U.K.

Dr. J.D. Taylor Ph.D. (London), Department of Zoology, The Natural History Museum, London, U.K.

Dr. A.C.J. Vincent Ph.D. (Cambridge), Department of Zoology, University of Oxford, U.K.

Dr. N.Y.S. Woo Ph.D. (Hong Kong), Department of Biology, The Chinese University of Hong Kong.

Prof. R.S.S. Wu Ph.D. (British Columbia), Head, Department of Biology and Chemistry, The City University of Hong Kong.



An underwater photograph of the corals in Hoi Ha Wan.

Dr. M.W.M. Yipp M.Phil., Ph.D. (Hong Kong),
Department of Applied Science and Chemical
Technology, Hong Kong Polytechnic
University.

Prof. Zou Ren Lin, South China Sea Institute
of Oceanology, Academia Sinica, Guangzhou,
China.

Prof. Laurie H.M. Chan Ph.D. (London),
School of Dietetics and Human Nutrition,
McGill University, Montreal, Canada.

Dr. Alice L.C. Chan Ph.D. (Hong Kong),
Department of Applied Science, the
Vocational Training Council Technical College,
Hong Kong.

INSTITUTE FELLOWS

The following persons have been appointed
as Institute Fellows at The Swire Institute of
Marine Science by the Swire Institute of
Marine Science Committee of Management of
the University of Hong Kong.

Mr. J.W. Bradford M.Arch. (VPI and State),
Department of Architecture, The University of
Hong Kong.

Prof. R. Cowan Ph.D. (New South Wales),
Department of Statistics, The University of
Hong Kong.

Dr. B.W. Darvell Ph.D. (Birmingham), Dental
Materials Science Unit, Prince Philip Dental
Hospital, The University of Hong Kong.

Prof. M.D. Dickman Ph.D. (British Columbia),
Department of Ecology and Biodiversity, The
University of Hong Kong.

Prof. I.J. Hodgkiss Ph.D. (Wales), Department
of Ecology and Biodiversity, The University of
Hong Kong.

Dr. Liu Jianhua Ph.D. (Hong Kong), The
Centre for Urban Planning and Environmental
Management, The University of Hong Kong.

HIGHER DEGREE STUDENTS

Mr. Peter R.J. Collinson B.Sc.(Bangor),
(Ph.D.)
The ecology, growth and reproduction of
Hong Kong corals.

Ms. Susan Hawkins B.Sc. (Newcastle),
(Ph.D.)
The productivity of Lobster Bay.

Mr. Albert W.Y. Leung M.Phil. (Hong Kong),
(Ph.D.)
Fisheries enhancement potential of the Hoi
Ha Wan Experimental Artificial Reef.

Ms. Katherine K.Y. Lam B.Sc. (Hong Kong),
(M.Phil.)
Coral colonization of the Hoi Ha Wan
Experimental Artificial Reef.

Mr. K.F. Leung B.Sc. (Hong Kong),
(Ph.D.)
Leaching of trace metals from the Hoi Ha
Wan Experimental Artificial Reef.

Mr. E.C.M. Parsons B.Sc. (Oxford),
(Ph.D.)
Biology, behaviour and conservation of Hong
Kong's cetaceans.

Ms. Lindsay J. Porter B.Sc. (Aberdeen),
(Ph.D.)
The taxonomy, distribution and biology of
the Chinese white dolphin, *Sousa chinensis*.

Ms. Helen S.M. Chiu M.Phil. (Hong Kong),
(Ph.D.)
Energetics of the rock oyster *Saccostrea
cucullata*.

Ms. Winnie S.M. Tang B.A. (Hong Kong),
(Ph.D.)
A coastal G.I.S. database, maps and virtual
reality computing.

Ms. Tracy Clark B.Sc. (Glasgow),
(Ph.D.)
The ecology of Cape d'Aguilar corals.

Ms. Chan King B.Sc. (Hong Kong),
(Ph.D.)

Effects of pollution on the life history strategy of *Nassarius festivus*.

Mr. Terence C.W. Fong B.Sc. (Hong Kong), (M.Phil.)
Ecology of Hong Kong seagrasses.

Mr. Patrick P.F. Lau B.Sc. (Hong Kong), (M.Phil.)
The reproductive biology of Threadfin bream, *Nemipterus japonicus* and *N. virgatus*.

Ms. Julia Shaw B.Sc. (Exeter), (Ph.D.)
Classification, distribution and potential value of Hong Kong sedges and rushes as environmental monitors.

Ms. C.L. Nightingale B.Sc. (Oxford), (Ph.D.)
Hong Kong's sandy beaches with special reference to the ecology and conservation of the Chinese Horseshoe crab.

Ms. Denise McCorry B.Sc. (London), (Ph.D.)
The biodiversity of Hong Kong's corals.

Mr. Andrew Cornish B.Sc. (Nottingham), (M.Phil.)
The biodiversity of coral reef fishes.

Mr. Charles Lee Sung Chi B.Sc. (Hong Kong), (M.Phil.)
Identification of secondary chemicals produced by algae.

Mr. Ng Wai Chuen B.Sc. (Hong Kong), (M.Phil.)
Biology of the rockfish *Sebasticus marmoratus*.

Mr. G.R. Blackmore B.Sc. (London), (Ph.D.)
Trace metals in Hong Kong's predatory gastropods.

Ms. Li Li B.Sc. (He Bei) (Ph.D.)
Ecology of intertidal isopods.

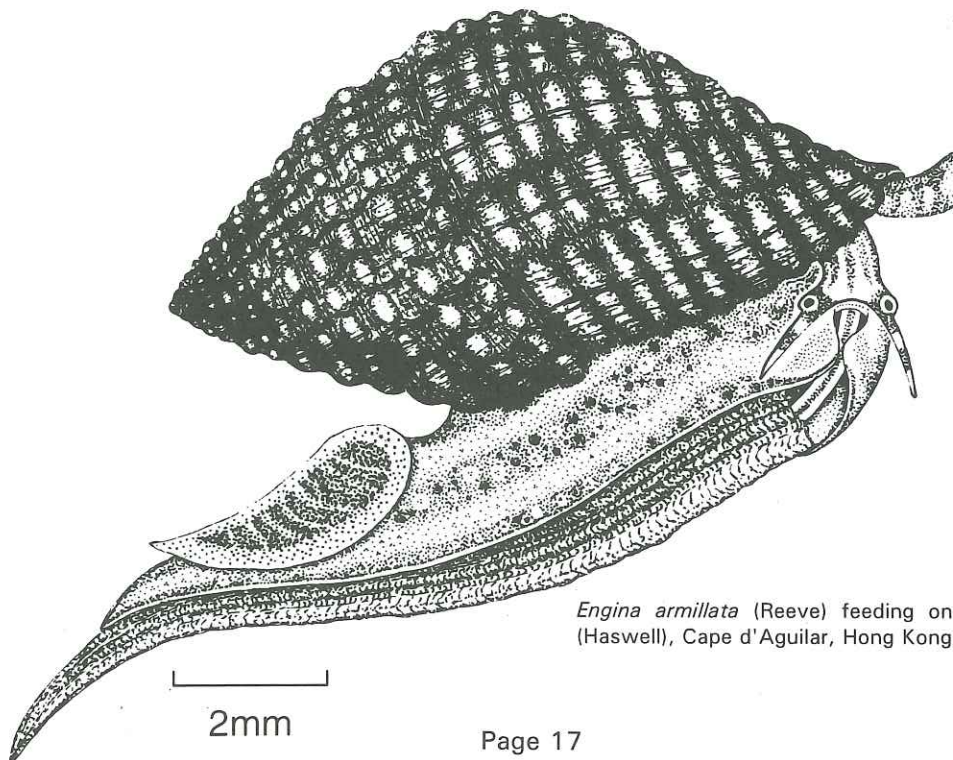
Ms. Christine N.W. Lee B.Sc. (Hong Kong), (M.Phil.)
Ecology of Cape d'Agilar Marine Reserve plankton.

Mr. S. Nicholason B.Sc. (Sunderland), (Ph.D.)
Ecophysiology of marine mussels.

Ms. Connie H.Y. Lai B.Sc. (Hong Kong), (M.Phil.)
Behaviour of the Chinese white dolphin (*Sousa chinensis*).

Mr. N. Hutchison B.Sc. (Sunderland), (M.Phil.)
Patch dynamics on rocky shores.

Mr. Richard Huang B.Sc. (Hong Kong), (M.Phil.)
Feeding ecology of the limpet *Cellana grata*.



Engina armillata (Reeve) feeding on *Hydroides elegans* (Haswell), Cape d'Agular, Hong Kong, June 1996.

Mr. Benny K.K. Chan B.Sc. (Hong Kong),
(M.Phil.)

Ecology and genetics of the intertidal barnacle *Tetraclita* spp.

Ms. Celesta C.W. Lee B.Sc. (Hong Kong),
(M.Phil.)

Epiphytes of *Sargassum* on Cape d'Aguilar shores.

Mr. Brian Y.L. Yeung B.Sc. (Hong Kong),
(M.Phil.)

Reproductive behaviour of reef fish.

NEW ARRIVALS

From 1 March 1996, Dr. Alice L.C. Chan was appointed as Croucher Foundation Post-doctoral Fellow to undertake research on serpulid tubeworm larvae.

From 30 April 1996, Dr. Huang Qin was appointed as Post-doctoral Fellow by the University of Hong Kong to undertake research on conservation genetics.

From 1 May 1996, Dr. R.I. Lewis was appointed as Post-doctoral Fellow by the University of Hong Kong to the Department of Ecology and Biodiversity to undertake research on genetic heterogeneity in intertidal molluscs.

From 1 June 1996, Ms. Li Li. To read for a M.Phil. degree under the supervision of Prof. B. Morton on the ecology of intertidal isopods.

From 1 June 1996, Mr. N. Hutchison. To read for a Ph.D. degree under the supervision of Dr. G.A. Williams on patch dynamics of rocky shores.

From 1 August 1996, Mr. Benny K.K. Chan. To read for a M.Phil. degree under the supervision of Dr. G.A. Williams on the ecology and genetics of the barnacle *Tetraclita* spp.

From 1 August 1996, Mr. T.H. Lui. To read for a M.Phil. degree under the supervision of

Dr. S.Y. Lee on wetland ecology at the Mai Po Marshes Nature Reserve.

From 1 August 1996, Mr. L.C. Wong. To read for a M.Phil. degree under the supervision of Dr. S.Y. Lee on wetland ecology at the Mai Po Marshes Nature Reserve.

From 1 September 1996, Mr. Richard Huang. To read for a M.Phil. degree under the supervision of Dr. G.A. Williams on the feeding ecology of *Cellana grata*.

From 1 September 1996, Ms. Celesta C.W. Lee. To read for a M.Phil. degree under the supervision of Dr. G.A. Williams on the epiphytes of *Sargassum*.

From 1 September 1996, Ms. Christine N.W. Lee. To read for a M.Phil. degree under the supervision of Prof. B. Morton on the ecology of Cape d'Aguilar Marine Reserve plankton.

From 1 September 1996, Mr. Brian Y.L. Yeung. To read for a M.Phil. degree under the supervision of Dr. Y. Sadovy on the reproductive biology of the anemonefish, *Amphiprion clarkii*, including reproductive cycle, sexual pattern and adult sex ratios.

From 23 September 1996, Mr. Cheung Ming Hong was appointed Laboratory Assistant/Driver.

From 1 October 1996, Mr. S. Nicholson. To read for a M.Phil. degree under the supervision of Prof. B. Morton on the ecophysiology of marine mussels.

From 1 November 1996, Ms. Connie H.Y. Lai. To read for a Ph.D. degree under the supervision of Prof. B. Morton on the behaviour of the Chinese white dolphin (*Sousa Chinensis*).

From 4 November 1996, Ms. Pauline P.L. Lam was appointed Clerical Assistant.

UNDERGRADUATES

Mr. Jason Y.L. Lau is undertaking a final year B.Sc. project on predation by the portunid

crab *Portunus pelagicus* on the bivalve *Tapes philippinarum* under the supervision of Dr. S.Y. Lee.

Two undergraduate final year project student are working under Dr. G. A. Williams supervision; Mony Mei I Chin is investigating spatial patterns of diversity in barnacle clumps and Wendy Leung is looking at productivity levels associated with pollution gradients and size in intertidal herbivores.

SUMMER STUDENTS

The following students undertook summer work at the Institute for the period of 18 June to 17 August 1996.

Miss S.L. Yau and Mr. Tai Wai Yeung were appointed as Student Research Assistants to the GIS database project.

Mr. Craig Moss from the University of Edinburgh was appointed as a summer assistant to work on the cataloguing of the institute's reference collection.

The following volunteer students undertook work at the institute.

From 3-8 March 1996, Ms. N. Latif and Ms. M. Lakhani from Li Po Chun United World College, helped with research students' projects.

From 21 June to 30 August 1996, Ms. M. Savage from the University of Wales, Bangor, worked with the dolphin research group.

From 19 September to 1 November 1996, Mr. M. Edwards from the University of Oxford worked with Dr. G.A. Williams.

STAFF TRAINING

Mr. Wong Kam Kin completed a first aid course organized by the St. John's Ambulance Brigade in September 1996.

STAFF AND STUDENTS' ACTIVITIES

From 20-24 October 1995, Prof. B. Morton visited the Leigh Marine Laboratory of the University of Auckland and the Portobello Marine Laboratory of the University of Otago, Dunedin, New Zealand. At the latter he had wide-ranging discussions on the laboratory's plans for a Marine Education Centre and gave a seminar entitled "Plans for the Conservation of Hong Kong's Marine Environment".

On the 17 November 1995, Prof. B. Morton gave an invited lecture to members of the Hong Kong Branch of the Royal Asiatic Society entitled "Proposals for protecting Hong Kong's Marine Biodiversity".

From the 9-17 March 1996, Prof. B. Morton visited the Institute of Oceanography, Nha Trang, Vietnam, where he had discussions with senior staff on future co-operative research. He also gave a seminar entitled "Protecting Hong Kong's Marine Biodiversity" and undertook research on intertidal predatory gastropods. He also visited the Fisheries University at Nha Trang and the University of Ho Chi Minh City.

From 24-28 May 1996, Prof. B. Morton visited the Third Institute of Oceanography, State Oceanic Administration where he held discussions with staff and presented a lecture entitled "Coastal Management for Conservation in Hong Kong: the need for integration with China past 1997".

From 25-27 June 1996, Prof. B. Morton was invited to attend a discussion meeting on the production of a book on China's Marine Biodiversity convened by the Ministry of Forestry, Beijing.

From 14-16 July 1996, Prof. B. Morton visited the Department of Zoology, Natural History Museum, London, where he worked on the museum collections.

From 17-21 July 1996, Prof. B. Morton visited the Department of Biology, University of Ljubljana, Slovenia, where he worked on cave animals.

From 21-23 August 1996, Dr. G.A. Williams visited the Biodiversity Consortium at the University of Nottingham to discuss the development of multimedia educational material for the proposed new Marine Conservation and Education Centre.

From 26 August - 6 September 1996, Dr. G.A. Williams joined an expedition to Lough Hyne, Cork, Ireland, with Dr. C. Little, Bristol University to investigate limpet behaviour and maintain long term monitoring programmes.

On 2 September 1996, Dr. G.A. Williams visited the Sherkin Marine Laboratory, Sherkin, Ireland.

From August to September 1996, Dr. S.Y. Lee spent five weeks at the Australian Institute of Marine Science, Townsville, Australia, where he worked on the tropical ecology of sesarminae crabs in mangrove forests.

In April 1996, Dr. Y. Sadovy participated in an IUCN workshop to assess conservation status of marine fishes. The workshop was held at the Zoological Society of London and produced Red List classifications for 152 marine fish species.

From June 1995 up to the present, Dr. Y. Sadovy collaborated with Dr. V. Pratt of the International Marine Life Alliance on the reproductive biology of commercially important Philippine fishes.

From July to August 1996, Dr. Y. Sadovy collaborated with Dr. R. Johannes on a project examining the effects of fishing on grouper spawning aggregations in Palau.

In December 1995, Mr. E.C.M. Parsons visited the Marine Mammal Laboratories at the South West Fisheries Centre, La Jolla, California, for one week and learned how to determine the age of stranded dolphins by the sectioning and examining their teeth.

In June 1996, Mr. E.C.M. Parsons visited the Centre for Nutrition and the Environment of Indigenous Peoples, McGill University, Montreal, Canada, for one month and processed dolphin and porpoise tissues and analyzed them for organochlorine (PCBs and DDT) pollutants.

In January 1996, Ms. L.J. Porter visited the Centre for Dolphin Studies, Port Elizabeth Museum, South Africa. She spent two months working with Dr. V. Cockcroft and Ms. J. Goodwin on aspects of the genetics of Hong Kong's dolphins. This collaborative project (S.W.I.M.S. and C.D.S.) is funded by the Agriculture and Fisheries Department of the Hong Kong Government.

On 1 April 1996, Mr. A.W.Y. Leung and Mr. K.F. Leung visited the artificial reef research group of the University of Genova, Italy.

From 9-16 July 1996 Ms. T.H. Clark visited the Glovers Reef Marine Laboratory, Belize, and carried out research with Dr. Tim and Dr. Nyawira McClanahan (Kenyan Wildlife Conservation Society), on sea-urchin (*Echinometra viridis*), predation in the Glovers Reef Marine Reserve.

From 12-13 December 1996, Ms. J. Shaw visited the Royal Botanical Gardens, Kew, England, where she worked on the Museum Collection.

From 23-30 September 1996, Ms. Winnie S.M. Tang visited the Asian Institute of Technology and the Information Technology Department of the Singapore Government where she undertook research and had discussions with staff.

STAFF AND STUDENT COMMUNITY SERVICE

Prof. B. Morton
Member: Executive Council, Executive
Committee and Trustee of WWF Hong
Kong.
Chairman: WWF Hong Kong Education
Committee.

Chairman: WWF Hong Kong, Hoi Ha Wan
Committee.

Chairman: The Marine Parks and Reserves
Committee, The Country and Marine
Parks Board.

Member: WWF Hong Kong, Island House Management and Development Committee.

Member: WWF Hong Kong, Projects Committee.

Member: The Dumping at Sea Act 1974 Appeal Board. The Hong Kong Government.

Member: Water Pollution Control Ordinance (Cap 358) Appeal Board. The Hong Kong Government.

Member: The Country and Marine Parks Board. The Hong Kong Government.

Member: Mollusc Specialist Group, Species Survival Commission of IUCN.

Member: United Nations Environment Programme: United Kingdom Committee.

Member: The Council of the Marine Biological Association of Hong Kong.

Member: The Environment and Conservation Fund Committee, The Hong Kong Government.

Member: The Vetting Committee of the Environment and Conservation Fund Committee, The Hong Kong Government.

Member: Academic Commission for the First Term of the Marine Biology Research Station at Daya Bay, South China Sea Institute of Oceanology, Academia Sinica, China.

Editor: *Asian Marine Biology*.

Regional Editor: *Marine Pollution Bulletin*.

Editorial Board: *American Malacological Bulletin*.

Editorial Board: *Tropic Oceanology*.

Editorial Board: *Raffles Bulletin of Zoology, Singapore*.

Editorial Board: *Malacological Review*.

Editorial Board: *Journal of Zoology, London*.

Editorial Board: *Phuket Marine Biology Centre Research Bulletin*.

Dr. S.Y. Lee
Chairman: The Council of The Marine Biological Association of Hong Kong.

Member: Marine Parks and Reserves Committee, The Hong Kong Government.

Member: WWF Hong Kong: Mai Po Management and Development Committee.

Member: Standing Committee on Mangrove Ecological Research, Ecological Society of China.

Expert witness: Town Planning Appeal Board.

Member: Ocean Park Corporation.

Dr. G.A. Williams
Member: WWF Hong Kong: Hoi Ha Wan Committee.

Dr. Y. Sadovy
Member: Shark Committee, Recreation and Culture Branch, Hong Kong Government.

Member: WWF Hong Kong, Hoi Ha Wan Committee.

Member: Artificial Reef Committee, Agriculture and Fisheries Department of the Hong Kong Government.

Mr. K.F. Leung
Membership Secretary: The Council of The Marine Biological Association of Hong Kong.

Mr. E.C.M. Parsons.
Events Secretary: The Hong Kong Marine Conservation Society.

Committee member: The Royal Geographical Society (Hong Kong)

Ms. L.J. Porter
Membership Secretary: The Council of The Hong Kong Marine Conservation Society.

Ms. Winnie S.M. Tang
Country editor: *G.I.S. Asia/Pacific Journal*.

Committee member: Hong Kong Geographic Information Systems Association.

Ms. T. Clark

Member: WWF Hong Kong, Hoi Ha Wan Committee.

Member: Marine Life Guide Editorial Committee of the Hong Kong Marine Conservation Society.

Ms. D. McCorry

Member: WWF Hong Kong, Hoi Ha Wan Committee.

Mr. A. Cornish

Member: WWF Hong Kong, Hoi Ha Wan Committee.

Member: Organizing Committee: The Campaign for Green Island



Dr. S. F. Leung, Mr. K.F. Leung, Mr. A. Cornish, Dr. S. Proud and Professor B. Morton on a fishing boat, hired to sample deeper-sea sediments around the Cape d'Aguliar Marine Reserve.

CONFERENCES AND WORKSHOPS

From 30 October to 3 November 1995, Mr. A.W.Y. Leung and Mr. K.F. Leung participated in the International Conference on Ecological System Enhancement Technology for Aquatic Environments (Ecoset '95) in Tokyo, Japan and presented a joint paper with K.Y.Lam and B. Morton entitled "The deployment of an experimental artificial

reef in Hong Kong: objectives and initial results".

On 18 November 1995, Dr. G.A. Williams attended a conference on The Hydraulics of Hong Waters, organized by the Civil Engineering Department of The University of Hong Kong. He presented a joint paper with Prof. B. Morton and Dr. S.Y. Lee entitled "Hong Kong's marine environment: a dwindling heritage?".

From 14-18 December 1995, Ms. L.J. Porter attended the Eleventh Biennial Conference on the Biology of Marine Mammals in Florida, U.S.A. and presented a paper entitled "The development of Hong Kong and the demise of the Chinese white dolphin (*Sousa chinensis*).

The 14th Annual Scientific Association of the Marine Biological Association of Hong Kong was held on Saturday 16 December 1995. The following staff and students presented talks:

Dr. Y. Sadovy presented a talk entitled "Serranids, cyanide and ciguatera".

Dr. Deborah M.W. Cha presented a talk entitled "Coastal entrophication and macroalgal blooms".

Dr. S.Y. Lee presented a talk entitled "A trophic analysis of Deep Bay and the eastern Pearl River Estuary using carbon and nitrogen stable isotopes".

Prof. B. Morton presented a talk entitled "Wetlands in the Azorean islands of the Mid-Atlantic Ridge".

In February 1996 Dr. S.Y. Lee participated in the "Conservation Outside Nature Reserves" conference held at the Centre for Conservation Biology at the University of Queensland and presented a paper entitled "Conservation of the Deep Bay wetlands, Hong Kong: will private nature reserves work?"

From 5-8 March 1996, Prof. B. Morton attended the Zebra Mussel and other Aquatic Nuisance Species Conference at Michigan, U.S.A. and presented the plenary keynote lecture entitled "The aquatic nuisance species problem: a global perspective and review".

From 25-31 March 1996, Mr. A.W.Y. Leung, Mr. K.F. Leung and Ms. S. Hawkins participated in the First European Artificial Reef Research Network (EARRN) Conference in Ancona, Italy.

From 13-19 June 1996, Dr. Y. Sadovy participated in the 76th Annual Meeting of the American Society of Ichthyologists and Herpetologists, New Orleans, U.S.A., and presented a joint paper with Dr. G.H. Burgess entitled "Shark attack in Hong Kong".

From 24-29 June 1996, Dr. Y. Sadovy participated in the Eighth International Coral Reef Symposium in Panama City, Panama, and presented a paper entitled "Grouper fisheries: could the grouper disappear before the fisher?"

In June 1996, Dr. Y.M. Mak participated in the Asia-Pacific Conference on Science and Management of the Coastal Environment at City University of Hong Kong and presented a paper entitled "TBT contamination in Hong Kong - a survey of imposex in *Thais clavigera*".

From 24-29 June 1996, Ms. D. McCorry attended the Eighth International Coral Reef Symposium in Panama and presented a paper entitled "The diversity, distribution and demography of Hong Kong's coral communities."

From 24-29 June 1996, Mr. A. Cornish attended the Eighth International Coral Reef Symposium in Panama and presented a paper entitled "Hong Kong's coral associated fish communities".

From 24-29 June 1996, Ms. T. Clark attended the Eighth International Coral Reef Symposium in Panama and presented a paper entitled "The tissue regeneration rates of coral transplants at Cape d'Aguilar, Hong Kong".

From 1-3 July 1996, Ms. L.J. Porter attended a Colloquium on the Development of a Management Strategy for Chinese White Dolphins in Hong Kong and presented a paper entitled "Research results from the Swire Institute of Marine Science's three year project".

From 15-20 July 1996, Dr. Alice L.C. Chan attended an International Symposium on the Settlement and Metamorphosis of Marine

Invertebrate larvae at the University of Portsmouth, England and presented a paper entitled "The settlement behaviour of tubeworm larvae (*Pomatoceros lamarckii*)".

In September 1996, Dr. Y.M. Mak participated in the Fifth International Symposium on Littorinid Biology at the University College, Cork, Ireland, and presented a paper entitled "Spawning periodicity of three *Nodillitorina* species in Hong Kong".

From 7-12 September 1996, Dr. G.A. Williams, Dr. R.I. Lewis and Dr. Y.M. Mak attended the Fifth International Symposium on Littorinid Biology at University College, Cork, Ireland. Dr. Williams chaired a session and presented a paper entitled "Seasonal variation in parasite loading in *Littorina obtusata* and *L. mariae*" with T.J. Brailsford, University of Nottingham.

From 18-20 September 1996, Ms. Winnie S.M. Tang attended the Second Annual G.I.S. Asia/Pacific Conference and Exhibition in Kuala Lumpur, Malaysia, and presented a paper entitled "The development and application of G.I.S. in Hong Kong",

On 19 October 1996, Ms. T. Clark attended a Joint University Postgraduate Symposium and presented a paper entitled "The distribution of hermatypic scleractinian corals at the Cape d'Aguilar Marine Reserve, Hong Kong".

On 19 October 1996, Ms. D. McCorry attended a Joint University Postgraduate Symposium and presented a paper entitled "The diversity, distribution and demography of Hong Kong's coral communities".

On 19 October 1996, Mr. E.C.M. Parsons attended a Joint University Postgraduate Symposium and presented a paper entitled "Research on Hong Kong's dolphins and porpoises".

On 19 October 1996, Ms. L.J. Porter attended a Joint University Postgraduate Symposium and presented a paper entitled "Defining and establishing Hong Kong's dolphin sanctuary".

STUDENT AND STAFF SUCCESSES

Dr. Alice L.C. Chan has been appointed as a lecturer in the Department of Applied Science of the Vocational Training Council.

Ms. Huang Qin obtained her Ph.D. for a thesis entitled "Polymorphism in twelve species of Neritidae (Mollusca: Gastropoda: Prosobranchia) from Hong Kong" and has been appointed as a Post-doctoral Research Fellow at the institute.

Mr. S. McChesney obtained his M.Phil degree for a thesis entitled "The benthic invertebrate community of the intertidal mudflat at the Mai Po Marshes Nature Reserve, with special reference to resources for migrant shorebirds" and has been appointed as a consultant with Binnie Consultants Ltd.

Mr. Sven Kaehler obtained his Ph.D. for a thesis entitled "Causes and consequences of the spatial and temporal distribution of encrusting algae on tropical rocky shores" and has been appointed as a Post-doctoral Research Fellow at the University of Rhodes, South Africa.

Mr. R. Kennish obtained his Ph.D. for a thesis entitled "Seasonal patterns of algal availability, influences on diet selection and fitness of the tropical crab *Grapsus albolineatus*" and has been appointed as a consultant with Environmental Resources Management (Hong Kong) Ltd.

Ms. K.D. Harper obtained her Ph.D. for a thesis entitled "The ecology of *Acanthopleura japonica* (Mollusca: Polyplacophora): a dominant herbivore on Hong Kong rocky shores" and has been appointed as a consultant with Ecosystems Ltd..

Mr. Y.M. Mak obtained his Ph.D. for a thesis entitled "The ecology of the high-zoned littorinids, *Nodilittorina trochoides*, *N. radiata* and *N. vidua* on rocky shores in Hong Kong" and has been appointed as a Croucher Foundation Post-doctoral Research Fellow.

Ms. Josephine Yang Ka Yee obtained her

M.Phil. for a thesis entitled "The feeding ecology of the mudskipper *Boleophthalmus pectinirostris* (Pisces: Periophthalmidae) at the Mai Po Marshes Nature Reserve, Hong Kong" and is now employed as a television programme analyzer with T.V.B..

AWARDS

Ms. Winnie S.M. Tang has been awarded a Sir Edward Youde Memorial Scholarship.

From 1 July 1996, Dr. Mak Yiu Ming has been awarded a Croucher Foundation post-doctoral Fellowship to undertake the taxonomy and ecology of Southeast Asian rocky shore littorinids with special reference to the shores of China.

Mr. E.C.M. Parsons was awarded a Wang Gungwu Scholarship by the University of Hong Kong.

EXCHANGE AGREEMENTS

**University of Wales, Bangor and South China
Sea Institute of Oceanology, Guangzhou,
China**

Established in 1992 and supported by The Swire Group of Companies and the British Council, a tripartite exchange agreement fosters academic links between the Swire Institute of Marine Science, the University of Hong Kong, the School of Ocean Sciences, University of Wales, Bangor, U.K. and the South China Sea Institute of Oceanology, Academia Sinica, Guangzhou, China.

The Agreement, signed on the 24 February 1992 by the Vice-Chancellor of The University of Hong Kong, Professor Wang Gungwu, the Principal of The University of Wales, Bangor, Professor E. Sunderland, and

the Director of the South China Sea Institute of Oceanology, Guangzhou, Professor Sun Yuke, was renewed in 1995 for a further period of three years and facilitates exchange of staff and students.

In 1996, the following exchanges were approved:

From Hong Kong:

From 14 - 28 July 1996, Dr. Alice Chan visited the University of Wales, Bangor, U.K. where she undertook research on serpulid tubeworms, in relation to their larval settlement.

From 5-7 April 1996, Ms. K. Chan and Dr. S. Proud visited the South China Sea Institute of Oceanology, Guangzhou and presented seminars entitled "A sandy bay scavenger: *Nassarius festivus* (Powys, 1835) (Gastropoda: Nassariidae)" and "The life and times of the British Dogwhelk, *Nucella lapillus*", respectively.

From 18-20 March, Ms. D. McCorry, Ms. T. Clark and Mr. J. Whitehead visited the South China Sea Institute of Oceanology and presented seminars entitled "An outline of the biodiversity baseline survey research programme on the diversity, distribution and demography of Hong Kong's coral communities", "Coral ecology in a peripheral environment, Cape d'Aguilar, Hong Kong" and "Environment and genetic variation in marine bryozoans", respectively.

From Bangor, U.K.:

From 26 February to 22 March 1996, Mr. J. Whitehead visited the institute and undertook research on the effects of sediment loading on early colony development in *Bugula neritina*.

From 25 March to 18 April 1996, Dr. S. Proud visited the institute and undertook research on the effects of tributyltin on subtidal gastropods.

From China:

From 31 January to 28 April 1996, Dr. Qin Qiwei visited the University of Wales, Bangor where he undertook research with Dr. D.A. Jones on tropical shrimp aquaculture.

From 31 January to 28 April 1996, Mr. Yan Tao visited the University of Wales, Bangor where he undertook research with Dr. G. Walker on the larval development of tubeworms and formation of biofilms.

The Third Institute of Oceanography, Xiamen, China

On the 10 November 1994, the Director of the Swire Institute of Marine Science and Prof. Yu Xiaoqun, the Director the Third Institute of Oceanography, State Oceanic Administration, China, signed an Agreement to foster academic exchanges.

No exchanges have as yet taken place under the terms of the agreement.

The City University of Hong Kong

On the 14 December, 1995, Professor R.S.S. Wu, Head of the Department of Biology and Chemistry of the City University of Hong Kong and Professor B. Morton signed an Agreement of Co-operation so that the physical and human resources of the two establishments can be shared for mutual benefit. This agreement is working very well and there are regular inter-institutional visits and co-operative research activities



Professor R.S.S. Wu (Head, Department of Biology and Chemistry, City University of Hong Kong) and Professor B. Morton, the Director of the Swire Institute of Marine Science, sign an Agreement of Co-operation.

LAURENCE CAPLIN SCHOLARSHIP IN MARINE BIOLOGY

scientists who wish to undertake marine biological research on the Cape d'Aguilar Marine Reserve at the Swire Institute of Marine Science.

In memory of Laurence Caplin (7 November 1914 - 30 April 1991), his widow, Mrs. E. Caplin, and daughter, Mrs. J. Woodford, of England, donated in 1993 the sum of HK\$150,000 to be invested and the interest from which is to be used to bring to the Swire Institute of Marine Science young people to undertake research in marine biology with resident staff. Applications for the scholarship are invited.

From 13 May to 4 July 1996, the Scholarship was awarded to Dr. Tan Koh Siang from the Department of Biological Sciences, the National University of Singapore to undertake research with Professor B. Morton on intertidal predatory gastropods of the Cape d'Aguilar Marine Reserve.

INTERTIDAL TRUST FUND

Established in 1982 with profits from the sale of the book "*The Sea Shore Ecology of Hong Kong*" grants from the Intertidal Trust Fund can be made to overseas students and scientists who wish to undertake research on intertidal ecology at the Swire Institute of Marine Science.

CAPE D'AGUILAR TRUST FUND

Established in 1995 with profits from the sale of the book "*An Introduction to the Cape d'Aguilar Marine Reserve, Hong Kong*", grants from the Cape d'Aguilar Trust Fund can be made to local and overseas students and

RESEARCH AND OTHER ACTIVITIES IN MARINE SCIENCE

THIRD INTERNATIONAL CONFERENCE ON THE MARINE BIOLOGY OF THE SOUTH CHINA SEA, HONG KONG

The Third International Conference on the Marine Biology of the South China Sea was convened at the University of Hong Kong from the 28 October to 1 November 1996 inclusive.

It was organized by the Swire Institute of Marine Science with the support of the Department of Ecology and Biodiversity of the University of Hong Kong, the Marine Biological Association of Hong Kong, the Pacific Science Association and the Agriculture and Fisheries Department of the Hong Kong Government. The Organizing Committee comprised Prof. B. Morton (Convenor and Chairman), Ms. Diana Ip (Secretary), Prof. I.J. Hodgkiss (Department of Ecology and Biodiversity), Dr. S.Y. Lee (The Marine Biological Association of Hong Kong), Dr. S.F. Leung (Agriculture and Fisheries Department) and Dr. L. Eldredge (Pacific Science Association).



Delegates to The Third International Conference on the Marine Biology of the South China Sea, Hong Kong 1996.

The conference was attended by 126 delegates from fifteen countries and territories with an additional fifty day only local scientists and students attending.

The conference comprised three Symposia as follows:

- I. Taxonomy and Biological Diversity of the South China Sea.
- II. Biology and Ecology of the South China Sea
- III. Coastal Zone Management and Conservation of the Biological Resources of the South China Sea.

Each symposium comprised keynote lectures by distinguished overseas participants, lectures and poster presentations.

Receptions were hosted by Carlsberg Brewery (H.K.) Ltd., the Organizing Committee and the Director of the Agriculture and Fisheries Department of the Hong Kong Government, with a final dinner held on the 1 November.

At the conference, the following lectures or posters were presented by staff and students of the institute.

Symposium I

Dr. Q. Huang (with Dr. R.I. Lewis and Dr. G.A. Williams) (lecture)
"The genetic structure of isolated mangroves and *Littoraria melanostoma* (Gray) populations - a predictive model for risk assessment in existing mangroves and recolonization potential in regenerated mangroves".

Mr. A. Cornish (with Ms. D. McCorry) (lecture)
"An insight into Hong Kong's past and present coral-associated fish communities".

Ms. T.H. Clark (lecture)
"The distribution of hermatypic scleractinian corals at Cape d'Aguiar, Hong Kong".

Mr. Chan Kwok Kan (with Dr. R.I. Lewis) (poster)
"The taxonomic status of *Tetraclita squamosa* in Hong Kong assessed from morphological and genetic analyses".

Symposium II

Dr. S.Y. Lee (lecture)

"The effects of sedimentation and shading on growth of the intertidal seagrass *Zostera japonica*".

Dr. R. Kennish (lecture)
"Foraging behaviour of the tropical herbivorous crab, *Grapsus albolineatus*: time minimiser or nutrient maximiser?"

Dr. G.A. Williams (with Prof. B.R. McMahon) (lecture)
"Haemolymph pH and oxygen levels in naturally stressed tropical limpets".

Mr. T.C.W. Fong (with Dr. S.Y. Lee and Prof. R.S.S.Wu) (lecture)
"Seasonal cycle of growth and reproduction in the seagrass *Zostera japonica* in Hong Kong".

Dr. Y.M. Mak (lecture)
"spawning periodicity of three *Nodilittorina* species in Hong Kong".

Dr. K.D. Harper (lecture)
"Activity patterns and foraging behaviour of the chiton, *Acanthopleura japonica* (Lischke)".

Dr. Y.J. Sadovy (lecture)
"Patterns of reproduction in Hong Kong marine fishes".

Mr. P.F. Lau (lecture)
"The reproductive biology of *Nemipterus virgatus* and *N. japonicus* in the South China Sea".

Mr. E.C.M. Parsons (with J.Y. Wang) (lecture)
"A review of Finless porpoises (*Neophocaena phocaenoides*) from the South China Sea".

Ms. Chan King (poster)
"Development of *Nassarius festivus* (Gastropoda: Nassariidae)".

Symposium III

Mr. G.R. Blackmore (with Prof. L.H.M. Chan) (lecture)
"Trace metal levels in barnacles (*Tetraclita squamosa*) in Hong Kong: a revisit".

Mr. E.C.M. Parsons (with Prof. L.H.M. Chan) (lecture)
"Heavy metals and organochlorines in dolphins: an indicator of marine pollution in Hong Kong".

Ms. D. McCorry (with Mr. A. Cornish)
(lecture)
"Hong Kong's coral communities: past, present and future".

Ms. L.J. Porter (lecture)
"Defining and establishing Hong Kong's dolphin sanctuary".

Mr. A.W.Y. Leung (lecture)
"Legal and management issues pertinent to the deployment of artificial reefs in Hong Kong".

Mr. K.F. Leung (lecture)
"Environmental assessment and monitoring of artificial reefs in Hong Kong: a case study".

Ms. K.K.Y. Lam (lecture)
"Coral and invertebrate colonization of an experimental artificial reef at Hoi Ha Wan, Hong Kong".

Prof. B. Morton (lecture)
"Hong Kong's Marine Parks Ordinance and designation of the first marine parks and reserves: where next?"

Mr. E.C.M. Parsons (poster)
"Trace metal levels in Penaeidae from North Lantau waters, Hong Kong".

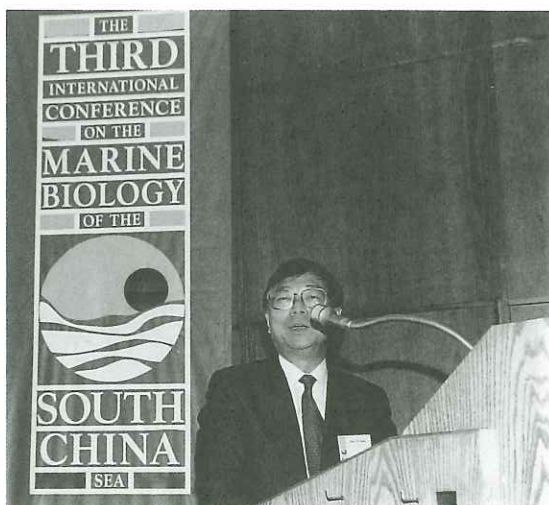
Ms. L.J. Porter (with Ms. W.S.M. Tang)
(poster)
"Integrating marine mammal research and public education with geographic information technologies".



Ms. Xing Jun, Department of Biology, The Hong Kong University of Science and Technology, receives the prize for the best student speaker from Prof. I.J. Hodgkiss, Head, Department of Ecology and Biodiversity.

Closing ceremony

Ms. W.S.M. (with Mr. J.W. Bradford and Prof. B. Morton) (invited lecture) "A G.I.S. system for the study of Hong Kong's marine ecology".



The Vice-Chancellor of the University of Hong Kong, Prof. Y.C. Cheng, welcomes delegates to the conference.



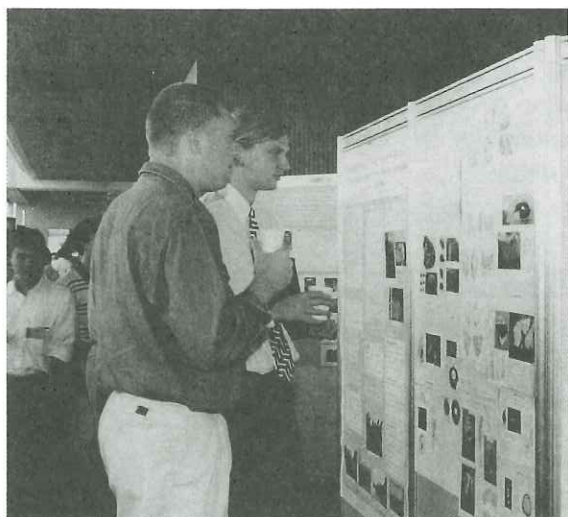
Dr. J.D. Taylor, The Natural History Museum, London, U.K. presents his keynote lecture".



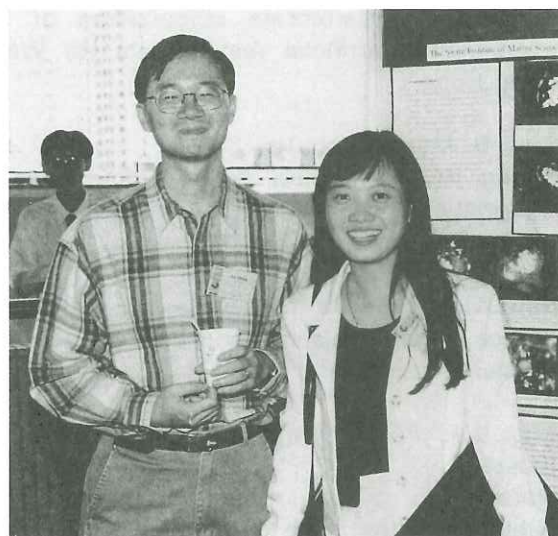
Dr. Nora Tam and Dr. Liian Vrijmoed (City University of Hong Kong) at the conference.



Dr. Qin Song (Institute of Oceanology, Qingdao, China) chats with Prof. Qi Yuzhou (Jinan University, Guangzhou, China) at the conference.



Mr. Graham Blackmore and Mr. Niel Hutchinson reading a poster at the conference.



Dr. S.G. Cheung (City University of Hong Kong) and Ms. Chan King (Swire Institute of Marine Science) at the conference.



Professor Vo Si Tuan (Institute of Oceanography, Nha Trang, Vietnam) and Professor C.K. Tseng (Institute of Oceanology, Qingdao, China), two keynote speakers at the conference.



Dr. J. Knudsen (University of Copenhagen, Denmark) chats with Professor Dong Zhengzhi (Institute of Oceanology, Qingdao, China) at the conference.

The conference was supported by the following organizations:

The University of Hong Kong
Cathay Pacific Airways Ltd.
The British Council
The Croucher Foundation
Shell (Hong Kong) Ltd.
K.C. Wong Education Foundation
Carlsberg Brewery Hong Kong Ltd.
Pharmacia Biotech (Hong Kong) Ltd.
Leica Instruments Ltd.

Papers presented at the conference are currently being processed for a proceedings to be published by Hong Kong University Press in 1997.

The Fourth International Conference on the Marine Biology of the South China Sea is to be convened at the University of the Philippines in 1998.



Mr. Benny K.K. Chan of the Swire Institute of Marine Science, receives the prize for the best student poster at the conference from Dr. S.Y. Lee, Chairman of the Marine Biological Association of Hong Kong.

BERMUDA BIOLOGICAL STATION FOR RESEARCH

The Bermuda Biological Station for Research Far Eastern Trust this year sponsored two graduate students from the Swire Institute of Marine Science to go to Bermuda and participate in advanced courses in marine science.

Mr. Ng Wai Chuen participated in the course "Biology of Fishes" for the period from 14 July to 10 August 1996.

Ms. D. McCorry participated in the course "Coral Reef Ecology" for the period from August 4-24, 1996.

AN ARTIFICIAL REEF AT HOI HA WAN

In 1993, Hong Kong Electric Co., Ltd. and China Light and Power Co., Ltd., donated the sum of HK\$3.1 million to the institute to build, deploy and study an Experimental Artificial Reef at Hoi Ha Wan, Hong Kong's first Marine Park. The artificial reef has been constructed from several mixes of PFA (pulverized fuel ash) and cement, the former being a by-product of power generation from coal-burning electricity stations in Hong Kong. The reef comprises 1015 blocks each of 0.5 x 0.5 x 0.5 m³ plus 1000, smaller, experimental, blocks made up of four different PFA and cement mixes. The reef was laid on the seabed at Hoi Ha on the 30 November and 3 December 1993. The aims of the reef project are:

1. To ascertain whether or not such a structure can be used safely to rebuild marine habitats in Hong Kong which have been progressively destroyed by shore reclamation and pollution.
2. To determine whether or not such structures will act as either fish aggregating or breeding devices to stimulate fisheries production in Hong Kong's coastal waters.
3. To understand the processes of marine life colonization of the artificial reef by encrusting organisms, with particular reference to corals. That is, can corals, in particular, be encouraged to grow on the reef.
4. To research the leaching of trace metals from the reef blocks and their uptake by encrusting marine life, sediments, mussels and fish.

The grant provides research scholarships for three higher degree students to be based at

the Swire Institute of Marine Science and to work on the project, as a team, for three years. The following students undertake the research and are at present completing the final report on the project.

Mr. Albert Y.W. Leung. Formerly a Fisheries Officer with the Agriculture and Fisheries Department of the Hong Kong Government, Albert supervises field work at Hoi Ha Wan and researches the fish fauna of the artificial reef.

Ms. Katherine K.Y. Lam. A graduate in Environmental Science from The University of Hong Kong, Katherine researches the colonization of the artificial reef by corals and other organisms.

Mr. K.F. Leung. A graduate in Environmental Science from The University of Hong Kong, Kim Fung researches the leaching of trace metals from the reef blocks and their uptake and transport within the marine life of the artificial reef.

This research is co-ordinated by an Artificial Reef Working Group, chaired by Professor B. Morton, which meets every six months.

SEAGRASS REHABILITATION

In 1993, Dr. S.Y. Lee was awarded the contract (HK\$200,000) for a Seagrass Rehabilitation project for *Zostera japonica* beds to be affected by the New Airport construction work at Tung Chung, Lantau Island. The objectives of the research are to assess the stress levels experienced by the seagrass and propose measures to minimize construction impacts.

A second award of HK\$630,000 was made by the Government in April 1994 to sponsor basic research into the community ecology of local seagrasses. The project is jointly conducted by Dr. S.Y. Lee and Prof. R.S.S. Wu (City University of Hong Kong).

HONG KONG'S CORALS AND FISHES

Mr. Peter R.J. Collinson initiated research on Hong Kong's corals at the institute and is at present writing up his Ph.D. thesis. Ms. Tracy Clark is studying the distribution of corals within the proposed Cape d'Aguiar Marine Reserve and compares coral transplants from Hoi Ha Wan with those of Cape d'Aguiar. This research is supported by the volunteer diving team headed by Mr. Paul Hodgson who is currently mapping the sea bed of the reserve. Ms. Katherine Lam investigates corals settling on the experimental artificial reef at Hoi Ha Wan. Ms. Denise McCorry and Mr. Andrew Cornish now study the biodiversity of Hong Kong corals and coral fish, funded by a grant to the institute of HK\$1.83 million from the Hong Kong Jockey Club Charities Trust. Mr. Ng Wai Chuen is researching the rockfish *Sebasticus marmoratus*. This research was recently supported by the donation of an underwater video camera and housing plus other diving equipment from Larco Products Ltd..

THE CHINESE HORSESHOE CRAB

In 1995, China Light & Power Co., Ltd. made a donation to the Institute of HK\$900,000 to fund a Ph.D. student to undertake research on the Chinese horseshoe crab. Ms. C.L. Nightingale is the scholarship holder. Once common on Hong Kong's beaches and in coastal waters, the Chinese horseshoe crab, is now threatened by pollution and overfishing and is rarely seen. This project aims at understanding the taxonomy and ecology of the crab with a view to making recommendations as to its conservation locally. Assistance with this research is being provided by the Agriculture and Fisheries

Department and the Environmental Protection
Department of the Hong Kong Government.

HONG KONG'S DOLPHINS

The first documented sighting of the so called Chinese White dolphin or Chinese Humpback dolphin (*Sousa chinensis*) in the Pearl River estuary was made in 1637. There appears to have been little interest in the population until the late 1980's, when the development of the new airport at Chep Lap Kok threatened the dolphin's habitat. Public attention was drawn to the possible future plight of the dolphins by the World Wide Fund for Nature Hong Kong and The Hong Kong Marine Conservation Society. The Hong Kong Government funded a study of this species in 1993 with a grant of HK\$2 million to the Swire Institute of Marine Science.

The study began in December 1993 and two students, Ms. L.J. Porter and Mr. E.M. Parsons, both registered for a Ph.D. degree, are currently writing up their theses and the final report. This research is co-ordinated through a Dolphin Working Group chaired by Prof. B. Morton, which meets every six months. China Light and Power Co., Ltd. and the Ocean Park Conservation Foundation are supporters of the project.

Ms. Connie H.Y. Lai has recently been appointed as research student to continue the work on the Chinese white dolphin and to study its behaviour in greater detail.

A MARINE GIS DATABASE FOR HONG KONG

In 1994, the Education Trust of John Swire and Sons Ltd., approved the establishment of a Third Scholarship in Wetland Ecology at the institute. The aim of the scholarship is to

create a G.I.S. Marine Database for Hong Kong, to develop new ways of computer-imaging the data and to formulate a Marine Conservation Management Plan for Hong Kong. The scholarship was awarded to Ms. Winnie S.M. Tang, a graduate in Geography from The University of Hong Kong. The database is being cross-linked with the Reference Collection of Hong Kong's Marine Flora and Fauna now being developed at the institute.

The project has been further supported by a donation of software from Environmental Systems Research Institute Inc., U.S.A., and by the donation of computer hardware from the Caltex Green Fund.

After two years' information compilation and database construction, the Marine GIS Database will be available for use at the institute in early 1997. It contains useful information such as, for example, the distribution and taxonomy of more than 300 molluscan species, the levels of *Escherichia coli* and turbidity of Hong Kong's waters and even the different phases of sea bed dredging and coastal reclamation. The Database has also cross-linked with the Reference Collection of Hong Kong's Marine Flora and Fauna in the museum of the institute. To maintain the currency of the information in the Database, continual input from marine researchers is needed.

WORLD WIDE FUND FOR NATURE HONG KONG

Staff of the institute sit on various committees of WWF Hong Kong to help promote local awareness of marine environmental issues.

In particular, our researches provide information and advice on management procedures for the Mai Po Marshes Nature Reserve and the Hoi Ha Wan Marine Park. Educational materials for the Island House Conservation and Field Studies Centre and the proposed Marine Life Centre at Hoi Ha Wan are also produced by the institute staff and students.

THE MARINE BIOLOGICAL ASSOCIATION OF HONG KONG

Founded in 1982, The Marine Biological Association of Hong Kong has some 110 members and holds regular meetings and other events, some of which are held at the Swire Institute of Marine Science. The Association produces its own international journal, *Asian Marine Biology*. The Association's library is housed at the Swire Institute of Marine Science.

Dr. S.Y. Lee is Chairman of the Association. Mr. K.F. Leung is the Membership Secretary and Prof. B. Morton is a Council member and Editor of the association's annual scientific journal, *Asian Marine Biology*.

THE HONG KONG MARINE CONSERVATION SOCIETY

Founded in June 1991, The Hong Kong Marine Conservation Society has some 120 members and holds regular meetings and other events, some of which are held at the Swire Institute of Marine Science. It also produces a Marine Conservation Newsletter.

Ms. L.J. Porter is Membership Secretary of the Society and Mr. E.C.M. Parsons is the Events Secretary.

CAPE D'AGUILAR AS HONG KONG'S FIRST MARINE RESERVE

The shores and inshore sea areas around the institute, already designated a Site of Special

Scientific Interest, was recommended by the Marine Parks and Reserves Committee, chaired by Prof. B. Morton with Dr. S.Y. Lee as a member, of the Country and Marine Parks Board, to be of sufficient importance to constitute Hong Kong's first marine reserve.

On 31 May 1995, Hong Kong's Legislative Council passed the Marine Parks Bill and on the 5 July 1996, the Cape d'Aguilar Marine Reserve was formally designated. It was officially opened on the 30 September 1996 by Mr. Bowen Leung, Secretary for Planning, Environment and Lands.



Professor Y.C. Cheung, Vice-Chancellor of the University of Hong Kong, examines the seagrass research samples of an institute student, Mr. Terence Fong, following the official opening of the Cape d' Aguilar Marine Reserve on the 30 September 1996.

HOW CAN I UNDERTAKE RESEARCH AT THE SWIRE INSTITUTE OF MARINE SCIENCE?

FUNDING OPPORTUNITIES⁺

- A. If you have a good honours degree from a recognized tertiary institution, you will be eligible for award of a Studentship by The University of Hong Kong which will allow you to undertake research for either an M.Phil. or a Ph.D. degree at The Swire Institute of Marine Science. Non native-English speaking students are required to obtain a TOEFL score of 550 points prior to admission. Application forms are available from The Registrar, The University of Hong Kong, Hong Kong.
- B. Overseas students and scientists can apply to the laboratory for award of a Short-Term Visitorship which offers free accommodation at the institute and a modest per diem allowance. Such visits are normally for less than one month.
- C. Postgraduate students who are full members of The Marine Biological Association of Hong Kong can apply for award of a research grant that would help them either undertake research at the institute or attend local and overseas conferences.*
- D. The Director can, at his discretion, make a single annual award from an "Intertidal Trust Fund" established in 1982 to a postgraduate or post-doctoral overseas applicant who writes with details of a research project that would enhance understanding of Hong Kong's intertidal ecology by using the facilities of The Swire Institute of Marine Science.
- E. Established in 1992, the Laurence Caplin Scholarship in Marine Biology, offers grants which allow young overseas scientists to undertake research at The Swire Institute of Marine Science for periods of up to 3 months.
- F. Established in 1995, the Cape d'Aguilar Trust Fund offers grants which allow local and overseas students and scientists to undertake short periods of research on the proposed Cape d'Aguilar Marine Reserve, at the Swire Institute of Marine Science.

+Further details of all such funding possibilities can be obtained from The Director, The Swire Institute of Marine Science, The University of Hong Kong, Cape d'Aguilar, Shek O, Hong Kong.

* Details of this grant can be obtained from: The Secretary, The Marine Biological Association of Hong Kong, c/o The Swire Institute of Marine Science, The University of Hong Kong, Cape d'Aguilar, Shek O, Hong Kong.

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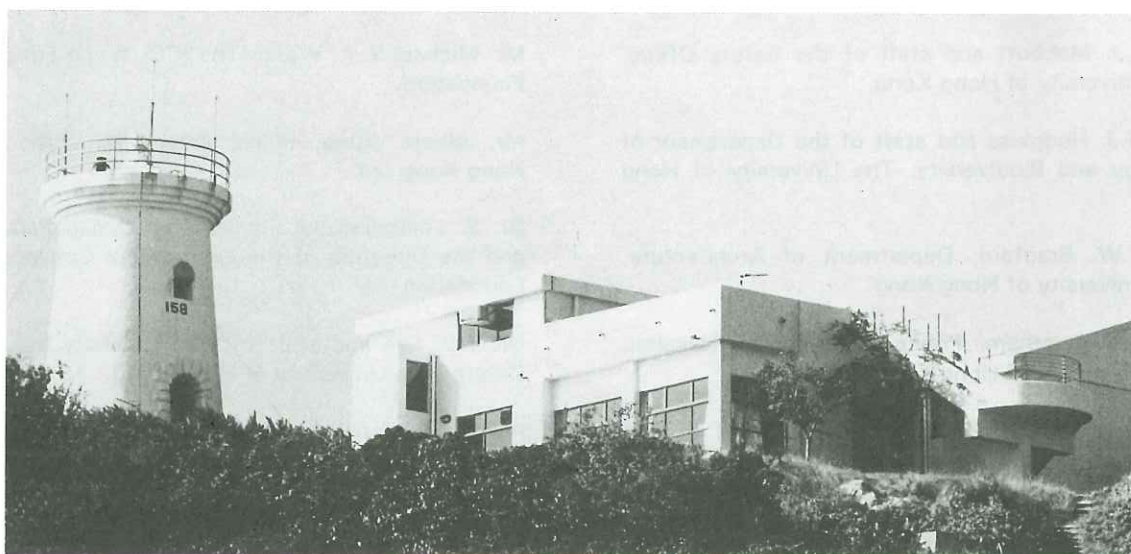
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