



NEWSLETTER

No. 10/11*

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**LIZARD ISLAND RESEARCH STATION
GREAT BARRIER REEF**

*** HIGHLIGHTS ***

- * R V SUNBIRD now fully operational and extending research support into the norther Great Barrier Reef and Torres Strait.
- * COMPLETION OF NEW LABORATORY - more space for researchers, new offices for staff.
- * POST GRADUATE FELLOWSHIP SCHEME COMMENCED - there are now 3 Doctoral students working at Lizard Island and in receipt of these Fellowships.
- * GIANT CLAMS - reared for the first time in Australia.
- * Specimens of LIVING FOSSIL (*Nautilus stenomphalus*) trapped off Great Barrier Reef and kept alive in refrigerated aquaria.

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The Lizard Island Research Station is a facility of the Australian Museum and is dedicated to supporting research into all aspects of the biology, geology, hydrology, history and conservation of the Great Barrier Reef.

Accommodation, boats, diving equipment, a running sea-water system and airconditioned laboratories are available right on the reef to support scientists and post-graduate students with research interests in the tropical marine environment. Enquiries concerning these facilities are invited and should be addressed to The Director, Lizard Island Research Station, P.M.B. 37, Cairns, Qld. Australia, 4870.

The Lizard Island Research Station is a non-profit organization and is not directly supported by any Government funding.

* This newsletter is a combined issue for the years 1983-84 & 1984-85 as the newsletter was not prepared in 1984.

NEW LABORATORY

Efficiency is the keyword to the operation of the Lizard Island Research Station, and our efficiency has increased by an order of magnitude with the opening of the laboratory extensions in late 1984.

The opening ceremony took place on 27 November 1984, with hand-over speech by Sir John Proud, Chairman of the Lizard Island Reef Research Foundation. Other dignitaries at the opening included Dr C Warman, Mrs K Klugman (President of the Australian Museum Trust), Dr D Griffin (Director of the Australian Museum), Mr J Nakamura (Managing Director, Suntory Australia), Dr J Baker (Sir George Fisher Centre for Tropical Marine Studies, James Cook University), Dr A Gilmour (Executive Officer, Great Barrier Reef Marine Park Authority), Mr Wiesner (Ord Minnet, Sydney), Professor D Anderson (Sydney University), Dr J Farrands (Chairman of the Council, Australian Institute of Marine Science), Mr P Ogilvie (Queensland National Parks & Wildlife Service), Mr B Lynn (the Architect, Cairns) and Mr A Martin (Far North Queensland Promotions Bureau).

The new laboratory is fully airconditioned and contains an instrument lab, a radio-isotope lab, store/room, a new library/seminar room and offices for the Director and Secretary (who have now reclaimed their bedroom, which used to be the office). Built of better bricks, the new building was engineered to withstand the worst of cyclones, and has been placed parallel to and on the seaward side of the old lab building.

Funds for the new building, costing \$125,000, came principally from the Japan Foundation (initiated by Suntory Ltd) and ESSO Australia. Some assistance came also from Applied Industrial Plastics towards the fume cupboard and polypropylene waste plumbing system.

Plans are now underway to renovate the original building - the wet lab is to be converted to a chemistry room and the old library will be converted half into a wet lab and half into a clean room for axenic cultures.

DOCTORAL FELLOWSHIP SCHEME INITIATED.

Although there is an obvious need to continue with the upgrading of the station's facilities, the Lizard Island Reef Research Foundation agreed, at a meeting in late 1983, to provide some of its funds towards supporting postgraduate students with their research on the barrier reef. These students, because they are young and enthusiastic and are not encumbered with administrative or teaching loads, very often produce some of the more worthwhile findings in coral reef research. However, they are generally hampered by an inability to attract extra funding beyond their University scholarships. Valued at \$12,000 each (i.e. a commitment of \$4,000 a year for three years), the Lizard Island Research Station Doctoral Fellowships provide for all travel and bench fee costs to work at Lizard Island (as well as any of the other island research stations) with some allowance also for equipment.

Initially, these Fellowships were offered only to students from Australian Universities, however the object is to support quality research on the barrier reef, and students from overseas institutions might consider applying in future. For further details on this scheme contact the Director of the Lizard Island Research Station or the Director of the Australian Museum (P.O. Box A 285, Sydney South, N.S.W. 2000, Australia).

Funds to start the fellowship scheme were initially provided by the George Alexander Foundation, Carlton United Breweries in Cairns and some anonymous supporters. Funds for a further complete Fellowship were provided by Readers Digest in late 1984.

Two Fellowships were awarded at the commencement of the scheme in 1984. One went to John Chisholm of James Cook University for a study on coralline algae (see list of researchers below); the other went to Roland Pitcher of Griffith University to support his study on patchiness and recruitment in coral reef fish larvae. The third Fellowship was awarded in 1985 to Geoffrey Smith, also of Griffith University, who is studying the relationship between feeding and nesting success in selected seabird populations around Lizard Island.

Applications for 1986 awards close in November this year!

R V SUNBIRD

The fitting-out of our research vessel is now virtually complete. Certain items were omitted during construction due to lack of funds. However, during the last two years the following have been completed:-

Hydraulic system - rams to control the A-frame were installed.

An auxiliary diesel generator producing 12 KVA 3 phase power was mounted in the port engine room.

A deep-freeze unit (nearly 1 cubic meter, to -30 degrees C.) which can be run either hydraulically from the main engine or electrically from the auxiliary, has been built into the galley to replace the inadequate 12 volt system.

For filling SCUBA bottles, an 8 cfm Bauer series K14 compressor was installed in the starboard engine room with the filling manifold on deck. This unit is a similar model to the smaller compressor at the station (for redundancy and equivalence of spare parts) and is driven electrically from the auxiliary.

R V SUNBIRD also now has a full suit of sails with the donation of a spinnaker by Brian Wingett.

Cracks that had developed in the hull plates directly over the propellers were welded up in January this year when the vessel was hauled out for maintenance. The cracks developed due to flexing of the plates caused by side thrust from the propellers - extra stringers and a dummy bulkhead were welded in and the problem appears to have been solved.

R V SUNBIRD continues to perform to expectations and is certainly fulfilling a need. Apart from servicing all the station's requirements for transporting fuel and cargo, a good number of researchers are now making use of her unique abilities - shallow draft, speed, stability, trawling equipment and diver support.

The Director is still acting as skipper of the R V SUNBIRD, but this is fast becoming a full time job. We will shortly be looking for a full time skipper . . .

LABORATORY EQUIPMENT:

The development of laboratory equipment has received relatively less attention of late with only a few additions:

A second APPLE II+ computer was donated by Alpha Research (Melbourne) - the station now has two APPLES (although one of these often accompanies the Director on R V SUNBIRD). To compliment the new computer, a Brother HR25 daisy-wheel printer and a Canon PC-20 photocopier have been added to improve the efficiency of the office.

A Sartorius top-loading electronic analytical balance (to 0.1 milligrams) has been added to the instrument room; an autoclave has been acquired to support the developing need for culture work (this should be a little better than the pressure cooker we used); and a fume cupboard was built into the radio-isotope lab during its construction.

It is hoped that 1986 will see a quantum leap in instrumentation.

STAFF:

A wonderful stability has pervaded the staff - there have been no changes in the last two years. Lois Goldman continues in her full-time role as secretary/manager and runs the station while the Director is away sailing. Peter Pini, the maintenance engineer, continues to astound everyone with his depth of knowledge about instrumentation and his ability to keep everything running; and he has also caught up with the paint work on the small boats. Peter and Gwen have decided to stay on for at least another year and Gwen, who until now has only been employed a few hours a week will now be working half-time; in addition to completing her collection of molluscs from the island - which now totals over 500 species!

During periods when the maintenance engineer was away on recreation leave, several casual employees assisted. These include Chris and Amanda Spooner (who tiled the floors in the houses and helped prepare the foundations for the new laboratory); Bega and Doris Rognli; and Bob Milne (who worked here earlier in a similar capacity).

There have been no breakdowns or need for replacement parts!

RESEARCH:

As indicated by the list below of the scientists who visited, a wide diversity of research projects were undertaken ranging from the study of feeding behaviour of crinoids (feather stars) to the chemistry of deposition of oolites (calcium carbonate crystals) in lagoon sediments.

Highlights of the period include:-

A polychaete workshop lead by Dr Pat Hutchings (Australian Museum) for 11 days, attended by 17 overseas biologists.

Dave Bellwood completed his third year of fieldwork gathering data for his Ph.D. on habitat partitioning in parrotfish in relation to their jaw structure, dentition, feeding behaviour and juvenile settlement requirements.

The continuing study by Bette Willis and team from James Cook University confirming the synchronous spawning of many corals along the barrier reef on the fourth and fifth nights after the full moon in November.

The successful culture, after aquarium fertilization, of giant clam larvae. Rick Braley is now the proud 'father' of over 1,000 baby clams!

Roland Pitcher's study of recruitment patterns in coral reef fishes: He found that more fishes settled on one patch reef in one night at Lizard Island than settled over his total study area on One Tree Reef throughout a complete season. Is this difference due to the greater richness in the north? Or to chance?

In a project by Drs Bruce Saunders and Peter Ward, traps were set in over 300 meters of water outside the barrier reef by R V SUNBIRD and when retrieved (in heavy seas and 30 knots wind) a total of 13 specimens of two species of Nautilus were taken. This is the first time that one of the species has been collected in-tact - N. stenomphalus was previously known only from beach-collected shells. The other species - N. pompilius has been commonly collected alive in other parts of the Pacific. All specimens were successfully kept alive in a refrigerated aquarium system at the research station - another first in Australia.

The following table summarise our visitor statistics for the past two years.

	1983-84	1984-85
Total Number of researchers	99	90
Number of Australian researchers	42	47
Number of Overseas researchers	46	30
Number of Postgraduate students	11	13
Average number of researchers per day	4.2	5.4
Average number of all visitors per day (includes non-scientists)	4.9	6.4

During the 1984-85 year, R V SUNBIRD was away from the island for a total of 148 days - 49 on station business (fuel and freight runs to Cairns or Cooktown) and 99 supporting researchers (with an average for the year of 1.1 per day). If these visitors are added to the above number, then the station together with R V SUNBIRD supported an average of 6.5 researchers per day.

R V SUNBIRD researchers:

J LEIS, Australian Museum.

The ecology and distribution of coral reef fish larvae off the ribbon reefs near Lizard Island.

I POINER, C.S.I.R.O. Division of Fisheries.

The distribution and species composition of sea grass beds in the northern and north-eastern Torres Straits in relation to their suitability as nursery grounds for juvenile prawns and feeding grounds for dugong.

M PICHON, James Cook University.

Species distribution patterns of corals on the reef flat of Yonge Reef - ground truth studies for aerial monitoring.

P HUNNAN, Queensland National Parks and Wildlife Service.

Visit to the Flinders group of islands to examine aboriginal cave painting sites for conservation measures to be assessed.

D PARER, ABC Natural History Film Unit.

Trip 1 - filming coral spawning and reproduction in representative groups of coral reef animals at Yonge Reef.

Trip 2 - filming the egg-laying of green turtles at Raine Island in their peak laying period. Also filming tiger sharks (underwater, in a cage).

Trip 3 - filming the hatching of the green turtles at Raine Island, together with nesting behaviour of a number of sea birds and feeding by a killer whale. The trip also went up into the deltaic reefs 100 miles further north to film the spectacular currents.

B CARLSON, Waikiki Aquarium.

Trapping live nautilus off Carter Reef.

J PAXTON, Australian Museum.

Deep water trawling (to 500 meters) to collect tropical mid-water fishes. Also to make a representative collection of fishes from Osprey Reef.

R HARTWICK, James Cook University.

Search for over-wintering 'polyp' stages of box jellyfish in the Escape River.

B SAUNDERS, Bryn Mawr College, Pennsylvania.

Trapping live nautilus for physiological and eletrophoretic studies.

R PITCHER, Griffith University.

Collection of recently settled fishes from Forrester and Waining Reefs to verify methods of ageing juveniles (at the daily level) and back-calculate periods of settlement and recruitment of fish larvae onto coral reefs.

Research visitors to the island, together with their institution and project, are listed below:

AUSTRALIAN SCIENTISTS

A MARSHALL, La Trobe University (assisted by wife).

Mechanics of calcification in corals.

P MORAN, Australian Institute of Marine Science.

Work in collaboration with Dr Robertson to investigate the recovery of hard coral communities following disturbance by crown-of-thorns starfish.

R THRESHER, C.S.I.R.O. Division of Fisheries (assisted by J Gunn).

Community ecology of Carangid fishes.

P HUTCHINGS, Australian Museum (first visit assisted by Dr B Chalker of the Australian Institute of Marine Science; second visit accompanied by B Kiene; third visit assisted by L Bamber).
Bioerosion of coral substrate (see also under overseas visitors).

J OLIVER, Sir George Fisher Centre for Tropical Marine Studies, James Cook University. Four visits assisted by H Streiner and J Chisholm; B Barnett and G Andrews; S Sorokim; and N Needham.
Evaluation of the biological and economic aspects of commercial coral collecting in the Great Barrier Reef region.

T DONE, Australian Institute of Marine Science together with T and A AYLING.
Continuation of stereo-photographic survey of coral communities around Lizard Island and Yonge Reef.

D KINSEY, Australian Institute of Marine Science (assisted by wife Barbara).
Re-estimation of calcification rates as a continuation of work done in 1974-75.

J MORRISEY, James Cook University (assisted by K Criltenden, J Kelly and J Clews).
Organic carbon flux in coral reefs and metabolic properties of reef ecosystems.

D NILSSON, Australian National University.
Evolution of compound eyes in crustaceans.

P MCGINNITY, J ROBERTSON and M ROBINSON, Great Barrier Reef Marine Park Authority.
Survey of crown-of-thorns starfish around Lizard Island using manta-tow techniques.

R WILLIS, James Cook University.
Chemistry of soft corals - collection of material during spawning.

R WASS, Sydney University.
Settlement of Bryozoans and their variation with habitat.

D GRIFFITHS and J LUONG-VAN, James Cook University.
Biology of didemnid ascidians with special reference to the symbiotic relationship with Prochloron.

W ALLAWAY, University of Sydney.
Ultrastructure of Pisonia grandis mycorrhiza.

J BAVOR, Hawkesbury Agricultural College, and
J VOLKMAN, CSIRO Division of Oceanography.
Degradation of natural and anthropogenic organic compounds in coral reef and oceanic environments.

P DOHERTY, School of Australian Environmental Studies, Griffith University.
Community ecology of reef fishes and spatial investigations of larval fishes.

J GLAZEBROOK, Graduate School of Tropical Veterinary Science, James Cook University & T. DANIEL, Australian Institute of Marine Science.
Studies on the infection by the parasite Philometra sp. in the gonads of coral trout (Plectropomus sp).

J LEIS, Vertebrate Division, Australian Museum (in collaboration with the Director, B GOLDMAN; and assisted by S Thompson, H J Walker, W Watson, S Bullock and J Van Den Breuk).
Studies on the distribution of coral reef fish larvae in the vicinity of Lizard Island and outer ribbon reefs (also listed in Sunbird usage).

J LUCAS & K PECKHAM, James Cook University.
Growth and metabolism of Acanthaster planci.

H MARSH, James Cook University (assisted by D Divine, B Freeland, B Hudson, G Heinson).
Aerial survey to assess dugong numbers between Cape Flattery and Cape Melville.

G STROUD, Vertebrate Division, Australian Museum (in collaboration with the Director, B GOLDMAN).
Ecology of coral reef fish larvae with emphases on spawning sites and timing, habitat preferences of fish larvae, age at settlement and general taxonomy.

J PAXTON and M MCGROWTHER, Vertebrate Division, Australian Museum.
Fish collecting at Osprey Reef and deep water trawling (c. 500 meters) from R V SUNBIRD in the Coral Sea.

J PICKETT, Geological & Mining Museum, Sydney (assisted by S Lindsay).
Collect and make ecological observations on a large brown sponge; investigate distribution and abundance at different latitudes; assess its significance in the coral reef ecosystem.

J STODDART and G RUSS, Australian Institute of Marine Science.
Taxonomy of Dictyoceratid sponges.

I YOUNG, James Cook University.
Measuring waves and currents in the ribbon reefs.

S KANEFF, Australian National University.
Survey and establishment of environmental parameter recorders to provide background information required to convert the station to solar power energy.

OVERSEAS SCIENTISTS

Following the International Polychaete conference held at the Australian Museum, 17 of the participants, under the leadership of Dr Hutchings, visited the Lizard Island Research Station to further their ecological or taxonomic studies. They are listed below:

M BEN-LETAHU, Hebrew University of Jerusalem; P and E KNIGHT-JONES, both of the University College of Swansea; K FAUCHALD, Smithsonian Institution, Washington; C METTAM, University College, Cardiff, Wales; I WINSNES, Zoological Museum, University of Oslo, Norway; E OUG, Institute of Biology and Geology, Norway; D GEORGE, British Museum (assisted by wife J GEORGE); S CHAMBERS, Royal Scottish Museum, Edinburgh (assisted by C GRIFFITHS); M EWING and D DAUER, both of the Old Dominion University, Virginia; L LEVIN, Woods Hole Oceanographic Institute, Massachusetts; M PETERSON, Zoological Museum, Copenhagen; T HOLTNE, University of Tromso, Norway.

M KEENLEYSIDE, University of Western Ontario, Canada (accompanied by Ms H Keenleyside).

Reproductive behaviour in coral reef fishes.

W BROWN, University of Michigan (assisted by wife and son).
Molecular genetics of animal mt-DNA, a comparative phylogenetic study.

A BLUM, University of California, Berkely.
Feasibility visit to study brominated and chlorinated hydrocarbons in a pristine environment.

R STUTZ, Hebrew University, Jerusalem (assisted by M Stutz).
Studies on appearance and dominance of blue-green algae indicating quality and changes in the aqueous environment.

F TALBOT, California Academy of Science (assisted by Sue and Nick Talbot, H Keen and C Gillespie).
Monitoring of movement patterns of lagoon predatory fish with ultrasonic tags.

N HOLLAND, Scripps Institute of Oceanography.
First visit - regeneration of arm of a crinoid (*Petasometra* sp.). Material being collected and fixed for later electron microscope studies.

Second visit - with R STRICKLER, University of Southern California and A LAHAYE, postgraduate student at SCRIPPS.
Feeding mechanisms in feather stars - microevents of particle capture.

D COSTA, Long Marine Laboratory, University of California, Santa Cruz (assisted by M Zavanelli; R Davis, M Castelline and T Williams).
Foraging energetics of marine birds - a preliminary feasibility study.

H CHOAT, University of Auckland, New Zealand.
Foraging energetics of herbivorous reef fishes (two visits).

E MUELLER, University of Miami, Florida.
Calcification in corals - a preliminary feasibility visit to assess potential for future studies.

R ROBERTSON, Smithsonian Tropical Research Institute, Panama (assisted by L Moody of James Cook University).

Interactions between crown-of-thorns starfish and reef fish communities.

J GRAY, University of Oslo, Norway.

Ecology and distribution of macrofauna in lagoon and mangrove sediments.

L HARRIS, University of New Hampshire (assisted by wife Ann-Marie and two daughters).

Studies on the interaction of fish grazing and structure, provided by damsel fish gardens on recruitment of mobile benthic invertebrates.

B SAUNDERS, Bryn Mawr College, Pennsylvania and P WARD.

Collection of living nautilus for electrophoresis and physiological studies - collection by trap using R V SUNBIRD.

C PHLEGER, San Diego State University, California (assisted by wife Nancy).

Bone triglyceride storage in tropical reef fish.

J FINDLAY, University of New Mexico, New Mexico (assisted by wife Muriel).

The relationship between species density and abundance, niche breadth and niche overlap in butterflyfishes.

J JUST, University of Copenhagen (assisted by R Springthorpe).

To collect members of the corophiid amphipod group Siphonoecetinae.

H JUST, Zoologisk Museum, Denmark.

Study of sand living gymnodorid nudibranchs and clams.

L FRANCIS, Bates College, Lewiston, Maine.

A preliminary inventory of clonal and non-clonal anemones and to look for symptoms of aggressive interactions among the anemones on Lizard Island reefs.

T FOX & D BLANK, Department of Neuroscience, Children's Hospital Medical Centre, Boston.

Exploratory visit to access laboratory facilities to continue their research on androgen and estrogen receptors during sexual differentiation of the brain.

D PHILLIPS, Environmental Protection Agency, Empire Centre, Hong Kong (assisted by L Phillips, E Stamman & D Segar).

Tagging, mapping and photography of giant clams (Tridacna spp.) to study their spatial distribution patterns.

C HICKMAN, University of California, Berkeley.

Evolutionary morphology, ecology and systematics of the umboniine trochid gastropods.

POSTGRADUATE STUDENTS

G JONES, University of Melbourne.

Productivity and bioaccumulation of trace elements by blue-green algae.

B KIENS, Australian National University (in association with Dr Hutchings of the Australian Museum).

Bioerosion of coral substrates - a physical/geological study.

O WRIGHT, La Trobe University (in association with Dr A Marshall).

Calcification mechanics in corals, in particular, checking the rate of uptake of Ca⁴⁵ in certain species.

J ALDENHOVEN, Macquarie University (assisted by G Caruthers).

Life history studies on the regal angelfish (*Centropyge bicolor*).

J CHISHOLM, James Cook University (recipient of a Lizard Island Research Station Doctoral Fellowship).

The role of coralline algae with special emphasis on their growth and reproduction in coral reef ecosystems.

F DOUJAK, Australian National University.

Optical specializations and optomotor responses amongst crustaceans.

B WILLIS, James Cook University (assisted by A Watt).

Latitudinal synchronization of spawning in corals; together with an investigation of factors causing morphological variation in the reef corals Pavona cactus and Turbinaria mesenterina.

G SMITH, Griffith University (recipient of a Lizard Island Research Station Doctoral Fellowship).

Studies on nesting behaviour and food gathering in relation to reproductive success in terns and shearwaters in the Lizard Island region.

D BELLWOOD, James Cook University.

Biology of parrot fishes, morphological adaptations in relation to feeding requirements and habitat selection.

G ANDERSON, Macquarie University.

Recruitment and population turnover of fishes on artificial reefs in the Lizard Island Lagoon.

A LaHAYE, University of California, San Diego (with Drs Holland and Strickler).

Collection and fixation of a number of species of crinoids (feather stars) for electron microscopy study of their feeding methods.

A DUNCAN, La Trobe University (assisted by husband B Smillie and Prof Waid).

Microbial ecology of the staghorn coral Acropora.

D NEESE, University of Oklahoma (assisted by N Trumbly).

Investigation of oolite facies and in situ chemistry relative to their formation.

M STIRLING, Kings College, London.

The role of bacteria in cementation of sediments in the interstices of coral and beach rocks.

A LARSON, University of Minnesota. SPAN project as entrance requirement towards a higher degree.

Studies on the ecology of the blue starfish Linckia laevigata.

R BRALEY, University of New South Wales (assisted by V. Brunton).

General biology, ecology and reproduction in giant clams in relation to their aquaculture potential.

L NEWMAN, Queensland University.

The biology of Holoplankton gastropod molluscs from Australian waters.

R PITCHER, Griffith University (recipient of a Lizard Island Research Station Doctoral Fellowship), assisted by R. Pitcher on one visit.

Variation in time, space and species composition of recruitment of coral reef fish larvae to small, isolated, coral habitats.

J RESING, James Cook University.

Coral interactions: 'aggression'.

A THRESHER, University of Sydney.

Sexual selection, reproductive biology and social organization of Chrysiptera cyanea (blue damselfish).

NON-SCIENTISTS:

Nev and Kay COLLINS, Brisbane.

Underwater photography of natural history material.

N KOTANI, The Yomiuri Shimbun, Japan.

To gather material for publishing on the Great Barrier Reef and current research activities (in Japanese).

Z FLORIAN, James Cook University.

Visited both years to service the station's microscopes and optical equipment.

D SMITH visited again, this time on his 'round Australia helicopter trip' and left a parting gift of funds for an uninterruptible power supply.

Lock & Beryl CROWTHER, Sydney - Lock was the designer of our research vessel R V SUNBIRD and visited to gain first-hand experience of her operation in barrier reef conditions.

Members of the Australian Museum Trust, together with Drs GRIFFIN and COGGER, and Mr & Mrs BRONOWSKI visited in April 1984 for an inspection of the station and farewell to Dr J BAKER (retiring President of the Australian Museum Trust).

P HARRIS & P HEYWORTH, QNPWS Cairns Branch.

To assess the possibility of restoring Mrs. Watson's Cottage.

D PARER, ABC Natural History Film Unit (assisted by E Cook and marine biology consultants, B Gladstone and A Watts).

To collect footage on Oceans and how current and wind systems (both polar and tropical) have shaped today's sea environment, for a series called "The Nature of Australia" as part of Australia's 1988 Bicentenary celebrations.

OFFICE TWO-ONE INC. film crew, Tokyo

Documentary for Japanese television on the scientific activities and the animals of the Great Barrier Reef.

H & R MEISTER, University of Zurich.

Exploratory visit to look at our facilities and surrounding coral reefs.

P GOWER, Lindbrook International P/L.

Voluntary servicing of the Station's scintillation counter.

P COLIN, Motupore Island Research Station, PNG.

To see the facilities at the Lizard Island Research Station and to exchange information on running tropical field stations.

I LAWN & M PRECKER, Heron Island Research Station.

To look at the facilities that Lizard Island offers visiting researchers and to discuss management of island research stations.

F TALBOT, accompanied by S TALBOT brought a group Trustees of the California Academy of Science to visit the station in August 1984 and spend a day on the outer reef onboard R V SUNBIRD.

S and G REID, of the Lizard Island Reef Research Foundation - to discuss station development and fund raising activities with the Director.

Representatives of the Great Barrier Reef Marine Park Authority and the Queensland National Parks and Wildlife Service held a two-day meeting in the new air conditioned laboratory extensions in late 1984.

TOURS: We now have a regular bi-weekly visitation by guests staying at the Lizard Island Lodge (plus the occasional campers and yachties). They are given a 10 minute slide show outlining the station's development and activities, then a brief tour of the laboratory facilities and discussions with any researchers who happen to be around. These tours are now proving quite popular.

WORK EXPERIENCE:

Ben Walter, Plymouth, England; A Fletcher and R Brumley (Fisheries and Wildlife, Shepparton, Victoria), D Bath, P Graham, C Kehoe and A Cooper.

OTHER ACTIVITIES

The Director was invited to participate in the 'Crown of Thorns Starfish Advisory Committee' which was established in 1984 to report on the crown of thorns 'problem' to the Minister for Home Affairs and the Environment. Four meetings in Townsville were attended and a final report was presented to the Great Barrier Reef Marine Park Authority in late 1984.

PUBLICATIONS:

Since the issue of Newsletter No 9 we have received a further 52 reprints bringing the total to 156. The 22 additional publications received in the last 12 months (including 3 Doctoral dissertations) are listed below. A complete list is available - please write if you are interested.

Aboussouan A and J M Leis, 1984.

Balistoidei: Development

In: Ontogeny and Systematics of Fishes. Ahlstrom Symposium, La Jolla, 1983. H G Moser et al. (Eds.). Pp:450-459

Aldenhoven J, 1984.

Social organisation and sex change in an angel fish Centropyge bicolor on the Great Barrier Reef.

Ph.D. Dissertation, Macquarie University.

Braley R D, 1984.

Reproduction in the giant clams Tridacna gigas and T. derasa in situ on the north-central Great Barrier Reef, Australia and Papua New Guinea.

Coral Reefs 3:221-227

Buckley R C, 1984.

Self-sewn wild-type coconuts from Australia

Biotropica 16(2):148-151

Davies P J and K Martin, 1976.

Radial aragonite ooids, Lizard Island, Great Barrier Reef, Queensland, Australia

Geology 4(2):120-122

Davies P J and P A Hutchings, 1983.

Initial colonization, erosion and accretion in coral substrate: Experimental results, Lizard Island, Great Barrier Reef

Coral Reefs 2:27-37

Erseus C, 1984.

Taxonomy and phylogeny of the gutless phallodrillinae (Oligochaeta, Tubificidae), with descriptions of one new genus and twenty-two new species

Zoologica Scripta 13(4):239-272

Harriot V J, 1985.

Mortality rates of scleractinian corals before and during a mass bleaching event.

Mar. Ecol.: Prog. Ser 21(1/2):81-88

Hutchings P A, 1984.

A preliminary report on the spatial and temporal patterns of polychaete recruitment on the Great Barrier Reef.

In: Proc. First Intnl. Polychaete Conf., Sydney. P Hutchings (Ed.):227-237 (Lynn. Soc. N.S.W.)

- Imajima M and H ten Hove, 1984.
Serpulinae (Annelida, Polychaeta) from Truk Islands, Ponape and Majuro Atoll, with some other Indo-Pacific records
Proc. Jap. Soc. Syst. Zool. 27:35-66
- Lahaye A and N D Holland, 1984.
Electron microscope studies of the digestive tract and absorption from the gut lumen of a feather star, Oligometra serripinna (Echinodermata)
Zoomorphology 104:252-259
- Lassig B, 1982.
The minor role of large transient fishes in structuring small scale coral patch reef fish assemblages.
Ph.D. Dissertation, Macquarie University.
- Leis J M, 1984.
Tetraodontoidei: Development
In: Ontogeny and Systematics of Fishes. Ahlstrom Symposium, La Jolla, 1983. H G Moser et al. (Eds.). Pp:447-450
- Leis J M, 1984.
Tetraodontiformes: Relationships
In: Ontogeny and Systematics of Fishes. Ahlstrom Symposium, La Jolla, 1983. H G Moser et al. (Eds.). Pp:459-463
- Leis J M and W J Richards, 1984.
Acanthuroidei: Development and Relationships
In: Ontogeny and Systematics of Fishes. Ahlstrom Symposium, La Jolla, 1983. H G Moser et al. (Eds.). Pp:547-551
- Lubbock R, 1980.
Five new basslets of the genus Pseudochromis (Teleostei: Pseudochromidae) from the Indo-Australian archipelago)
Rev. Suisse Zool., 37(3):821-834
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FUTURE DEVELOPMENTS:

The basic development of the station's physical structure, according to our master plan of 1981, will soon be completed. Architect's plans and engineering details have been finalised for the extensions to the workshop which will consist of a large, roofed-over, cement slab outside the existing workshop. There will also be a small enclosed room to house the welder, grinder, band saw and other 'dirty' machinery and thus make more room for refined work inside the old building. The underside of the roof will carry a monorail with a travelling crane to lift outboard motors and small boats from outside the workshop area and bring them under cover so that the maintenance engineer no longer has to work in the sun, wind and rain.

Work is scheduled to commence on these extensions in July 1985.

Another exciting development is the growing likelihood of installing a solar power generating system based on a tracking 16 meter parabolic collector and a steam engine. Feasibility studies are now underway by Professor Kaneff of the Australian National University.

Continuing improvements and additions to the laboratory equipment can also be expected.