NEWSLETTER

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LIZARD ISLAND RESEARCH STATION GREAT BARRIER REEF

*** HIGHLIGHTS

*** BARRY AND LOIS DEPART - after 9 1/2 years service to the station.

*** NEW DIRECTORS APPOINTED - Drs. Barbara Kojis and Norman Quinn arrived late April

*** NEW SKIPPER AND CREW - Captain Jim and Margot Dargaville dropped anchor early May

*** NEW WORKSHOP ADDITION COMPLETED - more space for maintenance of station equipment

*** NEW EQUIPMENT - A sizeable grant from the West German government has allowed the station to purchase a Leitz fluorescence microscope, Leitz rotary microtome, and refrigerated centrifuge. Autoclave installed. New Kubota tractor donated in part by Mr. P Kendall of FarNorAg

*** WEST GERMAN L.I.R.S. FELLOWSHIP IN 1987 - More student research to be supported at the station

*** POST GRADUATE FELLOWSHIPS RENEWED - Roland Pitcher, Geoff Smith, John Chisholm recipients

*** POST GRADUATE FELLOWSHIP AWARDED - Maria Milicich recipient

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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, 4871.

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

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* This newsletter summarizes the activities of the station from the publication of newsletter No.10/11 to May 1986.

GOLDMANS DEPART

After nine and one half years of innovative direction and management of the Lizard Island Research Station Barry and Lois Goldman returned to the mainland in April. Under their direction the station has developed from a collection of primitive huts in 1975 to a well equipped station with accommodation for 15 scientists and six staff with two modern air-conditioned laboratories and a 14 1/2 m catamaran.

Sir John Proud, chairman of the Lizard Island Reef Research Foundation, praised the dedication of Lois and Barry Goldman and their contribution to the station's development over the past 10 years. "Their work is greatly respected and appreciated and the station is an on-going monument to their diligence and competence," he said.

Barry is currently planning on moving into terrestrial research and hopes to set up a rainforest research station near Cairns. Researchers wishing to visit the rainforest after they visit L.I.R.S. may contact Barry at P.O. Box 6459, Cairns Mail Centre, Cairns, Qld. 4871, Australia, telephone 070 53 5700. Lois is planning on traveling.

NEW DIRECTORS APPOINTED

Drs. Barbara Kojis and Norman Quinn were officially welcomed to their new posts as Co-Directors at a ceremony in Cairns. Both Barb and Norm have received their Doctorates from the University of Queensland. They have spent the last six years working at the Papua New Guinea University of Technology.

Together their interests include coral reproduction, spatial/temporal changes in estuarine fish assemblages, traditional subsistance fishing practices, environmental monitoring using remotely sensed data, leatherback turtle conservation and the reproductive cycles of Scylla serrata.

Dr. D Griffin, Director of the Australan Museum, said that the couple would now have the responsibility of continuing the development of the research station so as to ensure that visiting scientists have the best possible opportunity to study the world heritage area - the Great Barrier Reef. "The Great Barrier Reef is the most exciting place in the world to work on tropical biology," Dr. Kojis said.

WEST GERMAN GOVERNMENT SUPPORT

In February Dr. Pagenstert, the Consul General of the Federal Republic of Germany for NSW and Qld presented a cheque for $34,000 to assist research on Australia's Great Barrier Reef. This donation is part of the West German government's support for the Australian Bicentennial.

The support has been offered now in recognition that research into the ecology of the Great Barrier Reef, which is a world heritage area, needs to be increased now, and cannot wait until 1988. The funds were provided for the purchase of fluorescence compound microscope, Leitz rotary microtome, refrigerated centrifuge with the remaining funds of $13,000 to be used to set up a West German Lizard Island Doctoral Fellowship to commence in 1987. The rotary microscope has arrived while the other equipment is expected by June. Inquiries regarding the fellowship should be directed to Dr. Des Griffin, Director, Australian Museum, P.O. Box A285, Sydney South, N.S.W. 2000, Australia.

POST-GRADUATE SCHOLARSHIPS

John Chisholm of James Cook University continued his study of coralline algae finishing his field work in early June. Both Roland Pitcher and Geoffrey Smith from Griffith University have finished their field work in early 1986 and are now beginning the writing phase. Roland is studying patchiness and recruitment in coral reef fish larvae while Geoffery is investigating feeding and nesting success in selected seabird populations.

Maria Milicich received the fourth fellowship and will be supervised by Dr. P Doherty of Griffith University. Maria comes to Australia from the University of Auckland.

These Fellowships are offered to both Australian and foreign students studying for a Ph.D. Valued at $12,000 ($1 Aust. equals U.S.$0.74 as of May 1986) each (i.e. a committment 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 with some allowance for equipment. For further details contact: Director, Australian Museum, P.O. Box A285, Sydney South, N.S.W. 2000, Australia.

Applications for 1987 awards close in November this year!

NEW SKIPPER OF R V SUNBIRD

Captain Jim and Margot Dargaville sailed to Lizard Island on their own vessel from Brisbane arriving early May to take up the positions of Master and crew of R V Sunbird.

Jim has a Foreign Going Masters certificate and is certified to command unlimited tonnage vessels in international waters. Both Jim and Margot are qualified SCUBA divers and would be available to assist in diving operations related to R V Sunbird useage. When at Lizard Island, they could assist with diving at negotiated rates.

R V Sunbird continues to perform to expectations and is certainly filling a scientific and logistic need. Researchers from overseas (Cambridge, University of Washington) as well as local scientists (CSIRO) are making use of its shallow draft, speed, stability, trawling equipment and diver support.

NEW WORKSHOP EXTENSION COMPLETED

The 94m extension to the workshop was completed in December 1985. The station now has, in addition to its dive shop and tool shop, a covered area with a concrete base for maintenance and construction activities. This represents an increase in covered workspace of over 130%.

The new extension also provides excellent protection for the new Kubota tractor. Peter Kendall, owner/manager of FarNorAg, donated $7000 towards the purchase of the tractor, allowing the station to buy a brand new tractor instead of a used one as originally planned. It was certainly a timely acquisition as the old one soon terminally broke down.

STAFF

When you veteran researchers next return to LIRS only Peter and Gwen will be familiar faces. Gwen continues to work 1/2 time and collect shells. Over 600 species have now been recorded. Peter continues to keep everything in top working order.

Don and Elve Gane kindly substituted for Peter and Gwen during their leave.

TOURS

The regular bi-weekly tours are so successful that it will probably be increased to three a week (Tuesday, Thursday and Saturdays) during the peak visitation period to the Lizard Island Lodge from June to October. The lodge has recently increased its accommodation to 60 beds.

Visitors are given a tour of laboratory facilities and discussions with any visiting researchers and then shown a 10 minute audio/visual presentation outlining the research and developement of the station. An additional educational presentation is in preparation.

TRAVEL INFORMATION

Many researchers indicate that they would like to study at Lizard Island Research Station but find the travel cost prohibitive. In this issue we are initiating a new section to assist researchers with travel planning.

Frequently travel agents are unfamiliar with the lowest cost fares to Cairns and Lizard Island. In the case of foreign travel agents they may not even be aware of the convenience of direct flights to Cairns or add on discounts related to international travel.

QANTAS FLYS TO CAIRNS FROM TOKYO AND HONOLULU

Recently QANTAS has increased its international service from Cairns so that now there are twice weekly flights non-stop to Honolulu (connecting with flights to Los Angeles, San Francisco and Vancouver) and a weekly non-stop to Tokyo.

Recent examples of round trip fares are:

	To Cairns
Honolulu	$US725
Los Angeles	$US890
San Francisco	$US890
Vancouver	$CA1175
Tokyo	$Y109,200

These fares are below the normally quoted fares from QANTAS and were available in May 1986 from:

STA Travel
Suite 507
2500 Wilshire Boulevard
Los Angeles, California
U.S.A phone 380 2184

STA Travel
1516 Duranleau Street
Vancouver, British Colombia
CANADA phone 687 6033

STA Travel
Sanden Building
5th Floor, Room 5a
5-5 3-chome
Koji-Machi
Chiyoda-ku
Tokyo 102
JAPAN
phone 221-1043

Please call for latest fares!!

INTERNATIONAL TRAVELLERS RECEIVE 15% DISCOUNT ON AIR QUEENSLAND

International travelers to Australia are eligible for a 15% discount on Air Queensland flights. You may purchase these tickets either from your travel agent or locally in Cairns. The price of a discounted one way ticket CNS - LNZ purchased in Cairns is $A87.10 (May 1986).

For researchers entering Australia at a port other than Cairns, both TAA and Ansett offer a 30% discount on their economy class tickets.

DISCOUNTS FOR DOMESTIC RESEARCHERS

For the distant, organized, domestic researcher we suggest the AIR PASS offerred by TAA. With the AIR PASS you may fly economy class up to 6000 kms for $A540. The catch is you must make 1 stopover besides Cairns and you must be away for at least 10 nights. Many researchers can include a visit to AIMS, JCU, GBRMPA or SGFC with their trip to Lizard Island Research Station. And who wants to come to LI for less than a week?

Additional discount plans include Excursion 45 (discount 45%), Super Apex (35%), Standby (20%), Common Interest Group (10 people -15%), Students Group B (under 26 yrs, 25%) and Super-special (40%). Please see your travel agent for the complicated details and restrictions.

Below are examples of full fare one way economy tickets (May 1986):

From	To Cairns	From	To Cairns
Sydney	$284.50	Darwin	$263.20
Melbourne	$341.90	Adelaide	$349.10
Brisbane	$229.30	Hobart	$380.20
Townsville	$ 92.80	Perth	$397.10
Lizard Island	$101.90		

JET CHARTERS CNS TO LIZARD ISLAND

Captain Stan Lingren operates a Cessna Citation jet which can fly to L.I. in 22 minutes, carrying 10 people with 150 kg of luggage for $1224 single day round trip. He may be contacted at (070) 53 5777, Air North Queensland Pty. Ltd., 15 Bradford Street, Cairns, Queensland 4870.

RESEARCH

The station continues its excellent record of research. A wide spectra of research activities include studies rearing clams, Tridacna spp., and studies on nesting behaviour and food gathering activities of terns and shearwaters.

With the collaboration of technicians and scientists at the Australian Institute of Marine Science, Mr. John Chisholm has constructed an underwater physiological chamber for the in situ measurement of coralline algal productivity and calcification. The chamber has been deployed on the reef edge exposed to the SE trade winds. A reviewer has commented that the successful deployment of this equipment has made John the only person in the world currently with the ability to measure in situ primary production and calcification by calcareous red algae on reefs.

The following tables summarize: 1) visitor statistics, and 2) useage of R V Sunbird, for the past two years.

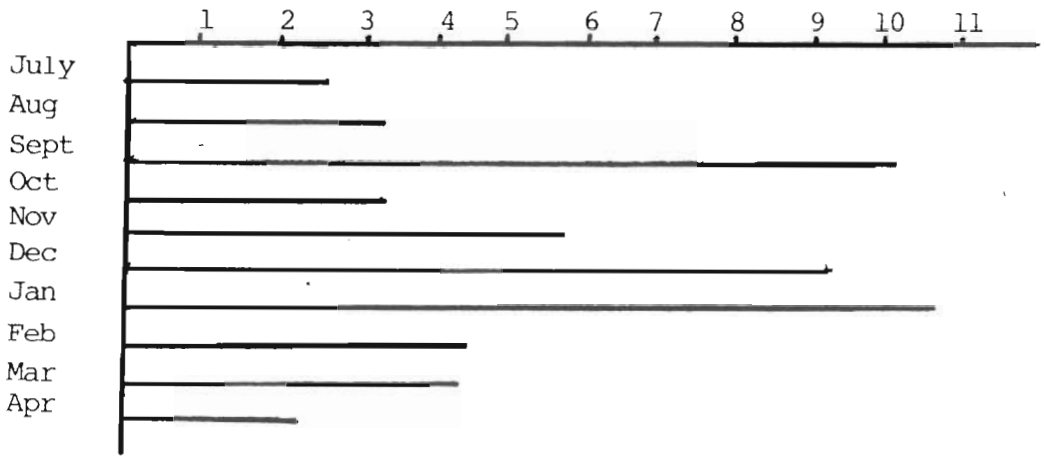
TABLE 1	'84-85	'85-86*
Total number of researchers	90	53
Number of Aust. researchers	47	27
Number of foreign "	30	20
Number of postgrad students	13	7
Mean # of researchers per day	5.4	4.3
Mean # of all visitors " "	6.4	5.2

TABLE 2	'84-85	'85-86*
Number of days away from island		
on station business	49	35
supporting researchers	99	58
Totals	148	93

*Values represent an eleven month year, June 1985 to May 1986.

Figure 1 shows the seasonal useage of the station with lowest numbers occurring during the austral autumn and winter - February to August.

AVERAGE DAILY OCCUPANCY



Research visitors to the station, together with their institution and project, are listed below.

AUSTRALIAN SCIENTISTS

J BAVOR (assisted by S McKersie), Hawksbury Agricultural College, Sydney.
To enumerate major bacterial groups in sediments and determine abundances of hydrocarbonclastic bacteria.

N BRUCE (assisted by N Preston and R Springthorpe), Australian Museum, Sydney.
Taxonomy of cymothoid isopod crustacean fish parasites.

P DOHERTY (assisted by L Whitely, P Daniels and S Benson), Griffith University, Brisbane.
Community ecology of reef fishes and spatial investigations of larval fishes.

A GIBBS, Australian National University, Canberra.
Collection of several species of grasses and broad-leafed plants.

M L HERON (assisted by R Rose and R Casey) James Cook University, Townsville.
Observations of currents and waves around Young Reef.

P HUTCHINGS (assisted by M Reid), Australian Museum, Sydney.
Continuation of bioerosion studies.

R B JOHNS (assisted by B Currie, R Dyall), University of Melbourne, Melbourne.
Clorinated hydrocarbons on the GBR and the organic content of tropical particulate matter.

S KANEFF (assisted by H P Cantor), Australian National University, Canberra.
Establishment of a meteorological observation station.

J VOLKMAN (assisted by P Nichols) CSIRO, Hobart. Identify the major lipid class in the dissolved and particulate phases of coral reef waters and surface sediments.

R OLSEN (assisted by M Olsen) Australian Institute of Marine Science, Townsville.
Photosynthetic and respiratory physiology of the ascidian/algal symbiosis Didemnum molly.

A WAREN (assisted by C Lamb), Australian Museum, Sydney.
Collection of parasitic gastropods on echinoderms.

I YOUNG (assisted by S Mason, D Foruria), James Cook University, Townsville.
Waves and currents in the Ribbon Reefs.

FOREIGN SCIENTISTS

H CHOAT, University of Auckland.
Patterns of juvenile recruitment of herbivorous reef fishes especially Scaridae.

G DINGERKUS (assisted by R A Jureit), American Museum of Natural History, New York.
Behavioral studies of sharks.

N HOLLAND (assisted by A Leonard), Scripps Institute of Oceanography, La Jolla.
Videotaping the small scale events of crinoid feeding behavior.

M A TEN HOVE, Laboratory for Zoological Ecology and Taxonomy, The Netherlands.
A revision of tropical Hydroides (Serpulidae, Polychaeta).

A JESPERSEN (assisted by C Schov), Institute of Cell Biology and Anatomy, Copenhagen.
Ultrastructural examination of blood bessels and protonephridia in Nemerteans

E H KAPLAN (assisted by B Kaplan), Hofstra University, New York.
Preliminary survey of holothurians.

F TALBOT (assisted by S and N Talbot), California Academy of Sciences, San Francisco.
Community structure of fishes.

M F WILLSON, University of Illinois, Illinois.
Terrestrial ecology.

R.V. SUNBIRD SCIENTISTS

A TAPLIN, Queensland National Parks and Wildlife Service.
Surveillance, installation of tide guages and seabird and turtle research.

M PICHON (assisted by J PICHON and R TRENCH), James Cook University, Townsville.
Coral community structure of Yonge Reef.

I POINER (assisted by I Stejskal, A Page and C Turnbull), CSIRO, Cleveland.
Sea grass community investigations.

B SAUNDERS, Bryn Mawr College, Bryn Mawr, Pennsylvania.
Trapping live Nautilus for physiological and eletrophoretic studies.

P WARD, University of Washington, Seattle.
Nautilus studies.

M WELLS, University of Cambridge,
Nautilus trapping.

I YOUNG, (see above).

POST-GRADUATE STUDENTS

R BRALEY (assisted by L Goggin and V Brunton), University of New South Wales, Sydney.
Reproduction and recruitment of giant clams and dietary preference of their larvae.

J CHISHOLM, James Cook University, Townsville (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.

L NEWMAN (assisted by D MacLelland and D. Foster), University of Queensland, Brisbane.
Biology of heteropod molluscs.

A J PAGE, University of Queensland, Brisbane.
The feeding biology of gastropods feeding on scleractinian corals.

R PITCHER, Griffith University, Brisbane (recipient of Lizard Island Research Station Doctoral Fellowship).
Spatial and temporal variation in recruitment of some species of coral reef fish using otolith aging techniques.

G SMITH (assisted by K Means and R Mathers), Griffith University, Brisbane (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.

A THRESHER, University of Sydney, Sydney.
Social behaviour, ecology and reproductive biology of Chrysiptera cyanea (Pisces: Pomacentridae).

OTHER VISITORS

PENNY BERENTS, Australian Museum, Sydney
Lead a visit by The Australian Museum Society which included: R, M, H, C and R Saunders, Peter Berents, J Wise, J and E Searle, F Irani, J and V Whitty, L McDermott, R, F and B Mallon, J and B Cliffe, J Anderson and C Schmike.

M PORTER and family, donors to Lizard Island Research Station.

D GRIFFIN, Director, Australian Museum, Sydney.
Staff meeting and station inspection.

K KURKOEWSKY,
Presented an illustrated lecture on clam farming.

J MACINTYRE, University of New South Wales, Sydney.
Supervisor of R.Braley.

Z FLORIAN, James Cook University,Townsville.
Service station's microscopes.

WORK EXPERIENCE PEOPLE

M JONES, H LESSINSLY, M MALINE, J SEPPINGS, I STEJSKAL and L WADDLE.

PUBLICATIONS to 30 May 1986

Since the issue of Newsletter No. 10/11 we have received a further 25 reprints bringing the total to 187. These publications are listed below. A complete list is available - please write if you are interested.

Braley R D, 1985. Serotonin induced spawning in giant clams (Bivalvia: Tridacnidae). Aquaculture, 47 (1985):321-325

Hall S J, 1985. Four new species of Myodocopine ostrocodes (sarsiellidae) from Lizard Island, North Queensland. J. Crust. Biol. 5(3):500-522

Harrison K and D M Holdich, 1982. Revision of the genera Dynamenella, Ischyromene, Dynamenopsis and Cymodocella (Crustacea: Isopoda), including a new genus and five new species of eubranchiate sphaeromatids from Queensland waters. J Crust. Biol. 2:84-119.

Harrison K and D M Hodich, 1982. New eubranchiate sphaeromatid isopods from Queensland waters. Mem. of Qld. Mus. 20:422-446.

Harrison K and D M Holdich, 1984. Hemibranchiate sphaeromatids (Crustacea: Isopods) from Queensland, Australia, with world-wide review of the genera discussed. Zool J. Linn. Soc. 81:275-387.

Holdich D M and K Harrison, 1980. The crustacean isopod genus Gnathia Leach from Queensland waters with the descriptions of nine new species. Aust J mar Freshw Res 31:215-240.

Holdich D M and K Harrison, 1980. The isopod genus Dynamene from Australian waters, with the description of a new species from coral reefs. Mem Qld Mus 20:163-170.

Holdich D M and K Harrison, 1981. The sphaeromatid isopod genus Sphaeromopsis Holdich & Jones in African, Australian and South American waters. Crustaceana 41:312-314.

Hodich D M and Harrison K, 1983. Sphaeromatid isopods (Crustacea) from brackish waters in Queensland, Australia. Zoologica Scripta 12:127-140.

Jones, A R and C Watson-Russell, 1984. A multiple coring system for use with scuba. Hydrobiologia 109:211-214.

Kojis, B L, 1986. Sexual reproduction in Acropora Isopora (Colenterata: Scleractinia) II. Latitudinal variation in Acropora palifera from the Great Barrier Reef and Papua New Guinea. Mar. Biol. (in press).

La Haye C A, N D Holland and N McLean, 1984. Electron microscope study of Haplosporidium comatulae n.sp. (Phylum Ascetospora: Class Stellatosporea), a Haplosporidian endoparasite of an Australian crinoid, Oligometra serripinna (Phylum Echinodermata). Protistologica 20(4):507-515.

Lucas, J S, W Nash and M Nishida, 1985. Aspects of the Evolution of Acanthaster planci (L.) (Echinodermata, Asteroidae). Proceedings of the 5th Int. Coral Reef Congress, Tahiti, 5:327-332.

Meyer, D L, 1985. Evolutionary implications of predation on recent comatulid crinoids from the Great Barrier Reef. Paleobiology 11(2):154-164.

Moriarty, D J W, D C White and T J Wassenberg, 1985. A convenient method method for measuring rates of phospholipid synthesis in seawater and sediments: it relevance to the determination of bacterial productivity and the disturbance artifacts introducted by measurements. J. Micro. Methods 3:321-330.

Moriarty, D J W, P C Pollard and W C Hunt, 1985. Temporal and spatial variation in bacterial production in the water column over a coral reef. Mar. Biol. 85:285-292.

Moriarty, D J W, P C Pollard, W C Hunt, C M Moriarty and T.J. Wassenburg, 1985. Productivity of bacteria and microalgae and the effect of grazing by holothurians in sediments on a coral reef flat. Mar. Biol. 85:293-300.

Nichols, P D and R B Johns, 1985. Lipids of the tropical seagrass Thallassia hemprichii. Phytochemistry 24(1):81-84.

Oliver, J, 1985. An evaluation of the biological and economic aspects of commercial coral collecting in the Great Barrier Reef. Final Report to the G B R M P A, October, 1985, pp.106.

Schmitt, P.D. 1984. Marking growth increments in otoliths of larval and juvenile fish by immersion in tetracycline to examine the rate of increment formation. Fish. Bull. 82(1):237-242.

Smith, J D, 1985. An analysis of prey remnants from osprey Pandion haliaetus and white-bellied sea-eagle Haliaetus leucogaster feeding roosts. Emu. 85:198-200.

Sweatman, H P A, 1984. A field study of the predatory behavior and feeding rate of a piscivorous coral reef fish, the lizardfish Synodus englemani. Copeia. 1984(1):187-194.

Sweatman, H P A, 1985. The influence of adults of some coral reef fishes on larval recruitment. Ecol. Monogr. 55(4):469-485.

Waren, A, 1981. Revision of the genera Apicalia A. adams and Stilapex Iredale and description of two new genera (Mollusca, Prosobranchia, Eulimidae). Zool. Scripta, 10:133-154.

Waren, A, 1984. An anatomical description of Eulima bilineata Alder with remarks on and a revision of Pyramidelloides Nevill (Mollusca, Prosobranchia, Eulimidae). Zool. Scripta, 12(4):273-294.