



**REPUBLIC OF NAMIBIA**

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**MINISTRY OF FISHERIES AND MARINE RESOURCES**

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**National Marine Information and Research Centre NatMIRC  
DIRECTORATE of AQUACULTURE**

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**Date :** 2011: 07: 22

**To:** POGO Secretariat

**Cc:** Permanent Secretary Ms. U. Hiveluah  
Acting Director Aquaculture Dr. E. Klingelhoefter  
Deputy Director Ms. P. Elago

**From:** CFB B. Currie

**Report:**

**POGO sponsored sabbatical Visit of Prof. L. Levin to NatMIRC,  
January – June 2011**

**Background**

Prof. Lisa Levin was awarded the visiting professorship to the Namibian Ministry of Fisheries and Marine Resources following an application made by B. Currie. Once the award had been made practical arrangements for the visit of Profs. Levin and Checkley were planned and information was shared with potentially interested institutions in the region. Although the award covers three months, Profs. Levin and Checkley planned their visit to Namibia for 6 months (January to June 2011) so that activities were spread over this 6-month period.

**Activities**

From the time of their arrival Profs. Levin and Checkley made themselves available to staff and students. The teaching activities were both formal and informal:

- Weekly interactive seminars at NatMIRC, attended by staff
- Guest public lectures

- Practical demonstrations to students and staff
- Participation in cruises and field trips
- Lecture courses to students of the University of Namibia
- Lecture courses to students of the University of Cape Town
- Interactive discussion with Namibian and South African scientists, and continuous informal interaction with the natMIRC scientists
- Contact information shared with regional scientists on initiatives regarding benthic and deep-sea ecology
- Guidance and provision of scientific literature to local scientists
- Interactive participation and input to meetings discussing controversial and potentially damaging exploitation of benthic and deep-sea resources in the region

### ***Staff interaction at NatMIRC***

The scientific staff complement at NatMIRC is small. Attendance at the Friday afternoon seminar regularly comprised the following group;

C. Kirchner, A. Gumbo, V. Hashoongo, M. Kalolo, F. Midtoy, C. Chikwililwa, A-G. Salvanes, M. Malakia, N. Moroff, C. Bartholomae, S. Akuumba, R. Gaeb, S. Nuuyoma, D. Kanandenge, L. Hugo, G. D’Almeida, B. Kamwi, A. de Klerk, A. van der Plas, I. Mundjulu, S. Cansado, H. Skrypzeck, A. Namalenga, D. Louw, H. Holtzhausen, J. Dijerenge, F. Hamukuaya, P. Kainge, J. Kathena A. Kreiner, B. Currie.

Discussions in specific fields of interest was sought with many scientists and ranged from the oceanographic conditions of the northern Benguela and properties of the sediments, to intertidal and coastal ecology, the use of isotopes in trophic studies, and informative exposure to deep-sea ecology.

The most intensive interactive work was carried out by Prof. Levin and B. Currie who worked on the benthos of the diatomaceous inner shelf mud and initiated some projects on coastal ecology.



Lisa Levin showing staff Aljerreau Kotze and Alfeus Namalenga (Aqauculture Directorate) how to sample sediment cores on board the Namibian research vessel *RV Welwitchia*

***Interaction with staff and students of the University of Namibia***

**a) UNAM Students: Biological Sciences (with student numbers)**

Simmon K. 200907620; Kashikolo S. 200907620; Simataa C. 200844792;  
Kasinda E.M. 200837290; Shihepo H. 200937553; Amutenya A.T. 200747410;  
Noa H.L. 200830171; Kaholongolo I. 200709798; Sam M.N. 200848798; Elia D.T.T.  
200825040; Kapia S. 200948997; Hamunyela N. 200911597; Nangolo E.M.  
200962353; Uushona T.P.200929020; Amutenya K.; Shaanika I.N. 200929020;  
Shaanika J.N. 200923404; Sezuni M.

**b) UNAM Students: Fisheries and Aquatic Sciences (3<sup>rd</sup> & 4<sup>th</sup> year)**

O. Kalola  
P. Ndeye  
B.Kamwi  
SM Isala  
VCJ Chilamba  
SAM Matjila  
S Hamutenya  
A. De Klerk  
AM Mwilima  
LN Kalwenya  
SG Chiloya  
ML Mwaala  
A. Alexander  
E Kapuire  
jL Shivute  
E Mokanya  
WV Agostinho  
S Nkumbwa  
L Negonga  
M Grobler  
M Haingura

***Interaction with staff and students of the Universities of Cape Town and Western Cape and other Institutions***

**Lectures and open seminars:**

Masters in Applied Marine Science, PhD students, postdocs and visitors (12-20 students and postdocs)

Colin Atwood (UCT) – marine and terrestrial biodiversity,  
Kerry Sink (Marine Program Manager, South African National Biodiversity Institute)  
Lara Atkinson (*South African Environmental Observation Network, Egagasini Offshore Node*)  
Nina Steffani (Steffani Marine Environmental Consultants, marine benthos, phosphate mining EIA)  
Mark Gibbons (Univ. Western Cape)

Prof Levin held additional discussions about larval dispersal with Coleen Maloney, George Branch, Mya Pfeff (UCT), Carl van der Lingen (Ministry of Fisheries), invasive species with Alison Mead (post doc, UCT), and oxygen dynamics with P. Monteiro (UCT).

Prof. Checkley held discussions with a variety of scientists at UCT, U of the Western Cape, the Ministry of Fisheries to discuss climate, oceanography, fisheries, and students, including Coleen Maloney, Olivier Maury, Frank Shillington, Mark Gibbons, Carl van der Lingen, and Rob Crawford.

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## **Logistical arrangements**

### ***Accommodation***

During their stay, accommodation in Swakopmund for Profs. Levin and Checkley was organised by B. Currie. For the initial 2 months a furnished apartment was provided with only electricity and water costs required to be paid; however following an unfortunate break-in and theft of both professors' laptops it was considered wiser to move the couple to a more secure but more expensive apartment.

During the teaching visit to South Africa, South African host Dr. Colleen Maloney organised in part their accommodation and they also utilized the accommodation at the "All Africa House" annexed to the University of Cape Town.

Unfortunately owing to the impossibility of obtaining Angolan visas for US passport holders (under the complicated system operating in Angola) the planned teaching visits to Angola could not be carried out.

### ***Travel***

Air travel tickets comprised the return tickets to the US and return tickets to South Africa, as budgeted.

Road, bus or rail travel to and in Windhoek, Henties Bay and in Cape Town was partly sponsored by the hosting institutions (University of Namibia UNAM, and University of Cape Town UCT) and partly through car hire. It should be mentioned that public transport systems are not developed in Namibia and not reliable in South Africa.

## **Budgetary expenses**

The real expenses as submitted by the visiting professors are shown in US\$ the attached excel budget sheet.

Some modifications to the budget were required to the allocated amounts e.g. accommodation in Swakopmund exceeded the budgeted amount due a move to more secure premises following break-in to the planned accommodation; and unfortunately budgeted amounts for travel to Angola were used to purchase tickets which were not possible to refund, even though it became impossible to obtain visas and carry on with the visit.

## **Outcomes**

- I consider the greatest success of the visit to be the direct exposure of scientists and budding scientists to an acknowledged world expert in the field of benthic ecology, as in Namibia this facet of marine science is largely neglected because the government institute is fisheries- and aquaculture-driven. For many of the local staff and students this was “first-time” knowledge transfer and it is hoped that the benthic aspect will strengthen with time, especially to address the threats associated with the planned intensified exploitation of the seabed in the Benguela region.
- Transfer of practical techniques: the processing of sediments to encompass the full suite of samples needed for thorough analysis of benthic ecological processes. Both on-board ship sampling and processing as well as laboratory procedures were demonstrated/taught. Several protocols for analysis were transferred to the local scientists, whilst for the more sophisticated analytical techniques not available in Namibia, continued collaboration with Prof. Levin will come about (thanks to this visit) to hopefully lead to joint publications.
- Novel use of isotopes to demonstrate trophic transfer e.g. local projects were initiated to investigate 1) land-ocean interactions along the arid northern “Skeleton Coast” coast of Namibia where many of the desert animals utilize marine food; and 2) the possible incorporation of terrestrial components into the marine food web, following the exceptional rains that fell over the Namibia in 2011 and caused unprecedented flooding of rivers into the sea.
- Public awareness of the role of benthic and deep-sea ecology to the marine systems, and of their sensitivity to disruptions. Throughout her visit Prof. Levin took a strong stand publicly on the need to both investigate and protect these important, vulnerable, but little-explored environments. Her input provided valuable knowledge to both the scientific community and general public.

## ***Collaborative research projects***

- Namibian offshore benthos: insofar as limited cruises allowed, sampling of the sediment took place to examine benthos and associated biogeochemical parameters.
- Investigation of the trophic interaction between desert (terrestrial) and marine animals and plants using isotope signatures: a number of samples were collected during a field trip along the northern Skeleton Coast, to investigate the trophic exchanges between the coastal desert animals and the intertidal flora and fauna. This is not only academically fascinating but it is hoped that this study will contribute to the scientific motivation for conservation of the marine area.
- Investigation of the terrestrial input into the marine environment following the unusual river flooding (Swakopmund river) into the sea. Both inshore (intertidal) and offshore (water column and sediment) studies were initiated to look for indications of riverine organic input and integration into the marine system.

## **Difficulties, Challenges**

- Cancellation of research cruises that were planned for intense benthic studies (an in-house problem, due to both lack of budget and limited support to research

- that does not directly address line-function activities of the Resource management Directorate in the Ministry). Although limited participation in local cruises took place, ship-based sampling was limited.
- As no “visiting scientist” facilities exist at the Ministry’s Institute NatMIRC, the visiting scientists could not be provided with personal offices or laboratory facilities.
  - Internet connection is slow and expensive: this proved a major challenge to scientists who need to keep abreast with their international commitments.
  - Although not really a difficulty, the exceptionally unusual coastal weather conditions during the period of their visit (e.g. rains and river flooding; extended period of warm coastal water; lack of low oxygen or hydrogen sulphide events) provided our visitors with unexpected oceanographic conditions, and first-hand experience of the variability of the northern Benguela.

### **Summary**

The visits of Profs. Levin and Checkley is considered successful. Despite a few changes to their planned programme, they interacted fully with the available students and scientists in Namibia and South Africa. Discussions both formal and informal, were valuable and inspiring, and it is hoped that interaction and project collaboration will continue

My very grateful thanks to POGO for sponsoring their visit.

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Bronwen Currie  
CFB