



The Phycological Society of Southern Africa

**Newsletter
No. 49
March 2002**

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From the Editor

The year 2002 has started off with some very new and exciting events. Firstly, another successful conference superbly hosted by Marine and Coastal management (more can be read on page 13) and secondly, the election of a host of new council members (see page 18). Among the new arrivals, is the development of the all new PSSA website, one which I hope will compliment the great work done by the former webmaster and newsletter editor Derek du Preez.

You may note that the format of the newsletter has deviated somewhat with the introduction of some new segments. I particularly want to bring to your attention the "Attention All" and "Featured Article" segments that I hope will be of interest to many of you. I also hope that everyone will be able to contribute more vigorously to future editions of the newsletter. Newsletters following this one will (depending on submissions) have contributed student articles for which there is an annual prize (see page 11); supervisors please make sure your students popularize their and your efforts. Your regional collators of contributed articles and information are:

Northern Areas

Stuart Sym

stuart@gecko.biol.wits.ac.za

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Enrico Tronchin

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A special thanks should go to all the past council members who have made this transition as smooth as possible. I promise I won't hound you with too many emails. Please keep an eye on the development of the new website which should be launched by no later than mid-April. All the best for a great 2002.

Sincerely

Gavin

Report's presented at the General Meeting of the P.S.S.A. held at the Marine and Coastal Management's Aquarium, Sea Point, Cape Town, South Africa, 22 January 2002:

Past Presidents Report – Stuart Sym

Before I begin, I apologise if I have inadvertently left any important event off of this report. Since my last report one and a half years ago, the Society has witnessed a relatively busy period for several members.

These include:

December 2000: Marine Botany in the Western Indian Ocean held in Maputo, Mozambique and organised by SIDA/SAREC of Sweden. This was attended by Richard Pienaar, Claudio Marangoni (Wist) and Janine Adams (UPE). Richard provided a plenary address on the Phytoplankton of Southern Africa.

January 2001: International Seaweed Symposium, Cape Town, the triennial flagship forum for the International Seaweed Association. This was well-attended by our membership. I believe, from numerous reports during the International Phycological Congress, including those of Craig Saunders from the US and Alan Millar from Sydney Botanic Gardens, that it was an outstanding success. This meeting has done much to foster our cause here in South Africa and I know I speak for all of us when I thank John Bolton and Rob Anderson for all they have done. Thanks too are due the rest of their committee, Vernon Coyle and especially Elizabeth Danckwerts.

International Limnological meet in Melbourne, Australia which was attended by Mikaela Krusekopf and Sandra du Plessis from Potchefstroom University, whose presentations were co-authored by Braam Pieterse.

July 2001: The SASAQS meeting was held in the Northern Province and was attended by Braam Pieterse and Sandra du Plessis.

August 2001: A workshop was held on the Use of Diatoms as Bioindicators in Receiving Waters. This was run by Potchefstroom University (Sandra du Plessis and Mikaela Krusekopf) in collaboration with Professor Pertti Eloranta from the University of Helsinki.

International Phycological Congress in Thessaloniki, Greece, attended by Richard Pienaar and myself. This also served as the venue for presenting a preview of the next IPC8 venue in Durban 2005, which was very favourably received. The congress ended with the first meeting of the International Organizing Committee of IPC8.

December 2001: Annual Congress of the South African Association of Botanists, Grahamstown. Several presentations of a phycological nature were presented by delegates from the University of Port Elizabeth and from Potchefstroom.

Annual Congress of the Microscopy Society of Southern Africa, Johannesburg. Two presentations by members from Wits University, Claudio Marangoni and Melanie Skeggs.

January 2002: SeaweedAfrica.com - an EU-sponsored project in collaboration with Mike Guiry from Ireland and members from South Africa, Kenya and Namibia, whose principle goal is to document the seaweed flora of Africa. Representatives from PSSA include John Bolton, Rob Anderson, Alan Critchley and Fergus Molloy.

In addition to these meetings, there have also been some noteworthy achievements by individuals.

Richard Pienaar has been awarded the Silver Medal by the South African Association of Botanists in recognition of all his contributions to fostering botanical research. We also congratulate

Richard on being seconded as Acting Deputy Vice Chancellor (Academic) at Wits University.

Grant Pitcher was appointed to the steering Committee of the newly-formed international body GEOHAB (Global Ecology and Oceanography of Harmful Algal Blooms) and also was appointed onto the Advisory Board of the Journal of Harmful Algae.

I would like to end by thanking my Council for all their support over the last few years and by wishing my replacement, Grant Pitcher and his new incoming Council, all the best for their term of office. I also wish all the membership a wonderful, productive and scientifically-rewarding 2002!

Secretary-Treasurer's Report – Eileen Campbell

Thanks to Wendy Burnett for the wonderful conference at Mtunzini. This conference more than lived up to our PSSA conference tradition of excellence and fun. Thank you to each one who attended – in particular to David Mann – who was a most accommodating, pleasant and intellectually stimulating guest speaker. The conference showed a profit of R3 590.50. Thanks to the National Research Foundation and the University of Potchefstroom for sponsoring David Mann's visit and Marine & Coastal Management as well as the Universities of the Witwatersrand and Port Elizabeth for accommodating him.

Thanks again to Derek du Preez for keeping the Society web page active. Thanks to Wendy as well for keeping the subs rolling into the Society account and for being prepared to take over the Secretary-Treasurer duties for 2002+.

A summary of the financial activities of the end two-thirds of 2000 and 2001 are follows:

May 2000-December 2001

Current Account

Transaction	Credit	Debit	Balance
Brought forward April 2000	R4 796.58		R4 796.58
17 th Conference – Mtunzini	R3 590.50		8 387.08
Subscriptions 2000	1 500.00		9 887.08
Subscriptions 2001	1 190.00		11 077.08
Interest (Nedbank)	72.31		11 149.39
18 th Conference advance		R 5 000.00	6 149.39
Congress prizes		1 200.00	4 949.39
Newsletter 47		535.46	4 413.93
Newsletter 48		400.00	4 013.93
Election printing and postage		135.90	3 878.03
Membership secretary postage		61.10	3 816.93

Balance **R3 816.93**

Investment Account

Transaction	Credit	Debit	Balance
Brought forward April 2000	R26 608.81		R26 608.81
Interest (Nedbank)	2 594.24		29 203.05

Balance **R29 203.05**

TOTAL ASSETS **R33 019.98**

Capital gain for the period May 2000 (R31 405.39) to December 2001 (R33 019.98) ***RI 614.59***

E E Campbell

D R du Preez
(Audited)

Membership Secretary's Report – Wendy Burnett

I hope the congress has been successful so far. My apologies for not being able to attend but with a new baby (now 6 months old) and moving into a new house four days before Christmas, it seemed impossible to get away.

The Society is still strong with membership up from 59 members (July 2000) to 65 members (January 2002). The membership stands at:

21 students

27 ordinary members

3 overseas members

1 pensioner

9 life members

3 overseas life members

1 corporate member

Unfortunately, members are very slow to pay their fees. This year there are 29 members with outstanding fees which amounts to R 830.00 still owing to the Society. Please try to remember to pay promptly in future.

Please could supervisors continue encouraging their students to join PSSA. The students form an important part of the Society.

After five years of being Membership Secretary, I'm pleased to hand over the database to Bernadette Brown. Congratulations Bernadette and it's really not a lot of work.

Newsletter Editor's (Past) Report – Derek du Preez

Two issues of the newsletter were produced since the 2000 PSSA conference at Mtunzini. In this time there was only one submission to the Editor, this being from Michaela Kruskopf (University of Potchefstroom).

At the Mtunzini meeting it was decided that area coordinators should be appointed who would encourage submissions to the Newsletter. Two coordinators were appointed to cover the northern and southern areas of South Africa. Despite their efforts there was very little response.

It would appear that there is very little incentive for members of the society to submit contributions to the newsletter. Perhaps what is needed is some incentive to encourage members, especially students, to submit contributions. I would like to suggest that a monetary prize be awarded for the best submission to the newsletter.

I would like to wish the new Newsletter editor, Gavin Maneveldt, everything of the best during his term in office and hope that he will receive the support of the members of the Society. He will also take over the PSSA web pages, which have been well used, especially by people from outside of South Africa. Over the past 18 months I have received about a hundred email messages from overseas people in connection with web site.

In the past I have suggested that the Society consider a web based newsletter and I would like to suggest once again that this be considered. Those members who do not have access to the web can be identified and they can be mailed a hard copy of the newsletter.

Attention All

1. IPC logo

We need submissions for logos for the upcoming IPC congress in Durban in 2005. Thus far, Stuart has had only one suggestion! Please send submissions directly to him at: stuart@gecko.biol.wits.ac.za (Tel: (+27-11) 717-6431; Fax: (+27-11) 403-1429).

The deadline for submissions is July 2002.

2. Student Submissions and Prizes

At the general meeting it was decided that to promote written submissions for the newsletter, R400 would be awarded for the best student article of the year. This prize will be awarded at the following general meeting to be held at the 2003 conference. This will now become an annual event.

Guidelines: Submissions should be in the form of a popular article relating either to the students' research or some other original information obtained resulting from research or other excursions. Articles should be of a psychological nature, no more than 600 words (incl. title) and should be accompanied by slides, prints, drawings or graphic art. All submissions should be sent in electronic format (disc/email) as well as on hard copy (along with slides, prints, drawings, graphic art) to the editor.

Judging will be by an independent panel (authors of featured articles) that may have very little psychological background so it is imperative that your articles be simple, yet informative. Try to avoid jargon wherever possible. Depending on the nature of the articles received, it may be possible to resubmit certain articles for publication in a popular Southern African journal.

3. New Website

A new PSSA website is currently being developed. The *URL* is: <http://www.botany.uwc.ac.za/pssa/>. Although much of the information from the UPE website has already been copied to the

new site, visitors will not have access to this information until the front end (Home Page) is finalised. Everyone is asked to regularly check on the progress of the site that should be functional by about the middle of April 2002.

4. Contact Details and Research Areas

Closer to the time, I will send out an email asking everyone to visit the new website and check their particulars, especially email and research areas. Quite a few emails are outdated, as many have not responded to Wendy's annual membership renewal request forms. Furthermore, a substantial number of members have their research areas simply as *Phycology*; we would like to know your specific fields of interest.

The Annual Conference:

1. In a Nutshell

The 18th Congress of the Phycological Society of Southern Africa was hosted by Marine & Coastal Management in Cape Town on 21 and 22 January 2002. It was followed by a Workshop on Integrated Aquaculture on the 23 January organized by the University of Cape Town. This combination of events gave rise to increased participation with 59 registered delegates. Stephen Bates of Fisheries and Oceans Canada was our guest speaker on “*Pseudo-nitzschia*, a cosmopolitan pennate diatom and producer of the Amnesic Shellfish Poisoning neurotoxin, domoic acid”. Stephen has been involved in research into Amnesic Shellfish Poisoning from the very first recorded episode of ASP on the coast of Prince Edward Island in 1987. A second presentation was given by Dr Bates during the workshop “Bacterial interactions with the diatom *Pseudo-nitzschia*: is there a role in ASP toxin production?” The information provided by these presentations may well assist our efforts in assessing the potential toxicity of *Pseudo-nitzschia* species on the South African coast. The remaining twenty oral presentations were equally split between those reporting on phytoplankton research and those investigating seaweeds. A continuing decline in the number of student contributions and waning interest by limnologists in the activities of the Phycological Society remain a disappointment.

The Workshop on Integrated Aquaculture attracted considerable interest from Industry, particularly abalone farmers in their quest to find a solution to their increasing demand for abalone feed. Max Troell of the Beijer International Institute of Ecological Economics of the Royal Swedish Academy of Sciences reviewed several studies integrating seaweeds into mariculture in an attempt to reduce costs and wastes while increasing productivity. Christina Halling of the University of Stockholm, Sweden demonstrated the benefits of integrating the culture of *Gracilaria chilensis* into salmon farming in Chile. The culture of this seaweed acted as an effective biofilter dramatically reducing the dissolved ammonium in wastewater, while

the yield of seaweed increased significantly. The workshop provided the basis for developing various research projects to be undertaken on abalone farms in an attempt to further develop this system of farming.

2. Conference Prize Winners

Best Paper:

Stewart Bernard, T A Probyn, G C Pitcher *Aureococcus ophagefferens*: physical and physiological competitive mechanisms.

Best Poster: Co-winners:

Lizeth Botes, B. Price, M. Waldron and G C Pitcher. A simple and rapid scanning electron microscope preparative technique for delicate "gymnodinioid" dinoflagellates.

Mikaela M Kruskopf, R J Strasser and S du Plessis. Photosynthetic performance and phosphatase activities in two green algae under nitrate and phosphate limiting conditions.

SASCA award:

Michael Barreto & J J M Meyer. Chemical defence in *Osmundaria serrata* (Rhodophyta).

Derek du Preez managed to get some lovely digital pictures of the prize winners and of our guest from Canada. Spot anyone you know? If we haven't taken **your** picture, we'll try our very best the next time.



Stewart Bernard (left) being congratulated by Dr. Stephen Bates.



Mikaela Kruskopf took her time.



Lizeth Botes was quick to get away.



Michael Barreto also wasn't going anywhere.



Getting to know your Board Members

Past President: Stuart Sym (stuart@gecko.biol.wits.ac.za)

I am a senior lecturer in the School of Animal, Plant & Environmental Sciences at Wits University, where I have been as a teaching member of staff since 1993. Before this I was a research assistant (while undertaking my PhD research) for Richard Pienaar and prior to that taught high school biology for a couple of years.

My principle research interests revolve around marine microalgae, particularly members of the green algae that historically were considered to be a natural assemblage of primitive stock. Now, from molecular phylogenetics, it is clear that they are not a single group. My interests include: systematics (I am currently working on the phylogeny of members of one group using spacer regions in, or variable portions of, rRNA gene sequences); or work on identifying and characterizing algae that could be toxic and thus contribute to harmful red tides; to cell biology (I have been involved in work to determine the nature of a sub-cellular structure that has never been described before).

My personal interests include squash (although I am getting a bit long in the tooth to be that effective any more!), reading and drawing. I have been fortunate enough, through pursuing an academic career, to have seen many parts of the world and so have also been bitten by the travel bug!

President: Grant Pitcher (gpitcher@mcm.wcape.gov.za)

I completed my BSc Honours at the University of Natal in 1981 and was subsequently employed by the Sea Fisheries Research Institute [SFRI] in Cape Town in 1982. During the 80's, as a member of the Biological Oceanography division of the SFRI, I registered for a PhD at the University of Cape Town. I submitted my PhD in 1989, *Phytoplankton Population Dynamics of the Southern Benguela Upwelling System*, and took up the position of Assistant Director



Recognize anyone?
Sorry if we didn't get you on film.

Biological Oceanography in 1992. Following the renaming and restructuring of Sea Fisheries in 1999 I now head the Mariculture division of Marine & Coastal Management as a Principal Specialist Scientist.

During the 1990's my research activities and interests have focused on harmful algae, particularly the ecology and oceanography of blooms. Consequently, I have been active as a member of the Scientific Steering Committee in the development of the International Programme *The Global Ecology and Oceanography of Harmful Algal Blooms [GEOHAB]*. It is now my intention to develop a Core Project under the auspices of GEOHAB to compare the ecology and oceanography of blooms in different upwelling systems.

Secretary-Treasurer: Wendy Burnett (stirk@botany.unp.ac.za)

I graduated from the University of Natal Pietermaritzburg in 1988 after which I completed my Honours in 1989 and PhD in 1993 also from the Botany Department of the University of Natal. I then took up a Post-Doc for three years and was then appointed as a Research Assistant within the Research Centre for Plant Growth and Development (formerly the Botany Department) at the University of Natal Pietermaritzburg.

My research interests range from phytohormones, especially cytokinins, in both micro- and macro-algae but I'm also conducting research on cytokinins in higher plants (aquatic ferns and peas). I'm also interested in medicinal properties of seaweeds and have looked at anti-inflammatory, anti-bacterial, anti-fungal and anti-cancer properties in some South African seaweeds. My other main area of research is using seaweed products in the remediation of metal contaminated waste water.

In the bit of spare time I have after our two small children are asleep for the night, I do stain-glass work, making lamps, sun catchers and fan lights.

Membership Secretary: Bernadette Brown (bbrown@csir.co.za)

I am presently employed as environmental scientist by the CSIR in Stellenbosch. My work includes research on the use of natural resources for sustainable development, alien plant management and catchment management. I am involved in several poverty alleviation initiatives, especially on a provincial and municipal level.

My personal interests include walking, reading, gardening and studying people. I love South African, Thai and Indian food, red wine and Namibian biltong.

Newsletter Editor: Gavin Maneveldt (gmaneveldt@uwc.ac.za)

I completed my graduate and postgraduate studies at the University of the Western Cape and am presently writing up my PhD degree in Botany. Presently I am employed as phycology and marine biology lecturer to the second and third year *Biodiversity and Conservation Biology* students respectively.

My principal research focus is in the systematics and ecology of encrusting coralline red algae. I also have a keen interest in general south and west coast rocky shore ecology, and fynbos.

My hobbies are SCUBA diving, snorkel diving, collecting marine paraphernalia, hiking, in fact, anything to do with the outdoors. I love writing popular articles and regularly submit to *Veld n Flora*. More recently I have become involved with marine interest groups and regularly give lectures on seaweed and rocky shore ecology.

Development of national environmental indicators for reporting on the state of the environment in South Africa

Following the successful completion jointly by CSIR Environmentek and the Department of Environmental Affairs and Tourism of the South African State of the Environment report, CSIR Environmentek has become involved in the National Environmental Indicators Project to enhance state of environment reporting.

Indicators have been used successfully in the past to highlight changes in conditions: a doctor measures the temperature of a patient and in the environmental sense, a caged canary proved an effective air quality indicator to coal miners. Currently, environmental indicators – varying from technical measurements to survey questionnaires – provide a consistent way of tracking and measuring changes in the environment to assist government and institutions in proactively identifying danger signals (e.g. increased UV exposure and encroaching drought damage) and reacting promptly. Similarly, environmental indicators are invaluable in measuring the effects of past remedial environmental intervention and in tracking progress towards environmental sustainability.

Improved environmental information for decision making are imperatives which were highlighted initially at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, and in the resulting Agenda 21, which is a global environmental strategy for sustainable development. State of the environment reporting has since become the globally accepted means of reporting on environmental issues. Likewise, indicators are the globally accepted means of measuring progress towards sustainable development in countries which have adopted the principles contained in Agenda 21. The Earth Summit to be hosted in Johannesburg in 2002 will address the progress made in trying to improve environmental information for decision making 10 years later.

Set for completion in mid-2002, the project focuses on seven sets of indicators for the following categories: atmosphere and climate; biodiversity and natural heritage; inland or fresh water;

marine, coastal and estuarine environments; land use; waste and human settlements. These categories reflect the state of the main environmental areas of concern in South Africa. Further consideration is given to the socio-economic and political issues common to the defined indicator groupings.

Each of the seven categories has been fleshed out with defined issues of direct importance to the environmental sustainability of the country, e.g. flood and drought management, alien invasive organisms and air quality management.

The issues under consideration in the Inland Water study include the availability of freshwater resources, freshwater quality and freshwater ecosystem integrity. In the Marine, Coastal and Estuarine study the indicators address issues such as degraded habitats and biodiversity loss, the sustainable harvesting of resources and increased pollution into the marine and coastal environment.

The National Environmental Indicators Project completed an international and national indicator review and assessment, and identified relevant indicators for the different issues. The draft set of indicators was then taken to numerous stakeholders for review. Once the final set of indicators has been selected for use in South Africa an indicator presentation format and user guideline will be developed. This will ensure the indicators are used effectively to convey environmental information to managers, planners, decision makers and the public.

Elizabeth Muller, CSIR
(emuller@csir.co.za)

For those interested, the City of Cape Town has a segment on its website called *State of the Environment Gateway* which has lots of information pertaining to the State of the Environment (SoE) Reports. The link is below.

(<http://www.capetown.gov.za/soe/default.asp>)

Conference Countdown

PSSA 2003 countdown has begun. PSSA 2003 will be hosted by the Department of Botany at the University of Port Elizabeth. We will inform you of all particulars closer to the time.

Calendar of Events for 2002

A. Upcoming Conferences

1. Southern African Marine Science Symposium (SAMSS) - 1-5 July 2002. Website: <http://www.benefit.org.na/samss/index.html>
2. 56th Annual meeting of the Phycological Society of America - 3-8 August 2002. Website: <http://www.botany2002.org/>
3. 15th International Conference on Electron Microscopy - 1-6 September 2002. Website: <http://www.icem15.com/>
4. The Pacem in Maribus Conference (XXX) 2002 (*Peace in the Ocean*) - 8-14 December. Website: <http://www.ioi.uwc.ac.za/PIM2002/>
5. Sixth International Temperate Reef Symposium, 13-17 January 2003. *No website as of end February 2002.*