



**PHYSIOLOGICAL SOCIETY
OF SOUTHERN AFRICA**

**FIKOLOGIESE VERENIGING
VAN SUIDELIKE AFRIKA**

**NEWSLETTER
NUUSBRIEF**

**NO. 43
APRIL 1997**

THE BOARD OF THE PHYCOLOGICAL SOCIETY OF SOUTHERN AFRICA

PRESIDENT

Prof BL Roberison
Department of Botany
University of Port Elizabeth
PO Box 1600
Port Elizabeth
6000

e-mail : btablr@upe.ac.za

PAST PRESIDENT

Dr RJ Anderson
Sea Fisheries Research Institute
Private Bag X2
Roggebaai
Cape Town
8012

e-mail : anderson@botzoo.uct.ac.za

SECRETARY-TREASURER

Dr EE Campbell
Department of Botany
University of Port Elizabeth
PO Box 1600
Port Elizabeth
6000

e-mail : btaeec@upe.ac.za

MEMBERSHIP SECRETARY

Dr W Burnett
Department of Botany
University of Natal, PMB
Private Bag X01
Scottsville
3209

e-mail: stirk@botany.unp.ac.za

NEWSLETTER EDITOR

Dr JB Adams
Department of Botany
University of Port Elizabeth
PO Box 1600
Port Elizabeth
6000

e-mail: btajba@upe.ac.za



TABLE OF CONTENTS

	<i>Page No.</i>
From the Editor	i
Minutes of the 1997 General Meeting	1
President's Report	3
Report on the 14th PSSA Congress	4
Award winners	4
Antartic Ozone Hole	5
Phycological photographs	5
Forthcoming conferences	6
Algae and Cancer	7
Application form for PSSA membership	8

FROM THE EDITOR

Dear PSSA members

It was great to see most of you at our PSSA conference in January. Hope you enjoy this issue of the newsletter. Dr Rob Anderson has come up with a suggestion for PSSA to establish a collection of photographic slides. Please send comments to him (e-mail: anderson@botzoo.ac.za) and we will report back on this in the next issue of the newsletter.

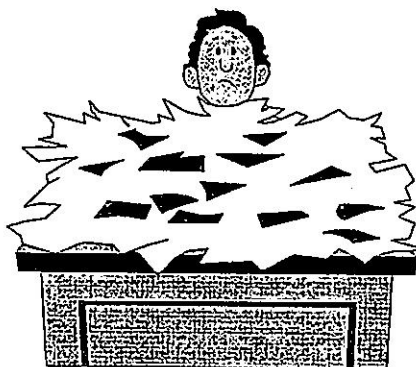
An application form for PSSA membership is included. Encourage colleagues and new students to join our growing society.

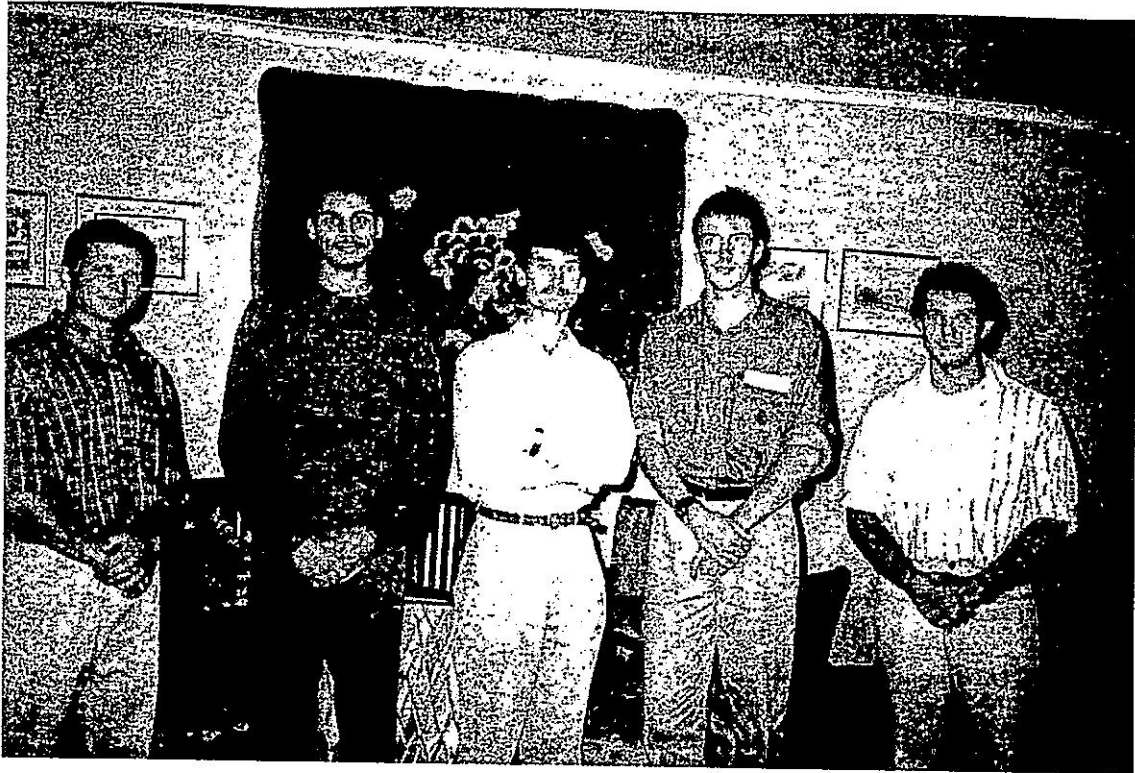
The next newsletter will be published in July. Please send your contributions to the address below. Hope the rest of the year is productive and enjoyable.

Regards
Janine



Dr Janine Adams, Department of Botany, University of Port Elizabeth, PO Box 1600, Port Elizabeth, 6000. Fax: 041-543217, E-mail: btajba@upe.ac.za





PSSA 1997 AWARD WINNERS: Claudio Marangoni, Keuben Naidoo, Dick Crawford (guest speaker), Ian Home & AJ Smit.



NEW PSSA COUNCIL (left to right): Dr Rob Anderson, Dr Wendy Burnett, Prof Bruce Robertson, Dr Janine Adams & Dr Eileen Campbell.



Minutes of the General Meeting of the Phycological Society of Southern Africa held 20 January 1997 at the Victoria Protea Hotel, Port Alfred.



The meeting was called to order by Rob Anderson at 15:40.

Apologies: John Bolton, Stuart Sym, Podge Joska.

Approval of minutes: Proposed Richard Pienaar; Seconded Graham Levitt.

Matters arising:

Links with other African countries

E-mail messages were sent by André Share but the response was poor. Future contact would be conducted on an *ad hoc* basis by André Share.

AETFAT

No participation was planned for the 1997 AETFAT congress. Braam Pieterse reported that AETFAT was discouraging participation and the society had no interest in inducing phycological attendance. They were of the opinion the phycological community was served by other fora. There was some feeling at the meeting that it would not be worthwhile to try to associate with AETFAT while others felt that we should take the initiative and organise participation. The discussion was carried over to 1 or 2 years before the next AETFAT congress.

Presidential address

Rob Anderson would carry over his presidential address to the 1998 congress.

Action: RJA

REPORTS

President

To be published in the newsletter.

Proposed by Derek Keats; seconded by André Share; accepted.

Secretary/Treasurer

To be published in the newsletter.

Proposed by Braam Pieterse; seconded by Janine Adams; accepted.

Membership Secretary

To be published in the newsletter.

Concern was expressed by the meeting at the lack of response from other African countries. There were only 5 or 6 members that were not up to date on payments.

Proposed by Rob Anderson; seconded by Braam Pieterse; accepted.

Newsletter Editor

To be published in the newsletter.

Three issues were circulated 1996. Thanks to Grant Pitcher, Guy Bate, Rob Anderson, Derek Kemp, Betty Mitchell-Innes, Graham Levitt, Eileen Campbell and Derek du Preez for submitting material. A request was made for more support for the newsletter.

Proposed by Rob Anderson; seconded by Graham Levitt; accepted.

Date and venue of next congress

An invitation was extended by Derek Keats for the University of the Western Cape to host the next congress after SAAB in January 1998. The Council was asked to follow up on this suggestion. A request was made that the venue be kept away from the University.

Action: Council

Rob Anderson suggested that we approach Fergus Molloy to host the 1999 congress in Windhoek. Graham Levitt suggested that a sub-Saharan algal resources workshop could be held concurrently.

Action: RJA

Derek du Preez suggested that we keep the congresses cheap enough so that students can attend. We should possibly support students to get to the congresses.

Fees

Fees are to remain unchanged for 1997.

Retired person's rates to change to R20 per annum.

Corporate membership to increase to R300 per annum.

Letter to NBI

A letter was sent to the board (Colin Johnson, chairman) of the National Botanical Institute in December by Rob Anderson. The response will be held over to the next General Meeting. A copy of the letter will appear in the Newsletter.

Action: RJA

MEMBERSHIP REPORT GJ Levitt

Workshops

The Council was requested to look into possible workshops, planning for two years in advance. Suggestions were: Coralline algae (Derek Keats); Harmful algae; Freshwater algae.

Action: Council

Honorary life member

The previous council decided to make Richard Pienaar an honorary life member of the Psychological Society of Southern Africa. The award was to be presented at the Congress dinner.

Participation by other African countries

Graham Levitt raised the problem at eliciting participation by members from other African countries. It was suggested that the society sponsor the registration and accommodation fees for members from other African countries. The Council was asked to approach the FRD for funds for "mutual co-operation" projects.

Action: Council

Future congresses

It was suggested that Society money be made available to support students to attend congresses (up to a predetermined maximum number of students). This is to be made clear in the First Circular of the Congress. The small Congress is an excellent opportunity for students to present papers.

At future congresses posters are not to be accepted without the presenter being registered (Simone Silva). Posters are to be presented in a chaired poster session (Braam Pieterse).

Investment account

The treasurer was requested to find out about the tax implications of the Society's investment account. This was to be followed up by obtaining financial advice on how to proceed.

Action: EEC

Closure

A vote of thanks to the previous council was proposed by Bruce Robertson and seconded by Eileen Campbell. Rob Anderson gave best wishes to the new council.

The meeting was adjourned at 17:45.

PSSA MEMBERSHIP 1996

Comprised of:

Student	15
Ordinary	35
Overseas	7
Life	5
Corporate	1

Membership changes:

7 new members (5 students + 2 ordinary)
Resignations/Expulsions 8
Conversions ordinary to life 1

SECRETARY / TREASURER'S REPORT S Sym

I would like to begin with an apology for not attending this general meeting and presenting this report to you in person. I wish you all the best for a successful conference and 1997.

The proceeds of the conference held at Meerensee extended the coffers of the society by some R 2 000, and on behalf of the Society, I would like to thank that organizing committee for such a successful meet. In particular, I would like to thank Mr Andre Share for the detailed breakdown of their finances.

As summarised in my financial report, the Society has accrued over R 6 500 during my term of office and, as predicted by Dr Anderson, the situation appears healthy with no need to contemplate an increase in subscriptions.

1996 saw the election of a new council. I would like to thank those members who participated - you made the job very easy for me. There was a 57% ballot and the new members will serve a two year term commencing in January 1997. The position of President Elect (1 year term beginning in January 1998, when Dr Anderson completes his term of office) will be filled by myself.

I would like to thank Dr Rob Anderson and Professor Richard Pienaar for all their advice and assistance through my term of office. Thanks are also due to Graham Levitt for so efficiently transferring subscriptions through and to Dr Eileen Campbell for so agreeably taking over her term of office two months early. I wish her well for her term as Secretary.



NEWLETTER EDITOR'S REPORT JB Adams

Three issues of the newsletter were distributed (May, September and December). The following people are thanked for contributing articles; Grant Pitcher, Guy Bate, Rob Anderson, Derek Kemp, Derek Keats and Betty Mitchell-Innes. Rob Anderson also collated information on the Bot River estuary survey in January 1996.

Graham Levitt is thanked for providing updated lists of PSSA members and Eileen Campbell and Derek Du Preez passed on information obtained from the internet. I'm very grateful to PSSA President, Rob Anderson for his support.

Every year at the AGM we usually question the function of the newsletter. At last year's meeting everyone was in favour of keeping a hard copy newsletter. I therefore request the support of all PSSA members and ask for contributions to the newsletter and suggestions for improvement of the newsletter.

PRESIDENT'S REPORT, 14th ANNUAL GENERAL PSSA MEETING

It gives me pleasure to present the 1997 President's Report on the activities of the Phycological Society of Southern Africa.

The year started with our 13th Congress, which was held at Meerensee, near Hermanus in the Western Cape. It was well attended, with more than 40 delegates coming from all over South Africa. We were able to bring out Dr Dave John from the British Natural History Museum, as our guest lecturer, and still make a small profit for the society, thanks largely to support from the FRD and two local seaweed companies (Taurus Products and Western Kelp). It is also encouraging to note that we have, in the 15 years since our inauguration 1982, expanded from a one- to a two-day Congress, excluding the field excursion.

Although the Bot River field excursion was apparently enjoyed by all, I think we were over-ambitious in hoping to produce a self-contained report on the algae. Nevertheless some interesting material was collected, and I think we all learnt something, especially those of us whose specialities do not normally include the smaller algae.

I would like to thank the members of council for their hard work in managing the affairs of the society during 1996. It is hardly necessary to remind members that a healthy newsletter is one of the most important functions of the society. I would like to thank our editor, Janine Adams, for once again producing a series of attractive and interesting newsletters.

Please continue to support her by sending material: abstracts, reports on overseas conferences that other PSSA members are not lucky enough to get to, news, etc. I really enjoy reading PSSA newsletters and I feel that we, the members, could make them even thicker, with very little more effort.

This year was time for the election of a new council, and it gives me pleasure to formally announce the results, as follows:

President -	Bruce Robertson
Secretary/Treasurer -	Eileen Campbell
Membership Secretary -	Wendy Burnett
Newsletter Editor -	Janine Adams

Braam Pieterse retires as Past President, a position which I will occupy during 1997, after which Stuart Sym will take office as President Elect.

There was no shortage of candidates for election, and I would like to thank all those who stood. Please don't be discouraged if you did not get elected. In most cases the voting was close, and the lively interest is a sign of a healthy society. In the early years of the PSSA several successful workshops were held. It is to be hoped that we can revive this practice, as it is an excellent way of sharing skills.

Finally, on behalf of the society, I would like to thank the UPE organisers of this 14th PSSA Congress for the excellent job they have done. Everything has run absolutely smoothly, and the venue is perfect. With congresses like this I think we can look forward to continued good attendances in future!


**Report on 14th Congress of the
Phycological Society of
Southern Africa**



The conference was held from the 20-22 January at the Victoria Protea Hotel, Port Alfred. We enjoyed the conference in relative luxury and there was little disturbance to the proceedings except for a few mosquitos and a certain combi's alarm disturbing the peace in the middle of the night.

There were 20 oral presentations and 18 poster presentations. The oral presentations were once again of a very high standard. Delegates presenting posters were told at the last minute to give a 5 min presentation of which they did an excellent job.

Oral presentations ranged from the practical problems of diatom identification, to talks on the taxonomy of Cyanophytes from Mauritius and the more practical problems of dealing with sustainable utilization of commercial seaweeds.

Invited guest speaker was Dr Richard Crawford from the Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany. Dr Crawford presented an interesting talk on the survival strategy of the marine plankton diatom genus *Corethron*. He was also involved in many fruitful discussions throughout the conference.



**Congratulations are extended to the
following award winners at the
conference :**

SASCA (South African Seaweed Concessionaries
Association) best paper award:

AJ Smit

Freshwater treatment for controlling *Ceramium*
fouling on raft cultivated *Gracilaria*.

SASCA best poster award:

Ian Home

An investigation into the possible culture of
Gracilaria in the Swartkops River estuary, South
Africa.

PSSA prize for the best student oral presentation:

Claudio Marangoni

Preliminary observations on the possible
introduction of phytoplankton into South African
waters by shipping ballast water.

PSSA prize for the best student poster:

Keuben Naidoo

Effects of salinity on diatom communities epiphytic
on *Zostera capensis*.

**CONGRATULATIONS TO PROF PIENAAR
FOR THE AWARD OF HONORARY LIFE
MEMBER OF PSSA**

Bruce Robertson congratulating Dick Pienaar at the
PSSA Dinner.

Antarctic Ozone Hole May Set New Record

GENEVA (Reuter) - The hole in the ozone layer which forms annually over the Antarctic during the Southern Hemisphere spring is already twice the size of Europe, a U.N. agency said.

The World Meteorological Organization said the hole in the earth's protective layer had appeared earlier than in recent years, and now covers more than 7.7 million square miles. "Twice the surface of Europe from the Atlantic to the Ural mountains," the Geneva-based agency said in a statement. The previous record over the Antarctic was 8.5 million square miles, set last year.

"The ozone, a fragile shield of gas which absorbs and blocks most ultra-violet rays of the Sun, is being depleted by man-made chemicals. These include chlorofluorocarbons (used in aerosols and refrigeration), the pesticide methyl bromide and solvents. Any sustained surge in radiation reaching the Earth could lead to a rise in cancer in humans and animals, lower crop yields and affect the marine food chain, according to experts.

WMO blamed the latest destruction on "continuous increase in the concentrations of chlorine loading in the stratosphere."

Under the 1987 Montreal Protocol of the Vienna Convention, governments agreed to phase out chemicals destroying the ozone. Industrialized countries have banned chlorofluorocarbons, halons and carbon tetrachloride, while developing countries have until the year 2010 to conform. Industrialized countries will phase out hydrochlorofluorocarbons by the year 2030 and were to freeze methyl bromide levels by last year. Developing countries have not yet agreed to control measures for these two substances. WMO, in a statement issued last March, said such measures would assist the process of healing the damage to the ozone.

"However, not until the second half of the 21st Century could one expect the disappearance of the Antarctic-spring ozone hole phenomena," the agency said at the time.

Phycological photographs:

SUGGESTION FROM : DR ROB ANDERSON

Most phycologists involved in teaching wish they had slides of topics and organisms outside their immediate field of research.

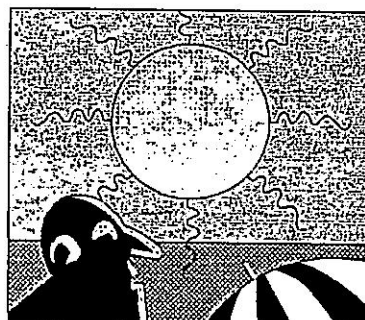
Would it not be possible for the PSSA to maintain and offer for sale a collection of slides made up from the member's own collections?

I believe the American Phycological Society does this. Individuals who have good slides could submit a list, with a brief description of each, and a number. They would lodge a copy of each with the PSSA (Secretary?). In response to orders (maybe only twice a year), copies would be made and sold, with some of the proceeds going to the society, and some for the costs. Whether the suppliers of the slides would expect some payment could be debated, but I for one would be prepared to donate copies. I could supply, for instance, slides of commercial seaweeds, harvesting, kelp beds, underwater photographs, etc.

Obviously slides would be supplied for lecturing purposes only, and any publishing needs would have to be negotiated with the photographer. It would also be far better if a sort of printed black and white catalogue of the slides could be circulated (or printed in the newsletter) rather than descriptions, but I'm not sure how to do that.

Any comments or suggestions?

Rob Anderson,
Seaweed Unit, Sea Fisheries Research Institute.
anderson@botzoo.uct.ac.za



FORTHCOMING CONFERENCES

14th North American Diatom Symposium

VENUE : The University of Michigan
Biological Station
DATE : September 24 - 27, 1997.

NADS is held every two years to provide a forum for all aspects of research on diatoms. The program will consist of oral presentations and posters. We plan on having special speakers and we can make provisions for specialized workshops.

The anticipated cost for the meeting will be approximately \$150. This will include room and board, shuttle service to and from the local airports, and hospitality services.

IMPORTANT

To continue to receive information from NADS (even if you do not plan to attend) please respond with an indication of your intent. You may respond to either Gene Stoermer (stoermer@umich.edu) or:

Norman Andresen
Center for Great Lakes & Aquatic Sciences
CompuServe: 70721,2564
University of Michigan
2200 Bonisteel Blvd.
Ann Arbor, MI 48109-2099

Telephone: 313-647-2734
FAX: 313-647-2748
E-Mail: andresen@umich.edu



Second European Phycological Congress (EPC 2) and the 8th International Conference on Applied Algology (8th ICAA)

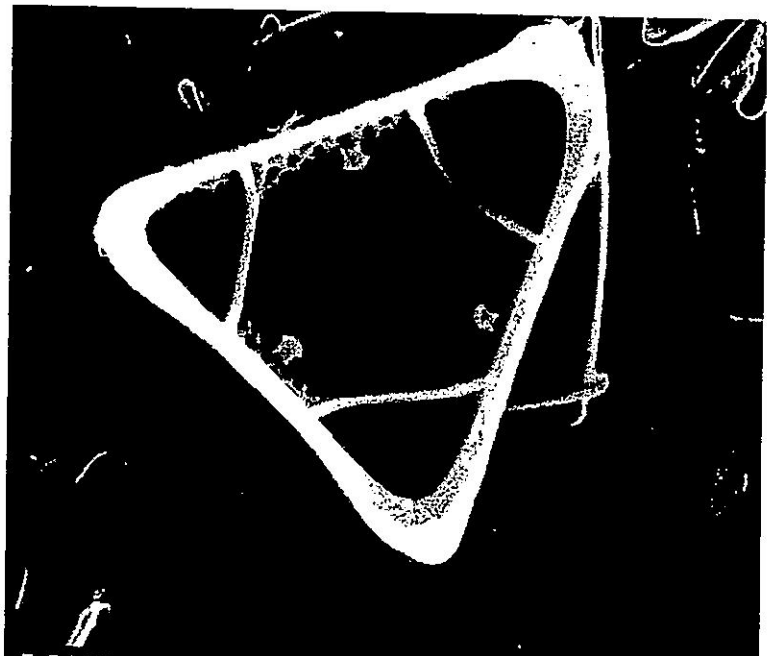
The Organizing Committees are pleased to announce that both meetings will be held in Montecatini Terme (Italy), the EPC 2 on 20-26 September and the 8th ICAA on 26 September - 1 October 1999.

You are cordially invited to participate and take this unique opportunity for meeting a broad forum of scientists interested in basic and applied phycology.

The first circular will be mailed in May 1998.

EPC 2 Secretariat:
Prof. Francesco Cinelli
Dipartimento di Scienze dell'Uomo e dell'Ambiente
- Università di Pisa
Via A. Volta, 6; I-56126 Pisa, Italy
Tel: + 39 50 23054; Fax: + 39 50 49694
E-mail: cinelli@discat.unipi.it

8th ICAA Secretariat:
Prof. Mario Tredici
Dipartimento di Scienze e Tecnologie
Alimentari e Microbiologiche - Università di
Firenze
P.le delle Cascine, 27; I-50144 Firenze, Italy
Tel: + 39 55 3288306; Fax: + 39 55 330431;
E-mail: tredici@csma.fi.cnr.it



ALGAE AND CANCER

This communication was obtained from the ALGAE-L chatline (ALGAE-L@Danann.heal.ie).

A journalist Alyssa Shaffer approached Prof Mike Guiry (Department of Botany, University College Galway, Ireland) with the following request:

I'm a writer in NY researching an article for **Healthy Living** magazine about foods that fight cancer. I'd like to include seaweed as one of the choices, but I'm lacking some information on the subject. Could you please e-mail me some information about any cancer-fighting properties of seaweed (ie. what phytochemicals or antioxidants it contains, etc.) How does it compare to other foods like broccoli or grapefruit? And how can people incorporate seaweed into their diet?

Dr Jane Teas replied:

The anticarcinogenic properties of brown seaweeds (kelp) are tantalizing but not yet understood. Traditional Chinese Medicine includes *Laminaria* in the treatment of cancer and it has also been recommended in ancient Ayurvedic texts. There is even a mention in the Ebers Papyrus of the ancient Egyptians having used seaweed to treat breast cancer.

The first use of seaweed to treat cancer in Western medicine was in the 1960s, when something called *Algasol T331* was used in Italy. According to a paper presented in 1966 by Claudio and Standardo, 68% of 162 patients made a good recovery following intramuscular injections. The good recovery seems to have been an improved well being following chemotherapy, including increasing appetite and hair regrowth. No further research was done.

In the 1980s, work was done on *VivaNatural*, a health food supplement based on a folk remedy for cancer in rural area of Japan. It was studied in a series of animal models. Again, it appeared to be effective, showing more antitumor effect than several conventional cancer chemotherapeutic agents, and again research interest seemed to end.

In other laboratories, brown seaweed extracts have shown inhibition of cancer cells grown in cell culture, inhibition of cancer growth in animals who have been given chemical carcinogens and in animals who have had tumors transplanted into them. Four studies have used powdered seaweed incorporated into rat food, and found

that the seaweed-supplemented diet was associated with a delay in time to tumor development and fewer tumors per tumor bearing animal. Other work has focused on particular constituents of kelp, such as fucoidan, a sulphated polysaccharide found only in brown seaweeds and some bacteria. Another line of research has focused on alginic acid. Several studies have also found that kelp extracts appeared to show some activity against HIV in cell culture.

In more than 20 articles using seaweed or seaweed extract or seaweed derived components, brown seaweeds appear to have antitumor activity. Many possible mechanisms have been proposed and most include the stimulation of the immune system.

A variety of mechanisms may all work together, and so far it appears that seaweeds alone will probably not cure cancer, although they may be partly responsible for preventing cancers or delaying the appearance and progression of cancers. The research so far has been done sporadically in laboratories in Japan, France, Australia, the US, but lack of funding in all these cases appears to have limited the studies that have been done, and to date, information about seaweed is encouraging but not yet definitive. Much more research needs to be done.

When recommending kelp it is probably a good idea to suggest eating whole seaweed. The kind found in most kelp supplements comes from seaweeds that are heated at very high temperatures and then ground into a powder before being mixed with binders to make tablets. This may result in the loss of whatever is health promoting or effective against cancer cells.

Another caution is that kelp contains high amounts of iodine, and although safely eaten in amounts of about 1/4 ounce/day in Japan by millions of people, in fishing villages where intake can reach up to the equivalent of four ounces per day, iodine-induced goiter can be a problem.

Personally, my favorite ways to include seaweed in food is soaked and then chopped finely and added to just about any dish. It is particularly good in beans, stir-fried vegetables, and steamed on top of rice. I also like it marinated and served as a salad.

Jane Teas, Ph.D.

Research Assistant Professor
Preventive and Behavioral Medicine
University of Massachusetts Medical School
55 Lake Avenue North
Worcester, MA 01655

Jane.Teas@ummed.edu



APPLICATION FOR PSSA MEMBERSHIP

NAME:.....

ADDRESS:.....
.....

RESEACH INTERESTS:.....
.....

TEL:.....

FAX:.....

E-mail:.....

The Physiological Society of Southern Africa aims to promote an interest in phycology and establish and maintain communication between persons interested in the algae of Southern Africa and, by way of the newsletter, to collate and disseminate information concerning the Society, it's members and matters of mutual interest.

Signature:..... Date:.....

Indicate category of membership required (fees in SA Rand):

Student membership	R 20
Pensioner membership	R 20
Ordinary membership	R 30
Ordinary membership (overseas)	R 40
Life membership	R300
Life membership (overseas)	R400
Corporate membership	R300

Please send to: **Dr W Burnett (PSSA Membership Secretary)**
Department of Botany
University of Natal, PMB
Private Bag X01
Scottsville 3209