

# The CNS News

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News from the Comparative Nutrition Society

September 1999

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## Message from the President

Greetings to new and continuing members of the CNS. As you know, following the postal ballot, we have a new Board. My thanks to the old Board for putting the Society on a sound membership base and financial footing. Special thanks go to Olav Oftedal, who was instrumental in the formation of the Society, to Charlotte Kirk Baer for her dedication to the membership, Newsletter and data base, and to Dave Baer for his good control of finances. Charlotte and Dave were each presented with plaques at the Banff Symposium to acknowledge all of their outstanding contributions.

The new Board consists of myself, Bob White as President-elect, Lorrie Rea as Secretary, Dave Baer as Treasurer, Wendy Hood as Student Liaison, and Graham Worthy and Steve Cork as Members at Large. In addition, in recognition of the high work load carried by

Charlotte, three people have accepted positions to support the Board: Dave Rosen as newsletter editor, Charlotte Kirk Baer as conference proceedings editor, Tim Nagy as website manager, and Ed Clemens as membership officer. All four will work closely with Lorrie over the next 18 months. I have also asked Olav Oftedal to act as development officer. This is not an easy task, but I feel the Society needs a higher profile, particularly with potential corporate sponsors.

In addition to the excellent scientific program in Banff, we discussed several issues of import to the Society. One of these was planning for future symposia. There was general agreement that the 2000 Symposium should be held in North America while we build our membership numbers. The Board has therefore selected Asilomar near Monterey in California as the site for the CNS 2000 Symposium (see separate

notice for more details).

Looking further ahead, there was also general agreement that we should move offshore for 2002, and to this end the Board is now seeking suggestions (with details of location, accommodations and potential costs) from members particularly, but not exclusively, in Europe and Australia. Hopefully this will serve to broaden and further strengthen our membership base. Another suggestion aired at Banff was the potential for annual meetings, perhaps alternating with our general symposia and with a more focused or specialized theme.

These are some issues that we should be thinking about and discussing via newsletters and at the CNS 2000 Symposium in Asilomar next year. Meanwhile, my best wishes for success in your nutritional endeavors.

*Ian Hume, President*

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## Article Submissions:

Submission of articles from members for future issues of the CNS News is greatly encouraged. Submissions or ideas should be forwarded to the Newsletter editor, David Rosen, at: rosen@zoology.ubc.ca by February 1, 2000.

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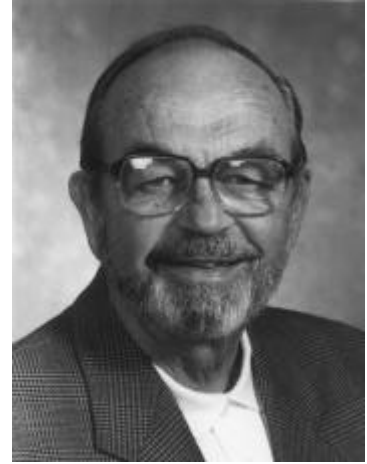
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# Conference News

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## Banff 1998

The second biennial symposium of The Comparative Nutrition Society was held in Banff, Alberta, Canada on August 14-19, 1998. A total of 86 delegates from 5 countries were registered for the event. An impressive diversity of topics was covered in 38 spoken presentations and 14 poster presentations. The format of the presentations allowed for lively scientific discussion to follow each program session. The discussion demonstrated that, while the Society may still be relatively small, its members are involved in a wide variety of important research areas, from the biochemical to ecosystem level. It was a unique opportunity for distinguished senior scientists and exceptional junior scientists to interact and freely exchange ideas. Also during the meeting, candidates were selected for the new Board of Directors, discussion was held on the 2000 meeting, and Dr. Ed Stevens was awarded the Society's second Honorary Life Membership (see facing page). The Banff Conference Center provided a unique forum for scientific discussions. Besides the grandeur of the surrounding scenery (and the ever present elk), the self-enclosed nature of the facility (with on-site dining, lodging, and meeting rooms) meant that delegates had a great deal of time to interact and carry on discussions with colleagues. It was decided that a similar forum be chosen for the year 2000 meeting (see below).



Dr. Ed Stevens, recipient of the Society's second Honorary Life Membership.

## Student Award Presentation



Student Award recipient Morgan Robertson with her plaque and mentor, Dr. Robert White. *Photo by Tamara Worthy.*

Another highlight of the 1998 CNS Conference was the Student Competition. The high level of the submissions made judging an overall winner extremely difficult. The job fell to Graham Worthy who chaired the judging team, along with Kathy Parker, Lorrie Rea, and Charlotte Kirk Baer who also served on the team. Fourteen students entered the competition and the quality of the papers and posters was outstanding. Competition was tight, but Morgan Robertson, a Master's student of Bob White at University of Alaska, won the competition. Her paper was entitled "Effects of rumen-protected methionine on wool production and protein turnover in muskoxen (*Ovibos moschatus*)".

## Asilomar 2000

The Board of Directors of the CNS has chosen the Asilomar Conference Center as the site for the Third Biennial Symposium of the Comparative Nutrition Society. The Conference will run August 4-9, 2000. A registration package will be sent to members in January 2000, with an April 1st submission deadline for papers and posters.

The Asilomar Conference Center is located in Pacific Grove, California, approximately 100 km south of San Francisco. The Conference Center is located on the duned shores of the Monterey Bay National Marine Sanctuary. The Center is a refurbished, beach-front YMCA camp, which now features a central dining room, 40 meeting rooms, and accommodations that range from rustic to extraordinary. The Society has reserved a number of rooms in advance for the event. More information can be found at the conference center's web site at: [www.asilomarcenter.com](http://www.asilomarcenter.com)

# C. Ed Stevens: The Society's Second Honorary Life Member

*At its Second Biennial Symposium, the Comparative Nutrition Society bestowed the award of Honorary Life Membership on Dr. Charles Edward Stevens in recognition of his outstanding contributions in the fields of comparative digestive physiology and nutrition. Ed is the Society's second Honorary Life Member; Dr. Duane Ullrey was bestowed with the Society's first Honorary Life Membership at the Inaugural Symposium of the CNS in Leesburg, Virginia in 1996.*

Dr. Ed Stevens began to make his mark as an outstanding researcher and physiologist during the 1950s. Following graduation from the Veterinary School at the University of Minnesota, and his Ph.D. work there under the direction of Dr. Alvin Sellers, he held tenure at the Cornell University Veterinary School. There, with Drs. Sellers, Emmett Bergman and Alan Dobson, Ed put ruminant physiology into the textbooks. Drs. Stevens' and Sellers' elegant work on forestomach motility led to classical papers published in the American Journal of Physiology, which were later reviewed in Physiological Reviews and the Handbook of Physiology. This ruminant work coming out of Cornell was supported by continuous funding through the National Institutes of Health (NIH) and produced a steady stream of publications in outstanding journals, an unheard-of accomplishment for a Department of Veterinary Physiology at that time. The Department was therefore labeled as the strongest veterinary physiology department in the country, if not the world.

During the early part of his career, Ed spent a sabbatical leave in Copenhagen with Professor Hans Ussing, the founder of the Ussing chamber, which was to revolutionize gastrointestinal absorption physiology. Ed brought the technique back to the States to begin work on ruminant forestomach absorption mechanisms. He was among the first to use Ussing chambers with mammalian tissue and had the foresight to see that this type of technology was the coming

wave of the future. At the time, most work on intestinal absorption was conducted in vivo with preparations of conscious or anesthetized animals; the in vitro methodology allowed rigorous control of external variables and examination of absorption mechanisms at the cellular level. Drs. Stevens' and Sellers' brilliant work on forestomach epithelium using this technique led to our current understanding of ion transport mechanisms in the rumen and the ways in which short-chain fatty acids are absorbed by the rumen epithelium. Following these landmark studies in the rumen, the era of ion transport mechanisms and their control began in numerous laboratories, mostly in medical schools. Time and again, especially with studies of the large intestine, the framework provided by Ed's rumen studies showed the way.

***He was among the first to use Ussing chambers with mammalian tissue and had the foresight to see that this type of technology was the coming wave of the future***

It was at this time that Ed became interested in comparative physiology, in part due to the similarities in the processes shown to be present in the ruminant forestomach and large intestine. Similar microbial fermentation processes and similar mechanisms of absorption were present. Studies on equine and rabbit large intestine under his tutelage were the first to enlighten the world about large intestinal motility, microbial digestion and electrolyte absorption. Again, Ed's rumen studies provided the comparative framework for these studies, and subsequently for many others on large intestinal function.

During the latter part of his tenure at Cornell, Ed successfully obtained NIH funding to direct a training program in comparative gastroenterology, the first of its kind. This was a highly successful program, which lasted through a number of renewals and funded a considerable

number of graduate and postdoctoral fellowships in the school. The program included courses taught by the Cornell faculty in all aspects of comparative digestive physiology and nutrition. Many of the students quote it as the best training they received in their careers. Much of the information presented by Ed came from his own experiences in comparative and adaptive physiology gained on sabbaticals and in cooperative studies with departments of physiology, nutrition and zoology in Germany, Australia, South America and Israel. At the same time, Ed was Chairman of the Department of Physiology at Cornell, with its attendant heavy administrative responsibilities.

Ed left Cornell in 1980 to become Associate Dean for Research at the new Veterinary College at North Carolina State University (NCSU). This school is now among the top several veterinary schools in the country in terms of outside research funding, much of it from NIH. Under Ed's direction, the College's Research Committee reviewed internal grants much like the NIH panels that Ed had served on during his research career. This process resulted in well-written and fundable grants by the NCSU faculty, many of which led to federal funding.

Since his retirement in 1995, Ed has continued to develop his ideas on aspects of comparative physiology and nutrition. The second edition of his book "Comparative Physiology of the Vertebrate Digestive System" came out in 1996, co-authored with Ian Hume. In 1998, Physiological Reviews carried a review article on the contributions of microbes to digestive processes by the same authors. Ed also continues to teach in the Comparative Digestive Physiology course at NCSU, and participates in a weekly journal club. He can be expected to make significant contributions and to inspire students and others for many years to come.

*This article was contributed by Dr. Bob Argenzio. Our special appreciation and thanks go to Bob, a former graduate student of Ed's.*

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# Membership News

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## A Call for Student Participation

The benefits of attending scientific conferences and joining interactive societies as a student can be immeasurable. Discussions with other investigators with common interests can help focus research, solve stumbling blocks, and spark new ideas. Investigators met at scientific meetings may be future post-doc advisors, collaborators, grant and promotion arbiters, journal editors and referees, and colleagues that you will continue to rely on for discussion throughout your career. Nonetheless, students are often overwhelmed at large meetings where the research interests of attendees can be extremely diverse. The Comparative Nutrition Society (CNS) offers a unique experience for students. CNS members share a relatively narrow interest in nutrition but represent a broad spectrum of organisms. I have found that members are genuinely interested and enthusiastic about what each individual attending our conferences has to offer, facilitating involvement in discussions to an extent that rarely occurs at other meetings.

CNS is building a strong base of dedicated scientists, yet the future of CNS lies with students to ensure that traditions currently being set forth continue. Current membership includes a total of 196 full, associate, and honorary members but only 34 students. It is essential that we encourage other students who share our interests to join the Society. I believe that we would benefit from making more resources available to our students, encouraging greater commitment by students in the society and facilitating greater interaction between members outside of our biannual meeting. Expansions to the CNS website to include resources that are of specific interest to students may help to facilitate this commitment and interaction. Resources that could be made available on the website include more detailed information on our members, including: research interests, techniques used, and a list of publications and funding institutions. An on-line discussion group or student newsletter is also being considered. I would appreciate your suggestions on how we may increase student membership and your ideas on expansions to the CNS website. Please email me at [whood@bu.edu](mailto:whood@bu.edu).

*Wendy R. Hood, Student Liaison*

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## Request for Photos

I am preparing a CD Teaching Unit on Comparative Anatomy and Physiology of the Vertebrate Digestive System for our graduate course and for distribution, at cost, for use in other courses in zoology, physiology, and nutrition. It will include about 200 figures and tables from the 2nd edition of our book on this subject and I hope to have a prototype of the first sections completed by July 2000. I want to include pictures of representative animals in color, when possible, and have photos of many these. However, some of the others will be difficult to obtain and many publishers won't release illustrations for this purpose. Therefore, I would appreciate any contributions of photos or slides of the following species that members of the Comparative Nutrition Society would be willing to share, and will credit the source of any that are used.

*Fish:* lamprey or hagfish, basking shark or paddlefish

*Reptiles:* sea turtle

*Birds:* raptor, budgerigar, ptarmigan, emu, ostrich

*Mammals:* echidna, aardvark, baleen whale, shrew, insectivorous and fruit bat, aardwolf, panda, wombat, and a carnivorous and omnivorous marsupial, edentate anteater, and sloth, colobid monkey, orangutan or gorilla, vole, Fat jird, capybara, peccary, hippo, muskox, hare and pica, tapir, manatee or dugong, hyrax

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## Membership dues

Sadly, not all of us are Honorary Life Members of the CNS. The rest of us have to pay annual fees. The Secretary will be mailing membership renewal forms shortly.

Fortunately, the CNS can now accept payment by credit card (Mastercard, Visa, and American Express) for membership dues, conference registration fees and purchases of publications and society insignia merchandise. We will also continue to accept other forms of payment in US funds such as personal checks and money orders.

## Web News

Don't forget that one of the privileges of CNS membership is access to the CNS Website, located at: [www.cnsweb.org](http://www.cnsweb.org) This site has information available to the public as well as a 'Members Only' section that contains more information as well as a forum for discussions. Access is by password that will be printed with your membership notice.

Those members with too many frequent flier miles may also be interested in looking at a site listing a wide array of upcoming conferences from around the globe:

[www.york.biosis.org/zrdocs/conf/conf.htm](http://www.york.biosis.org/zrdocs/conf/conf.htm)

## Treasurer's Report

The CNS treasurer, David J. Baer, provided a treasurer's report during the Business Meeting held on August 15, 1998 at the Second Biennial Symposium. The report covered the period from August 1, 1996 through August 31, 1998. This period was extended to include the weeks before the Society was officially formed (August 30, 1996). Future reports will follow the Society's fiscal year September 1 through August 31.

During the first two years of the Society's existence, the treasurer established a detailed financial tracking system and bank account for the society. In addition, the treasurer applied for and received non-profit status for the Society.

The Society ended with a balance of \$13,060.43 after the first two years of formation. The majority of the income was from membership dues, and most of the expenses were for printing and mailing of newsletters and symposium proceedings. Although most of the symposium registration fees are reflected in this balance, most of the symposium expenses occurred after August 31, 1998 and will be reflected in the subsequent report.

| INCOME                 |                 |
|------------------------|-----------------|
| Gifts Received         | 1650.00         |
| Sales                  | 270.00          |
| Membership Dues        | 15038.97        |
| Other Income           | 17.00           |
| Symposium Registration | 6060.00         |
| <b>TOTAL INCOME</b>    | <b>23035.97</b> |

| EXPENSES                    |                |
|-----------------------------|----------------|
| Bank charges                | 55.31          |
| Gifts                       | 117.60         |
| Legal and professional fees | 190.00         |
| Office supplies             | 204.53         |
| Postage                     | 2503.28        |
| Printing                    | 4055.00        |
| Subscriptions               | 292.50         |
| Symposium                   | 2557.32        |
| <b>TOTAL EXPENSES</b>       | <b>9975.54</b> |

|                        |                 |
|------------------------|-----------------|
| <b>BALANCE (US \$)</b> | <b>13060.43</b> |
|------------------------|-----------------|

## Secretary's Report

The CNS secretary's report was provided during the Business Meeting held on August 15, 1998 during the Second Biennial Symposium. CNS secretary, Charlotte Kirk Baer reported on membership status, directory of members, bylaws, dissemination and outreach activities, and other items of interest.

### Membership

A summary of the CNS membership status during the first two years of the society's existence (1996 and 1997) was reported as follows:

| Membership category | 1996       | 1997       |
|---------------------|------------|------------|
| Associate members   | 3          | 6          |
| Full members        | 152        | 159        |
| Student members     | 13         | 23         |
| Life members        | 1          | 1          |
| <b>TOTAL</b>        | <b>169</b> | <b>189</b> |

Renewal rate from 1996 to 1997: 80%

Geographic distribution:

1996: 17 Countries; 1997: 18 Countries

### Membership Directory

A membership directory was compiled by the secretary and published in 1997. The directory includes the names, addresses, phone, fax, email, and areas of interest for all

current members. In addition, the directory includes an index of membership by geographic location and by area of interest.

### Bylaws

Bylaws were drafted by the CNS Board and were mailed by the secretary to all CNS members in August 1997. Fifty-three percent of voting members responded to the request to review and for approval of the draft bylaws. Ninety-eight percent responded affirmatively. Thus, the bylaws were ratified.

### Dissemination and Outreach

Dissemination and outreach activities undertaken during the first two years of the society included sending announcements about the establishment of the CNS to relevant journals, newsletters, and societies. The secretary organized, formatted, and arranged for the publication of two *CNS News* newsletters and the establishment of a CNS Website ([www.cnsweb.org](http://www.cnsweb.org)). With assistance and direction from the CNS Board, the secretary was responsible for the organization of the 1998 symposia announcements, program, and proceedings.

### Other Items of Interest

Other activities pursued by the secretary on behalf of the society included follow up on inquiries regarding publication of future proceedings, including a request from British Journal of Nutrition (supplement). The secretary also met with the National Academy Press' Joseph Henry Press regarding publication of future proceedings and potential book volumes. In addition, the secretary corresponded with Zoological Record Index for citation of proceedings.

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# *Recent Scientific Publications*

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Members of the Comparative Nutrition Society have been very busy over the past year. The following is only a sample of some of the scientific publications that members feel might be of interest to their peers in the Society [Email contacts are provided].

- Crissey, S.D., P. McGill, and A.M. Simione. 1998. Influence of dietary vitamins A and E on serum alpha and gamma tocopherols, retinol, retinyl palmitate and carotenoid concentrations in Humboldt penguins (*Spheniscus humboldti*). *Comparative Biochemistry and Physiology Part A* 121:333-339. [contact: [zmnsouth@ix.netcom.com](mailto:zmnsouth@ix.netcom.com)]
- D'Abramo, L., D. E. Conklin, and D. M. Akiyama. 1997. *Crustacean Nutrition, Advances in World Aquaculture Volume 6*. World Aquaculture Society, Baton Rouge, Louisiana, USA. 587 pp. [contact: [dconklin@teligentmail.com](mailto:dconklin@teligentmail.com)]
- Fahey Jr., G.C. and H.S. Hussein. 1999. Forty years of forage quality research: Accomplishments and impact from an animal nutrition perspective. *Crop Science* 39:4-12. [contact: [g-fahey@uiuc.edu](mailto:g-fahey@uiuc.edu)]
- Hume, I. D. 1999. *Marsupial Nutrition*. Cambridge University Press, Cambridge, 384 pp. [contact: [ianhume@bio.usyd.edu.au](mailto:ianhume@bio.usyd.edu.au)]
- Jung, H.G. and G.C. Fahey, Jr. (editors). 1999. *Nutritional Ecology of Herbivores: Proceedings of the Vth International Symposium on the Nutrition of Herbivores*. American Society of Animal Science, Savoy, IL. 836 pp. [contact: [g-fahey@uiuc.edu](mailto:g-fahey@uiuc.edu)]
- Kunz, T.H., E. Bicer, W.R. Hood, M. Axtell, W. Harrington, B. Silvia, and E.P. Widmaier. 1999. Plasma leptin decreases during lactation in female bats. *Journal of Comparative Physiology B* 169: 61-66. [contact: [kunz@bu.edu](mailto:kunz@bu.edu)]
- Nussear, K.E., R.E. Espinoza, C.M. Gubbins, K.J. Field, and J.P. Hayes. 1998. Diet quality does not affect resting metabolic rate or body temperatures selected by an herbivorous lizard. *Journal of Comparative Physiology B* 168:183-189. [contact: [espin\\_r@unr.edu](mailto:espin_r@unr.edu)]
- Slifka, K.A., P.E. Bowen, M. Stacewicz-Sapuntzakis, and S.D. Crissey. 1999. A survey of serum and dietary carotenoids in captive wild animals. *Journal of Nutrition* 129:380-390. [contact: [keslifka@brookfieldzoo.org](mailto:keslifka@brookfieldzoo.org)]
- Stevens, C.E. and I.D. Hume. 1998. Contributions of microbes in the vertebrate gastrointestinal tract to the production and conservation of nutrients. *Physiological Reviews* 78: 393-497. [contact: [edstevens1@aol.com](mailto:edstevens1@aol.com)]
- Stevens, C.E. 1998. *The Vertebrate Digestive System*. McGraw-Hill Encyclopedia of Science of Science and Technology. [contact: [edstevens1@aol.com](mailto:edstevens1@aol.com)]
- Tan, K.H., A. Zubaid, and T.H. Kunz. 1998. Food habits of *Cynopterus brachyotis* (Muller) (Chiroptera: Pteropodidae) in peninsular Malaysia. *Journal of Tropical Ecology* 14: 299-307. [contact: [kunz@bu.edu](mailto:kunz@bu.edu)]
- Witmer, M.C. 1998. Ecological and evolutionary implications of energy and protein requirements of avian frugivores eating sugary diets. *Physiological Zoology* 71:599-610. [contact: [mwitmer@brynmaur.edu](mailto:mwitmer@brynmaur.edu)]
- Witmer, M.C. and P.J. Van Soest. 1998. Contrasting digestive strategies of fruit-eating birds. *Functional Ecology* 12:728-741. [contact: [mwitmer@brynmaur.edu](mailto:mwitmer@brynmaur.edu)]
- Young Owl, M. and G.O. Batzli. 1998. The integrated processing response of voles to differing fibre content in their diet. *Functional Ecology* 12:4-13. [contact: [g-batzli@life.uiuc.edu](mailto:g-batzli@life.uiuc.edu)]
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