

ISCE NEWSLETTER

Vol. 5, No. 3, September, 1988

International Society of Chemical Ecology

From the Editor

The debate and discussion regarding the ISCE statement of purpose, which dominated the executive/council meeting and business meeting in Athens, also permeates the pages of this issue. I hope that you will read the articles very carefully and send your comments to me. To facilitate a response, we have published in this issue a straw ballot with proposed statements of purpose. The ballot is non-binding; however, it will allow us to form some idea of the feelings and concerns of the membership as a whole. There is plenty of space for comment, too. I hope that you will take advantage of the opportunity to offer your input on the statement.

President's Message

Last summer's annual ISCE meeting, ably organized by Murray Blum, is now behind us. We are deeply indebted to Dr. Blum for planning this extremely worthwhile event. The scope of the scientific program was particularly impressive, ranging from bacterial chemotaxis to the sex pheromones of snakes! The one unfortunate consequence of this richness was the necessity of scheduling a few sessions which ran simultaneously. In fairness to both speakers and to audience members, I would urge future meeting planners to avoid conflicting sessions, so that any member can have the opportunity to hear any paper.

I'd like to thank the members of our Fund Raising Committee (Gunnar Bergström, Wittko Francke, David Jones, Koji Nakanishi, Yoko Naya, Wendell Roelofs, and Dietrich Schneider) for their efforts during our first major campaign on ISCE's behalf. There are two very encouraging points about our results to which I would like to call attention. 1) Major contributions came not only from Japanese and American companies, but also from several American subsidiaries of European companies, and from two not-for-profit Foundations (for a complete list of donors, see p. 1). 2) Our very first gift, from the Sunbor division of the Suntory Company, came as the first installment of what is intended to be an annual gift to the Society. I hope this Suntory gift will serve as a model which future donors will choose to emulate!

An apparently spontaneous, and, for me unanticipated, happening in Athens was a truly passionate debate on the definition of chemical ecology. My own impression is that this discussion, while both illuminating and entertaining, did not yet produce a clear statement which satisfied a majority of the most interested participants (see p. 3 for a summary of the Athens discussions). Perhaps future issues of this newsletter can serve as a forum in which this discussion can be continued.

There are two other matters which I'd like to mention before closing. During our 1986 meeting in Berkeley, California, the ISCE awarded the Society's first medal to R. Milton Silverstein for his pioneering contributions to the field of chemical ecology. I believe the intention was that we would award other medals from time to time to leaders in our field, and I would like to propose that we make a second such award at our Sixth Annual Meeting in Gothenburg, Sweden, in August, 1989. Toward this end, I would like to encourage you to submit nominations of biologists or chemists who have made what you consider to be outstanding contributions to chemical ecology (see page 2 for details).

Shortly after our June meeting, I explored an idea for another award which I believe could be particularly significant. This would be a prize for the best scientific paper to appear in the **Journal of Chemical Ecology** during any given year. Anyone would be free to place a paper in nomination. I can imagine the prize not only providing recognition for particularly fine research accomplishments, but also serving as a stimulus for especially thoughtful reading (and refereeing) of **J. Chem. Ecol.** papers. It should also encourage researchers to publish their best work in our Society's journal. This proposal has had an enthusiastic response from those ISCE officers and members with whom I have had a chance to discuss it. I plan to pursue the idea further, therefore, with the hope that we can award the first of these prizes in 1990, based on the 1989 journal year. Further details will be available in the January newsletter.

Jerrold Meinwald

Fund Raising Committee Successful in 1988

The ISCE is indebted to the following organizations for generous gifts in support of its programs:

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Evolutionary Aspects of Chemical Ecology: Theme for ISCE Gothenburg Meeting

The sixth meeting of the **International Society of Chemical Ecology** will take place in Gothenburg, Sweden from August 8–11, 1989. Dr. Gunnar Bergström will host the meeting whose theme will be Evolutionary Aspects of Chemical Ecology. The sixth ISCE annual meeting will follow the IUPAC Congress which will be held in Stockholm from August 2–7. As part of the IUPAC meetings this year there will be a session on Chemical Communication. Transportation by train from Stockholm to Gothenburg is available for those who wish to take advantage of the sessions at both meetings. Additional program suggestions, requests for letters of invitation, etc. should be sent to Dr. Gunnar Bergström, Department of Chemical Ecology, University of Gothenburg, Box 33031, S-40033 Gothenburg, Sweden. More details regarding the program and accommodations will be available in forthcoming newsletter issues.

Gunnar Bergström



The 1988 meeting host Murray Blum (left) gives 1989 meeting host Gunnar Bergström the word on what to expect. *Photo by Manfred Kaib.*

Highlights from June Meeting—Athens, GA.

One-hundred people from 11 countries attended ISCE's fifth annual meeting, which took place from 24–27 June in Athens, Georgia. Murray Blum hosted the meeting at the Georgia Center for Continuing Education, University of Georgia. This year's symposia covered: Sensory behavior of microorganisms, Chemical ecology of reptiles, Arthropod sequestration of natural products, and Chemical ecology in the aquatic environment. Contributed papers represented the diverse interests of Society members. In addition to the scientific discussions, considerable attention was directed to proposals of a new **ISCE Statement of Purpose**. A summary of those discussions is found on p. 3.

At the banquet, President David Jones passed the Swedish cedar gavel on to incoming President Jerrold Meinwald. Certificates of appreciation were presented to meeting host Murray Blum, outgoing ISCE councilors Murray Blum, Lincoln Brower, Larry Gilbert, Yoko Naya, and Jacques M. Pasteels; and to outgoing President David Jones. The banquet speaker was the distinguished Professor Eugene Odum.

Student Travel Awards—Athens, GA.

Four ISCE student members were awarded travel awards to the Fifth Annual Meeting in Athens, Georgia. They were: Jean-Francois Ferveur, Biologie et Genetique Evolutive du C.N.R.S., France to present a paper entitled "Biosynthetic and Genetic Studies of Pheromone Production in *Drosophila*"; Brian D. Jackson, University of Keele, England to present a paper entitled "The Chemical Secretions of some Primitive *Myrmecia* Ants of Australia"; Susan H. Sennett, University of Delaware,

Nominations Solicited for Society Medal

Nominations are being considered for the ISCE Society medal. The medal was first awarded in 1986 to R. Milt Silverstein for his pioneering contributions to the field of chemical ecology. Nominees should be biologists or chemists who have made outstanding contributions to chemical ecology. Each nomination should include a brief biography of the nominee (1–2 pages), a statement of the nominee's chief contributions to chemical ecology (ca. 250 words), and a list of not more than six of the nominees' most significant publications. Up to three seconding letters will be accepted with each nomination. Submit nominations to our secretary and newsletter editor, Nancy M. Targett by 31 January 1989. A decision regarding the medal awardee will be made by the ISCE council under the chairmanship of Society vice-president Wittko Francke. The council recommendation will then be submitted to the executive committee for final approval.

Jerrold Meinwald

1988–89 ISCE Officers and Committee Appointments

ISCE Executive Committee

President: Jerrold Meinwald, U.S.A.
Vice President/President Elect:
Wittko Francke, W. Germany
Secretary: Nancy M. Targett, U.S.A.
Treasurer: James L. Nation, U.S.A.
Past-President: David A. Jones, U.K.
Editorial Representatives, JCE:
R. Milt Silverstein, U.S.A.
John Simeone, U.S.A.

ISCE Councilors

Ana Luisa Anaya, Mexico
Gunnar Bergström, Sweden
Michael Boppré, W. Germany
Rémy Brossut, France
Keith S. Brown Jr., Brazil
Clive G. Jones, U.S.A.
Jean H. Langenheim, U.S.A.
Jeremy McNeil, Canada
Yoko Naya, Japan
Martin Obin, U.S.A. (student rep.)
John T. Romeo, U.S.A.
Martine Rowell-Rahier, Switzerland
Arnon Shani, Israel
Peter E. Waterman, U.K.

ISCE Committee Appointments

Awards Committee

Chair: Lena Brattsen, U.S.A.

Student Travel Award Subcommittee

Chair: Jeremy McNeil, Canada
Members: Jacques M. Pasteels, Belgium
Don Gerhart, U.S.A.

Society Medal Award Subcommittee

Chair: Wittko Francke, W. Germany
Members: ISCE Councilors

Future Meetings Committee

Chair: John T. Romeo, U.S.A.
Members: Eric C. Albone, U.K.
Keith Brown, Brazil
Konrad Dettner, W. Germany
Murray B. Isman, Canada
Yoko Naya, Japan

Fund Raising Committee

Chair: Jerrold Meinwald U.S.A.
Members: Gunnar Bergström
Rémy Brossut
Wittko Francke
David Jones
Koji Nakanishi
Yoko Naya
Wendell Roelofs
Dietrich Schneider

Format for Annual Meetings: A Discussion

ISCE annual meetings originally were patterned after Gordon Research Conferences with symposia sessions and contributed papers. We have evolved over the last five years and I would like to offer some recommendations for the future. *First*, there should always be time for questions to each speaker after each talk. *Second*, symposia would be much more valuable if there were a participants' round table discussion at the end of each morning and afternoon session. I would like

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U.S.A. to present a paper entitled "Phytoalexins: Postinfectious Defense in Halophytes?"; and J. Evan Ward, University of Delaware, U.S.A. to present a paper entitled "Effects of microalgal ectocrines on the feeding behavior of blue mussels".

Student travel awards will be available again from the Society on a competitive basis for the 6th annual meeting in Sweden. Details concerning applications for those awards will be printed in the January Newsletter.

ISCE Statement of Purpose Vigorously Debated at Meeting

At the June ISCE meeting in Athens, there was a vigorous debate on the subject of a new Statement of Purpose for the Society. This article reviews for the membership the issues that were raised and the Statements of Purpose that have been proposed, and provides the membership with an opportunity to offer their views in a non-binding straw poll (see insert).

The need for a new Statement of Purpose was raised in a letter written to the *Journal of Chemical Ecology* (Jones, C.G. 1988, 14:727-730) that was reprinted in the newsletter (May, 1988). In that same newsletter, Clive Jones submitted a proposed amendment to the Statement of Purpose with the intent of stimulating discussion (see A, Table 1). It was clear from feedback received by Jones, the newsletter editor, and from discussions with the members at the meeting that a broadening of the original Statement (see B, Table 1) was appropriate. Reasons most often cited included: The growth of chemical ecology as a discipline, increasing participation of scientists from diverse areas, and the absence of the term "ecology" in the original statement.

In Georgia, where the issue was first raised at the Executive/Council meeting, the need for a change was recognized. Various members of the Executive and Council in attendance noted that a new Statement should be broad, simple, and inclusive—not exclusive. The Statement should also be intelligible to the lay public as well as the rest of the scientific community. The Executive/Council debated the proposed amendment at length. Input was introduced from letters written to the newsletter editor and to Clive Jones. This resulted in another version that addressed the above concerns (see C, Table 1). It was this third version that was brought to the membership for discussion at the Society's business meeting.

Debate at the business meeting over this issue was vigorous. Because of time constraints, the issue was tabled and a special session was convened later in the meeting. Statements were solicited from the membership (see D, Table 1). All of the versions were collated and presented to about sixty scientists in attendance at the special session. Clive Jones summarized the history of the Statement and the issues at debate. The major points were: 1. The Statement might take the form of a concise, simple definition of both ecology and the type of chemistry we study, but not be self-defining (e.g., not contain the word "ecology"); 2. The Statement should avoid words with negative connotations to the general public (such as "substances" or "chemicals" without the rider "naturally occurring"); 3. An alternative approach could be to make a general Statement that described who we were and what we did, rather than attempt to provide a concise definition; 4. Any Statement that was selected would be accompanied by a brief,

separate paragraph providing a more detailed explanation of the areas of research.

A provisional, definitional Statement prepared by Jerrold Meinwald, Wittko Francke, and Clive Jones was presented (see E, Table 1). An alternative, general Statement prepared by Clive Jones and Jeremy McNeil was also presented (see F, Table 1). In addition, a statement of areas of research that could be appended to the Statement of Purpose was outlined by Jones and McNeil: "*Research areas include the study of structure, function, and biosynthesis of natural products, their importance at all levels of ecological organization, their evolutionary origin, and their application to social needs.*" All of the proposed Statements (Table 1) were debated at length. A straw poll showed that all but three of those in attendance preferred some version of Statement E (Table 1) prepared by Meinwald, Francke, and Jones. The three dissenting ballots favored some version of the Statement F by Jones and McNeil.

It was felt that Statement E was concise, broad, simple, avoided self-definition, explicitly included ecology (the definition of ecology is included in the Statement) and referred to the chemistry in an unambiguous, broad manner (it does not exclude inorganic chemistry). There was no clear consensus on the exact wording of this version, and because time was limited, it was decided that all of the Statements (Table 1) should be presented to the membership via the newsletter.

The membership is asked to carefully examine the Statements in Table 1 and the draft statement on areas of research and then to

offer an opinion by completing the non-binding straw ballot insert. The ballot and/or any comments should be returned to the newsletter editor, Nancy Targett by 1 December 1988.

The Statement of Purpose of ISCE is an important document that must reflect the current goals of the membership. It should encourage further growth of the field, as well as participation by scientists in ISCE activities. We urge the membership to make their views known.

Acknowledgments: We thank N. Targett and G. Likens for critical comment and the Mary Flagler Cary Charitable Trust for support. Contribution to the Program of the Institute of Ecosystem Studies, the New York Botanical Garden.

Clive G. Jones
Jeremy McNeil

Format for Annual Meetings

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these group interactions to be long enough to have the speakers interact and to have audience participation. *Third*, I think that our Symposia should not be run concurrently. This limits us to hearing only half the talks if there are two concurrent symposia, to a third if there are three. More importantly, concurrent symposia sessions limit the main mission of our ISCE, namely to extend our interdisciplinary horizons.

Lincoln Brower

Table 1. Current and proposed Statements of Purpose.

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|-------|---|
| A. | Amendment Proposed by Clive Jones (ISCE Newsletter, May, 1988): The ISCE is devoted to promoting ecological understanding of the origin, function, and significance of naturally occurring chemicals and the interactions that they mediate. |
| B. | Current ISCE version: The ISCE is devoted to promoting an understanding of the origin, function, and significance of naturally occurring chemicals that mediate interactions within and between organisms. |
| C. | ISCE Executive/Council Version: The ISCE is devoted to promoting understanding of the ecological significance, structure, function, and origin of naturally occurring chemicals. |
| D. | Membership Versions: |
| D. 1. | The ISCE is devoted to promoting ecological understanding of the origin, structure, function, and significance of naturally occurring chemicals and the interactions that they mediate. |
| D. 2. | The ISCE is devoted to promoting an understanding of the origin, structure, function, and significance of naturally occurring compounds which mediate interactions among organisms or groups of organisms. |
| D. 3. | The ISCE is devoted to promoting an understanding of the origin, structure, function, and ecological significance of naturally occurring chemicals and the interactions that they mediate in an ecological context. |
| D. 4. | The ISCE is devoted to promoting an understanding of the ecological significance of interactions between organisms mediated by naturally occurring chemicals. |
| D. 5. | The ISCE is devoted to promoting an understanding of the interactions between organisms in terms of the chemicals of natural origins involved, and aspects of the technological application of this information. |
| D. 6. | The ISCE is an association of scientists from diverse disciplines and viewpoints devoted to the discovery of unifying ecological and evolutionary principles through the elucidation of the structure, function, origin, and ecological significance of naturally occurring chemicals that modulate inter- and intraspecific interactions of organisms. |
| E. | Meinwald, Francke, and Jones Version: The ISCE promotes understanding of interactions between organisms and their environment that are mediated by naturally occurring chemicals. |
| F. | Jones and McNeil Version: The ISCE promotes interdisciplinary (or multidisciplinary) collaborative research on ecological interactions mediated by naturally occurring chemicals. |
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Upcoming Meetings

May 1-2, 1989. **Applied Statistics in Agriculture**, Kansas State University, Manhattan, Kansas. Conference will provide a forum to discuss statistical problems and solutions which have been motivated by agricultural problems. Contact for circular: Dr. George A. Milliken, Department of Statistics, Dickens Hall, Kansas State University, Manhattan, Kansas 66506 U.S.A.

August 2-7, 1989. **32nd IUPAC Congress**, Stockholm, Sweden. Featuring a section of Chemical Communication and Interaction between Organisms. Contact for circular: IUPAC, c/o Stockholm Convention Bureau, Box 6911, S-102 39 Stockholm, SWEDEN.

August 8-11, 1989. **6th ISCE Meeting**, Gothenburg, Sweden. Theme: Evolutionary Aspects of Chemical Ecology. Contact for circular: Dr. Gunnar Bergström, Department

of Chemical Ecology, University of Gothenburg, Box 33031, S-40033 Gothenburg, SWEDEN.

August 23-30, 1990. **International Congress of Ecology**, Yokohama City, Kanagawa Prefecture, Japan. Theme: Ecological Perspectives in the 21st Century. Contact for circular: Prof. Akira Miyawaki, Institute of Environmental Science and Technology, Yokohama National University, 156 Pokiwadai, Hodogaya-Ku, Yokohama 240, JAPAN.

ESC Honors John H. Borden

The Entomological Society of Canada recently announced that Dr. John H. Borden, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia, has been chosen the 1988 winner of the Society's Gold

Medal for Outstanding Achievement in Canadian Entomology.

Dr. Borden is being honored in recognition of his contributions to teaching of entomology in Canada and his pioneering research on the semiochemically-mediated communication systems of insects. His research group has identified the pheromones for 15 species, all of which are important in either forestry or agriculture. He also has made major contributions to our understanding of the role of plant volatiles in host location and has applied the results of his basic research to the establishment of effective management programs for bark and timber beetles.

He obtained his B.Sc. in 1963 from Washington State University and his M.Sc. and Ph.D. in 1965 and 1966, respectively at the University of California, Berkeley. He joined the faculty at Simon Fraser in 1966 where he now holds the rank of Professor. Dr. Borden is a life member of the **International Society of Chemical Ecology**.

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