NEWSLETTER

INTERNATIONAL SOCIETY OF CHEMICAL ECOLOGY

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IN THIS ISSUE

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Deadline for the next issue is May 25, 2005.

Secretary/Editor's Message

Details (see below) of the upcoming Annual Meeting have now been largely finalized, and the website (www.chemecol.us) is up and running and accepting registrations. Jeff Aldrich and his co-organizers have organized an outstanding meeting at a tremendous venue. I encourage you all to attend this meeting if possible. Not only will it be a great meeting for the scientific participants, but Washington DC is such an interesting city that I am sure it will be very rewarding and enjoyable for all the accompanying persons.

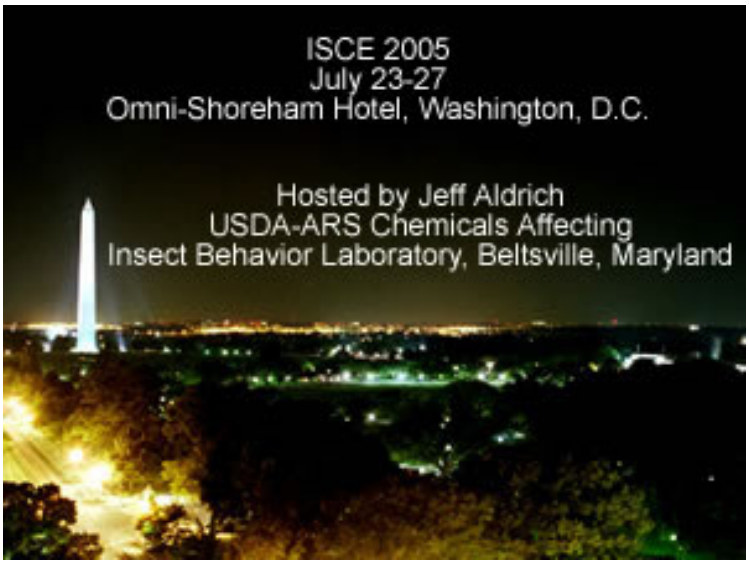
Elections for various Society positions are now underway. Please visit the website and vote for the various candidates at http://www.chemecol.org/forms/ballot/ballot2005.htm. This year we will have a new Treasurer, as Steve Teale has decided to step down from the demands of the position. Treasurer is probably the most demanding, and certainly the most responsible, position in the Society, as the Treasurer must deal with processing all the membership issues and finances of ISCE. In the years that Steve has served as Treasurer he has done a tremendous job in handling all these responsibilities as well as managing the Society's financial resources. The Society is in a very stable financial position thanks largely to Steve's efforts. I would like personally to thank him for the great work he has done over the years, especially over the last few years I have worked with him.

Finally, the past few months have been sad ones for the field of chemical ecology, with the passing away of four pioneers of the field: Jan Löfqvist, Miriam Rothschild, John Simeone, and Neil Towers. These people have not only had a great influence on developing the discipline of chemical ecology, but have also trained and inspired many of us working in the field today. They will be sadly missed. In this newsletter, we feature

obituaries honoring the achievements of three of these pioneers. John Simeone, because of his accomplishment in establishing the Journal of Chemical Ecology, will be remembered in an upcoming issue of the journal.

Stephen Foster,
Secretary, ISCE

Update on the 21st Annual Meeting of the International Society of Chemical Ecology to be held in Washington D.C. July 23-27, 2005



The 21st Annual Meeting of the International Society of Chemical Ecology will be held at the Omni Shoreham Hotel in Washington, D.C., July 23-27, 2005.
On-line registration and abstract submission is now open at www.chemecol.us, and program updates can be found at www.chemecol.org. The program is organized around special lectures and four symposia as follow:

Special Lectures:

I. Social: Jacques M. Pasteels (Universite de Libre Bruxelles, Belgium).
II. Silver Medal Award: James H. Tumlinson (Pennsylvania State University, University Park, Pennsylvania).
III. Silverstein Simeone Award: John Carlson (Yale University, New Haven, Connecticut).

Symposia:

I. Mosquitoes / Walter S. Leal – organizer.
1) “Reverse chemical ecology: Prospecting for oviposition attractants for Culex mosquitoes” – Walter S. Leal (University of California, Davis).
2) “Molecular basis of olfaction in Anopheles gambiae” – Linda Field (IACR-Rothamsted, Harpenden, Herts, U.K.).
3) “Trapping gravid Aedes mosquitoes with bacteria derived semiochemicals” – Coby Schal (North Carolina State University, Raleigh).
4) “Behavioral responses of Culex mosquitoes to oviposition attractants” – Ring Cardé (University of California, Riverside).
5) “Novel behavioral assay for mosquito deterrents” – Jerome Klun (USDA-ARS, Beltsville, Maryland).
6) “Immobilized odorant binding protein liquid chromatographic stationary phases: Going with the flow in chemical ecology” – Irving Wainer (National Institutes of Health, Baltimore, Maryland).

II. Insect-Plant Interactions / Wilhelm Boland & James Tumlinson – organizers.
1) “Plant-insect interactions in Arabidopsis: From transcript profiling to induced resistance” – Phillip Reymond (University of Lausanne, Switzerland).
2) “Genetically silenced defense responses: Consequences for the herbivore community composition on Nicotiana attenuate” – Rayko Halitschke (Cornell University, Ithaca, New York).

3) “Physiological and molecular adaptations stabilizing symbiotic ant-plant mutualisms” – Martin Heil (University of Essen-Duisburg, Germany)
4) Signals, effects, and specificity of volatile-induced plant defense responses” – Jürgen Engelberth (Pennsylvania State University, University Park).
5) “Chemical signalling in the microbial community of the lepidopteran gut” – Jo Handelsman (University of Wisconsin, Madison).
6) “Xenobiotic metabolism by caterpillars: inductions and deductions” –May Berenbaum (University of Illinois, Urbana-Champaign).
7) “MecWorm, a novel tool to study plant-herbivore interactions” – Axel Mithöfer (Max Planck Institute for Chemical Ecology, Jena, Germany).

III. Semiochemistry (in honor of Dr. Kyung Saeng Boo) / Allard Cossé, Thomas Baker & Jeffrey Aldrich – organizers. (full titles to be added)
1) “Overview of semiochemicals research and application success in Korea” – Kye Chung Park (Pennsylvania State Univ., University Park).
2) “PBAN and PBAN receptors” – Man-Yeon Choi (Iowa State University, Ames).
3) “Chrysomelid semiochemistry” – Allard Cossé (USDA-ARS, Peoria, Illinois).
4) “Heliothine moth olfaction” – Tom Baker (Pennsylvania State University, University Park).
5) “Catnip, aphids and lacewing predators: Tritrophic coincidence or confusion?” – Jeff Aldrich (USDA-ARS, Beltsville, Maryland).
6) “Sex pheromones of the navel orangeworm and Pyralis farinalis: the missing pieces to the puzzle” Jocelyn Millar (University of California, Riverside), Lodewyk P. Kuenen, and J.Stephen McElresh.

IV. Marine Biology / Nancy Targett – organizer (other speakers to be added)
1) “Sponge-microbe symbioses: model systems for integrating molecular and chemical ecology” – Robert Thacker (University of Alabama, Birmingham).
2) “Seagrass-pathogen interactions: attack by the wasting disease pathogen, Labyrinthula spp., causes the “pseudo-induction” of phenolics” – Thomas Arnold (Dickinson College, Carlisle, Pennsylvania).

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ISCE ELECTIONS, 2005 Candidates for ISCE Vice-President

Dr. Gary Blomquist is Professor in the Department of Biochemistry and Molecular Biology at the University of Nevada, Reno (UNR) and has served as the Department Chair for the past four years. After completing his PhD in biochemistry and chemistry at Montana State University in 1973, Gary was appointed as an assistant professor in the Department of Chemistry at the University of Southern Mississippi, where he served for four years before moving back out west to his present department at UNR in 1977. Gary is best known for his work on the biochemistry and endocrine regulation of pheromone production in insects, especially flies and bark beetles, and his work on hydrocarbons and lipid metabolism in insects. He co-edited two seminal volumes on insect pheromone biochemistry, one with Glenn Prestwich in 1987 (Pheromone Biochemistry) and one with Richard Vogt in 2003 (Insect Pheromone Biochemistry and Molecular Biology. Gary has published almost 200 papers in his career and has mentored 18 PhD students and a similar number of post-doctoral fellows have worked in his laboratory. Gary has received numerous awards for both his research and teaching, including election as Fellow of the American Association for the Advancement of Science in 1998, and serves on the editorial boards of Insect Biochemistry and Molecular Biology, Archives of Insect Biochemistry and Physiology and the Journal of Insect Science. He is an active member of ISCE and currently serves as a councilor. He hosted the very successful 2001 ISCE meeting that was held at Lake Tahoe. Gary's hobbies include competitive sports (he still plays softball and ping pong) and fishing. He and his wife Cheri have three grown children.

Dr. Steven J. Seybold is a USDA Forest Service Research Entomologist with the Chemical Ecology of Forest Insects Project located at the Pacific Southwest Research Station in Davis, California. Steve gained his PhD at The University of California at Berkeley under the supervision of Dr. David L. Wood (entomology) and Dr. Isao Kubo (natural products chemistry). His Ph.D. research explored the relationship between aggregation behavior of pine bark beetles and the enantiomeric purity of their chemical signals. In 1993 he moved to the University of Nevada, Reno, where, under the supervision of Dr. Gary Blomquist, he worked on the biosynthesis and molecular biology of bark beetle pheromones in the Department of Biochemistry. The work from this collaboration provided the first direct proof of de novo biosynthesis of pheromones in bark beetles, as well as investigating the endocrine regulation of the de novo pathway, the site of synthesis, and the cloning of the first gene involved with a pheromone biosynthetic pathway in any insect (HMG-CoA reductase). In 1998 Steve became an assistant professor in the Department of Entomology at the University of Minnesota, where he continued working on pheromone biosynthesis in bark beetles, while developing an applied research program on forest insect biology and management with chemical ecology as its centerpiece. In 2002 Steve returned to California to accept his current position with the USDA Forest Service. Steve's research is characterized by the breadth of his studies, ranging from molecular entomology to ecological approaches to pest management. Steve has been a strong participant in ISCE, attending annual meetings regularly and serving as an ISCE councilor from 2000-2003. Steve has served on the editorial board of Journal of Chemical Ecology, and will become an Associate Editor of the Journal in 2005.

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ISCE ELECTIONS, 2005 Candidate for ISCE Treasurer

Dr. Kenneth Haynes is currently a Professor in the Department of Entomology at the University of Kentucky, where he has been since 1986. He received a B.Sc. degree in Biological Sciences from the State University of New York at Binghamton in 1976. His Ph.D. was from the Department of Entomology at the University of California, Davis, where he worked with Professor Martin Birch on mating behavior and chemical communication in the artichoke plume moth. He then took a postdoctoral position with Professor Thomas C. Baker at the University of California, Riverside to work on the potential for evolution of resistance to pheromones in the pink bollworm moth. His research at the University of Kentucky focuses on the evolution of species-specificity of chemical communication in moths and aggressive chemical mimicry by bolas spiders. He teaches courses in Insect Biology and Insect Behavior. Together with Dr. Jocelyn Millar he edited two books on Methods in Chemical Ecology. He frequently publishes in and reviews articles for the Journal of Chemical Ecology and has been a member of ISCE since 1986.

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ISCE ELECTIONS, 2005 Candidates for ISCE Councilors

Dr Eduardo Nuno Barata is assistant professor at University of Évora (Portugal). Dr Barata studied biology at the University of Lisbon (1984–1988), where he also conducted research on the behavioral ecology of fish, under the supervision of Prof. Vitor Almada (ISPA; Lisbon). During this period he helped found the Portuguese Society of Ethology, of which he is currently a member of the Directorial Board and advisory editor of its scientific journal, acta ethologica. Following his undergraduate studies he conducted research on the dynamics of food recruitment behavior of ants in the laboratory of Prof. Jacques Pasteels at the Free University of Brussels. Upon his return to Portugal, Dr Barata was awarded a PhD grant by the Portuguese Foundation for Science and Technology and initiated research on the olfactory mechanisms underlying host-finding by the eucalyptus woodborer, at the University of Évora (UE), supervised by Prof. Jorge Araujo (1990–1996). This work involved collaborations with Prof. John Pickett (Rothamsted Research, U.K.) and Prof. Hanna Mustaparta (University of Trondheim, Norway). Following completion of his PhD thesis in 1997, Dr Barata joined the Centre of Marine Sciences of Algarve (CCMar; Faro, Portugal) as a post doctoral fellow. In late 1997, Dr Barata was recruited to his current position at UE. His diverse research interests at both UE and CCMar focus on the identification of aggregation pheromones in cork oak beetles, sexual behaviour and pheromones in freshwater and marine fish species, olfaction of calcium in freshwater and marine fish, and food-related odorants in marine flatfish.

Dr Anna Borg-Karlson is a Professor at The Royal Institute of Technology, Dept of Chemistry, Stockholm, Sweden. Dr Borg-Karlson's main research interest is the characterization of the diversity and evolution of chemical signals (chemodiversity) underlying insect perception, behaviour and insect host-plant preferences. This work involves the investigations on the biological role of plant volatiles, the biosynthetic pathways of butterfly antiaphrodisiaca, structure-activity studies of insect antifeedants and the identification of insect oviposition stimulants. She is also active in the promoting chemical ecology in high-school education in order to increase public interest in the natural sciences and "green chemistry". Dr Borg-Karlson publishes and reviews manuscripts in the Journal of Chemical ecology and is a regular attendee at ISCE Annual Meetings.

Vincas Buda, Assoc.Prof., Dr.habilitus. Head of Laboratory of Chemical and Behavioural Ecology at the Institute of Ecology, Vilnius University, Lithuania. Dr Buda graduated from Vilnius University in 1972, obtained his PhD in biological sciences from Moscow State University in 1981 and his Dr. habilitus from the Institute of Ecology, Vilnius in 1997. He was appointed to Vilnius University in 1987 where he teaches courses in, Applied Ecology, Chemical Ecology, and Behavioural Ecology. His research interests focus on chemical communication in animals and behavior. He has received numerous awards for his work including, the Lithuanian National Award in Science (2003), Fulbright fellowship (2002), Award of the International Science Foundation (Soros, 1993), and Award of Prof. Herring memorial Fund, The Natural History Museum, London UK (1992). He collaborates extensively with researchers from Estonia, Finland, Germany, Hungary, Russia, Sweden, and the USA.

Dr. Hiroshi Honda, Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan. Dr. Hiroshi Honda obtained his BS degree and MS degree at the Tokyo University of Agriculture in 1975 and the Tokyo University of Agriculture and Technology in 1977. In his MS program, he pioneered research on the chemical ecology of host-plant selection by swallowtail butterflies. He obtained his Ph.D. from the University of Tokyo with his thesis on the biosystematics of sibling species in the genus Conogethes (Pyralidae). As well as investigating chemo-ecological aspects of feeding and ovipositional responses among the sibling species of this genus, his work put an end to 60 years of taxonomic confusion on the Yellow peach moth complex. Before completion of a 3 year- doctoral program, he was invited to the University of Tokyo as an assistant professor in 1979. During this appointment he developed his expertise on other Pyralid pests, by distinguishing two sibling species in the genus Notarcha on the basis of differences in sex pheromones. Due to these contributions, he received the Prize for Outstanding Researcher from the Japanese Society of Applied Entomology and Zoology in 1993. In the same year, he moved to the University of Tsukuba as an associate professor of applied entomology. One of the recent prominent contributions in insect chemical ecology to emerge from his laboratory is the first identification of a contact sex pheromone in the longicorn beetle (Cerambycidae). Some of his recent research involves sex pheromones of mushroom flies and insect transgenesis to understand the molecular basis of insect / plant interactions. He is a member of both the ISCE and Asia-Pacific Association for Chemical Ecology (APACE).

Dr. Joachim Ruther is heading a working group in chemical ecology at the Institute of Biology, Free University of Berlin, Germany. After studying Food Chemistry at the Technical University of Berlin he finished his Ph.D. in flavor chemistry in 1994 and worked one more year as a lecturer at the Institute of Food Chemistry. In 1995 he joined the newly established chemical ecology lab of Prof. Monika Hilker at the Free University of Berlin and continued his work on bioactive natural products but exchanged the “target organ human nose” for insect antennae. In 2003 he obtained his Habilitation in Ecology at the Free University of Berlin. His scientific scope in chemical ecology is broad, covering analytical chemistry, insect behavior, electrophysiology and application of semiochemicals in the field. His major interest is the sexual communication of insects. His ongoing work on European scarab beetles established that plant chemicals may be used as primary attractants in mate finding of phytophagous insects and revealed the use of common arthropod defense chemicals as sex attractants. Dr. Ruther also works on the behavioral ecology of parasitic wasps and has published on the role of cuticular lipids in the chemical communication of social wasps. His teaching activities comprise lectures and practical courses on chemical ecology, insect ecology, and analytical chemistry. In 2004 he was one of the hosts of the 12th International Symposium on Insect-Plant Relationships (SIP-12) that was held in Berlin. He has been an ISCE member since 1997 and a frequent attendee of ISCE meetings. Furthermore, he is member of the German Entomological Society (DGaaE). He regularly publishes and

reviews papers in chemoecological journals including the Journal of Chemical Ecology and is currently a guest Associate Editor of Entomologia Experimentalis et Applicata.

Dr. Jeff Weidenhamer is professor of Chemistry at Ashland University, an undergraduate institution in north central Ohio, USA. He studied chemical ecology with Prof. John Romeo at the University of South Florida, where he received his Ph.D. in 1987 for studies of allelopathic interactions in the Florida scrub. He then spent two years as a post-doctoral researcher for Prof. Nikolaus Fischer at Louisiana State University before taking his current position. His research has focused on both the Florida scrub and on methodological issues in allelopathy research, and has shown that density-dependent phytotoxicity effects can be used to distinguish allelopathy and resource competition. His current research is focused on the use of polydimethylsiloxane materials to analyze chemical dynamics in the rhizosphere. A first paper on this approach appears in the Feb. 2005 issue of the Journal of Chemical Ecology. Dr. Weidenhamer frequently attends ISCE meetings, and regularly publishes in and reviews articles for the Journal of Chemical Ecology. He has been active in supervising a total of 25 undergraduate students in research in chemical ecology. Three of these students presented papers on their work at the 1998 meeting at Cornell University. He is currently secretary of the International Allelopathy Society.

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Meetings of Interest

The 3rd Asia-Pacific Conference of Chemical Ecology, organized by the Asia-Pacific Association of Chemical Ecologists (APACE), will be held in conjunction with the 5th Asia-Pacific Congress of Entomology (APCE) in Jeju Island, South Korea, October 18-21, 2005. It will be a wonderful opportunity for ISCE members to participate and interact in a beautiful Asian environment. For further information, please check website: http://www.pri.kais.kyoto-u.ac.jp/~APACE/

APACE 2005 Symposia Topics & Organizers (October 18-21, 2005)

A. Plant-Animal Interactions (adaptation and coevolution) Kotaro Konno (National Institute of Agrobiological Sciences, Japan) & Ritsuo Nishida (Kyoto University, Japan)

B. Semiochemicals - Chemistry (identification, activity, & synthesis) Shigefumi Kuwahara (Tohoku University, Japan) & Kenji Mori (University of Tokyo, Japan)

C. Semiochemicals - Physiology (identification, biosynthesis & regulation, & reception) Tom C. Baker (Penn State University, USA) & Walter Leal (University of California, Davis, USA)D. Animal social behaviour and semiochemistry Hiromi Sasagawa Ryohei Yamaoka (Kyoto Institute of Technology, Japan)

E. Semiochemicals - Practical Application Jia Wei Du (Shanghai Insitute of Plant Physiology & Ecology, China) & A.L. IL'Ichev (Primary Industries Research Victoria, Australia)

F. Chemical Communication, Behavior, Molecular Ecology, and Aromatheraphy Max Suckling HortResearch, New Zealand) & Jeremy McNeil (University of Western Ontario, Canada)

COHAB 2005

I am writing to invite your participation in COHAB 2005 - the First International Conference on Health and Biodiversity, which will be held in Galway, Ireland, from 23rd to 25th August 2005.This important international event will bring scientists, policy makers and stakeholders together from all regions of the world to address the issues linking the natural world with human welfare. An important session of the conference will discuss the value of wild flora and fauna to medical research - including pharmacognosy and chemical ecology. Other themes include the importance of biological diversity to ecosystem services, to agriculture, food security and human nutrition, and to drug discovery and economic growth. Full details of the conference can be found on the COHAB website, at www.cohab2005.com. The conference brochure can be downloaded at www.cohab2005.com/news.htm.

The COHAB Steering Committee includes a consortium of international development organisations and scientific research centres, and we would like to invite the participation of the members of the Society for Chemical Ecology in making this important international event a success.
We are particularly interested in receiving oral and poster presentations on the applications of chemical ecology, and on the chemical diversity of wild flora and fauna.

We would be grateful if you could help to promote the message of the conference with us, by circulating information on the conference to colleagues and researchers, if appropriate.I hope that the conference is of interest to you, and I would be pleased to discuss possibilities for collaboration with you on any aspect of the conference.

Kind regards,

Conor Kretsch, COHAB Director, Corporate House, Ballybrit Business Park, Galway, Ireland

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Books of Interest

The Chemistry of Pheromones and Other Semiochemicals II, Topics in Current Chemistry, Band 240, Schulz, Stefan (Ed.) 2004, Approx. 260 p. Also available online. ISBN: 3-540-21308-2

Contents:
W.S. Leal: Pheromone Reception
J. G. Millar: Pheromones of True Bugs .-
W. Francke, K. Dettner: Chemical Signalling in Beetles .-
P. Laurent, J.-C. Braekman, D. Daloze: Insect Chemical Defense .-
B.V. Burger: Mammalian Semiochemicals .-
S.R. Chhabra, B. Philipp, L. Eberl, M. Givskov, P. Williams, M. Cámara: Extracelluar Communication in Bacteria
The contents are available online at:
http://www.springerlink.com/app/home/issue.asp?wasp=2fa1yjmqqh3tp3lhktb6&referrer=parent&backto=journal,7,61;linkingpublicationresults,1:110311,1

'Biopesticides of Plant Origin' by C Regnault-Roger, B Philogène and C. Vincent is now available in English

after appearing in French and Spanish. It is published by Intercept (intercept@andover.co.uk) & Lavoisier (www.Lavoisier.fr). It can be ordered at: orders@springer-ny.com. Cost 100 euros.

Title: Trace and Ultratrace Elements in Plants and Soil
Authors: I. SHTANGEEVA, St Petersburg State University, Russia
Series: Advances in Ecological Sciences, Vol 20
Publisher: WIT PRESS, UK - http://www.witpress.com
Availability: Immediate
ISBN: 1-85312-960-7
Pages: 364pp
Price: US$218.00 / £136.00 / e204.00
Full contents details can be found at http://www.witpress.com/acatalog/9607.html

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Obituaries

Professor Jan Löfqvist died of cancer on 22 December 2004.

Jan Löfqvist started his career in chemical ecology at Lund University and at the Uppsala University field station, on the Swedish island of Öland. The research field of chemical ecology was young, and the visions were far reaching. The flow of enthusiasm and creativity was always present. Jan's main research field at the time was the chemical ecology of social Hymenoptera, where he worked on different aspects of ant alarm and defence behaviour. These studies later came to form the core of his doctoral thesis.
Already during his time on Öland, Jan had a clear vision of the components necessary to tackle principal research issues presented by the rapidly developing field of chemical ecology. His ambitions to create a basic structure of fundamental methodology were stepwise realised, both locally and nationally.

Although Jan started as a scientist interested mainly in fundamental questions, his overall ambition was to show that chemical ecology could be brought to an applied use and could offer alternative means to understand and control pest insects. This was the driving force behind projects on fruit orchard and forest pests and on other economically important insect species.

Jan was a born organiser with a capacity to structure not only scientific problems but also scientific work. This talent was further developed in the research programs he later coordinated. The first was "Odour signals for control of pest insects", which at its peak, involved more than 50 Swedish scientists and had a well-developed international network.

As professor at the Swedish University of Agricultural Sciences at Alnarp, Jan continued his work to formulate methods for insect management with semiochemicals. Here a large portion of the investigations took part within the nationwide Biosignal project that Jan again instigated and coordinated.

In 2001 Jan Löfqvist was awarded the Linnaeus prize in zoology by the Royal Physiographical Society in Lund for his achievements.

For us who over decades have had the privilege to collaborate with Jan, it was always impressive to see how well he prepared for different tasks. As a talented writer he had the capacity to describe scientific as well as administrative problems in a condensed and logic manner. Undoubtedly this was also a key to his administrative success, and his capacity to handle endless contacts with sponsoring agencies.

The decisive and structured mind could not hide the fact that Jan was a very warm person. This was expressed in care and encouragement of friends, collaborators and students. In combination with his strict decisiveness, there was always room for humour and fantasy.

For many years and in different constellations we have valued Jan as a friend and highly appreciated collaborator. He has created and been an important part of a group effort that can continue to prosper for many years, much thanks to Jan's fundamental work. We are mourning a friend and a colleague who was a pioneer in a field of research we all cherish.

Jan Pettersson, Hubertus Eidmann
Bill Hansson, Christer Löfstedt,
Gunnar Bergström, Marie Bengtsson
Hans-Erik Högberg, Torbjörn Norin

Miriam Rothschild 1908-2005 (the Honorable Miriam Louisa Rothschild, Honorary D.Sc., FRS, CBE, DBE)

Miriam Rothschild before receiving an Honorary D.Sc. from the University of Hull, UK, 1984 (Photo by the Brynmor Jones Library, University of Hull)

This obituary is both a tribute and some reminiscences.

I first met her in the late 1950's in the Zoology Department in Oxford when I was a graduate student working on plants. Until my discovery that Zygaena larvae were cyanogenic I was conscious that she was a frequent visitor to E.B. Ford's office along the corridor from my laboratory. She also spent time with Lincoln and Jane van Zandt Brower who were sharing a laboratory with me at that time. In addition to scientific matters, she and Ford (an extreme misogynist for whom Miriam Rothschild was an honorary male) were campaigning for relaxation of the very strict laws in the UK relating to homosexuality.

With J.F.D. Frazer, she had earlier reported on the unpalatability of Zygaena lonicerae moths to birds and bats and the presence of histamines at 'heavy concentrations' in this and other species. When Ford told her of my discovery, she was into my laboratory like a shot. While I was extending the study of cyanogenesis in these moths and found that the larvae could synthesise cyanogenic compounds de novo, Miriam gathered together other specimens so that we were eventually able to show the chemical relationship between the larval food plant (Lotus corniculatus) and insects at four trophic levels. This led to a short letter to Nature (with John Parsons). During

this time she taught me more about ‘doing’ science than any one else before - or since.

[Adolf Nahrstedt and Ray Davis later found that the Zygaena larvae can both sequester the cyanoglucosides from the plant (Lotus corniculatus) and synthesise exactly the same cyanoglucoside (linamarin) as the plant. To our disappointment, apparently lateral gene transfer was not involved.]

In the 1950's and early 1960's she was living in Elsfield Manor near Oxford, a manor house previously owned by John Buchan. In addition to her own children, she befriended a number of young people both as live-in guests and day visitors. On several occasions Hazel and I were invited to Sunday lunch. As a result of both the academic and social interactions I got to know her quite well. Eventually I presented her for an Honorary D.Sc. at the University of Hull and she kindly acted as a referee for me when I applied for the Chair of Botany at the University of Florida in 1987.

Miriam Rothschild was born in 1908 into a family of able financiers, able academics and of several eccentrics. These categories are by no means mutually exclusive. Her father, Charles Rothschild, and his elder brother, Walter, were the first members of this extraordinary family to break away from the traditional pursuits of politics, books, breeding animals, growing orchids, philately, dairy farming, medicine, social reform and numerous other activities, to turn their attention to natural history.

At Tring, Walter accumulated the largest collection of natural history specimens ever made by one person, while from Ashton Wold, near Oundle, Charles became senior partner in the family banking firm of N.M. Rothschild and Sons, started the Society for the Promotion of Nature Reserves (now the County Wildlife Trusts) and collected and described butterflies, wasps, beetles, parasitic bugs and ticks and particularly fleas from all over the world. He was a pioneer of nature photography and, as Miriam wrote of her father in 1979, ‘he also filled album after album with pictures of singularly empty desert landscapes’.

It was in this atmosphere of sustained activity that Miriam Rothschild was brought up, for she was educated at home. Her younger brother, the zoologist, was sent to Harrow and to Cambridge. Her father died when she was 15 and for many years she lived in the extended family household at Tring in Buckinghamshire. There it was naturally assumed by her Uncle Walter, 2nd Baron Rothschild, that she would be interested in what he was doing. Consequently her company was largely the adult world of the British Museum, the Royal Society and the staff of the Museum at Tring.

Encouraged by her mother, she worked with Harry Hopkins on some of her father's collections and almost exactly 30 years after his death published the first of a 6 volume catalogue of the fleas. At the same time, she was working with Theresa Clay on Fleas, Flukes and Cuckoos published in the Collins New Naturalist series in 1952. This was probably the first time that the general public interested in natural history had been faced with the facts about external and internal parasites.

The parasitic way of life involves an interaction between the parasite and the host and inevitably requires the study of both organisms. Her extensive work on chemical interactions between species was based on a sound understanding of these processes and on her interest in the defence mechanisms of warningly-coloured insects.

Miriam Rothschild had an enormous capacity for hard work and an outstanding ability to enthuse and organize anyone whose interests are even only remotely similar to her own. Furthermore, if this paraphrase of aphorisms of Thomas Carlisle and others is to be believed ‘A genius is someone who has an infinite capacity for taking pains’, then Miriam Rothschild was a genius. I saw this with the intensity with which she searched out both the specimens and the relevant ‘literature’ when we were working up the Nature note.

She has acted as liaison between several schools of entomology, biochemistry and pharmacology by hawking her ideas round the world, discussing them with people and asking help and advice in return. This has resulted in a world-wide spontaneous collaborative programme of work on the various secondary compounds in plants and in animals that appear to be used in defence against herbivores, parasites and/or predators. The array of substances with which Miriam Rothschild and her collaborators have worked includes cyanogenic glucosides and hydrogen cyanide, carotenoids, cardenolides, pyrazines, acetylcholine, pyrrolizidine alkaloids and other alkaloids, histamine, and cannabinoids from Cannabis sativa. Many of these collaborators are members of ISCE. She normally numbered the reprints of her papers, but the last one I received (with Anat Barnea, J. Zool. 2002) was certainly way over the 350 mark.

Although she has held several honorary appointments, her laboratory has always been at her home; indeed in her bedroom. Throughout her life, she has always been jealous of her amateur status although her work is more professional than that of many professionals. As her daughter Rozsika Lane wrote... 'The amateur status permits the assumption that work, since it is unpaid, is not really 'work' at all, but pure pleasure; consequently everyone can be roped in to participate and if very long hours are involved, obviously the pleasure is automatically prolonged...'

When she was awarded the CBE in 1982, the citation was ‘for services to taxonomy’. She wrote in reply to my congratulatory letter ‘ ... since among my 270 papers there are none dealing with taxonomy I imagine this was for ringing up the Minister (while I was a trustee of the British Museum) threatening to camp in The Mall unless fire doors were installed between the spirit building and the bird collection’. I suggested that the people who write these citations thought that ‘for services to fleas’ or ‘for services to parasites’ would be misunderstood. Following her election to The Royal Society in 1985, she wrote to me ‘I was astounded at the election since quite apart from the dubious quality of the work, I thought I had blotted my copybook irreversibly with that august body.’

In the late 1980's Miriam Rothschild announced her retirement. When most people retire they hope to do all those things that they wanted to do while they had to work. When you have spent your life doing what you wanted to do, what then do you do when you retire? What happened is that she had retired from active work in the field of chemical aspects of plant/animal interactions - although Ritsuo Nishida, Peter Waterman, and others would probably deny that. Her new interest would have appealed greatly to her father. She was now thoroughly involved with various projects on nature conservation, particularly with the native flora of meadows. In 1984 she collected 80kg of wild flower seeds from the estate at Ashton Wold, named the mixture ‘The Farmer’s Nightmare’, and in 1985 donated it to a campaign for restoring ancient English meadow species to the landscape and particularly along roadsides.

To read more about the life of this most dynamic and captivating person see The New Yorker of 19 October 1987, the magazine section of The Observer of 12 August 1984 or Current Contents of 23 April 1984.

David A Jones

There will be a memorial service for The Hon Dame Miriam Rothschild CBE FRS at the Liberal Jewish Synagogue, 28, St John's Wood Road, London NW8 7HA (England) on Thursday 7th April 2005 at 6.00pm. The contact person is Charlotte Lane, N.M.Rothschild & Sons, New Court, St Swithin's Lane, London EC4P 4DU.

PROFESSOR GEORGE HUGH NEIL TOWERS, PH.D., F.R.S.C
(September 28, 1923 - November 15, 2004)
Botany Department, University of British Columbia,

Vancouver, BC, Canada

Neil Towers, a well known phytochemist, chemical ecologist and Professor at the University of British Columbia, passed away at age 81 on November 15th, 2004 in Vancouver from medical complications which developed during October. Neil was in fine spirits just months before in the summer when he delivered the keynote banquet address at the joint ISCE PSNA conference in Ottawa, entitled ‘The role of natural products in natural history”..

Neil was born in Burma (now Myanmar) where he grew up in the tropical forest collecting insects, plants and poisonous snakes. After serving in the Royal Indian Navy Volunteer Reserve, he was awarded an Ajax scholarship to study in Canada. He obtained his B.Sc. and M.Sc. from McGill University where he studied with phytochemist Darnley Gibbs, and his Ph.D. from Cornell University where he studied with F.C. Steward. After academic appointments at McGill and the NRC in Halifax, he moved to UBC, where he served as Head of the Department of Botany from 1964-71. Thereafter he remained as professor of Botany and active researcher for the rest of his career.

Neil’s lab could only be described as a colourful and exciting place full of interesting people, organisms and artifacts of all types. The latter included his ethnobotanical artifacts, indigenous peoples postcard collection and cultures of erotic fungi. He worked on a fascinating array of topics including phototoxins from plants, hallucinogens from fungi, chemical defenses of centipedes, insect antifeedants, antibacterial and antiviral substances, and ethnomedicines. As a pioneer in the field, Neil was passionate about why plants produced biologically active substances, long before the field of Chemical Ecology was developed as a discipline.

Neil was a Fellow of the Royal Society of Canada, from whom he received the Flavelle Medal in 1986. He received numerous research awards and prizes over his career. Most recently, he was awarded the Pergamon Phytochemistry Prize in 2000, and in 2001 was recognized by ISI as one of UBC's (and the world's) most highly cited scientists. He published more than 425 papers and book chapters, starting with a 1953 paper in Nature.

Neil’s greatest contribution was the large number of students, postdoctoral fellows, and researchers from all parts of the world to whom he gave the gift of enthusiasm for science and the natural world. Neil will be greatly missed by his wife Elizabeth and 8 children as well as many friends and colleagues.

John Arnason

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Member News

John Pickett, who has been elected a Foreign Member of the Royal Swedish Academy of Agriculture and Forestry, is presented with the award by the President, Professor Mårten Carlsson, at the 192nd Commemorative Meeting in Stockholm on 28th January, at which Princess Lilian represented the Swedish Royal Family.

TOP

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