ANNUAL NEWSLETTER

Department of

Entomology

University of Illinois

Urbana, Illinois

April, 1969

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It's Newsletter time once again and we are delighted to bring to you a brief report on the activities of the Department. It appears that each year we push the Newsletter back a month. The rationale may be that if we keep moving it back a month we might skip an entire year, but we are happy to share with you the developments and advancements that are being made at Illinois.

The cover this year depicts some of the complexity of research instrumentation in the field of Entomology today. We have tried to indicate on the cover some of the equipment that we have available. We feel that we have the outstanding Department in the country and are in a position to offer to students the very best facilities to study Entomology. Insects are being used more and more to study biochemical, physiological, behavioral and ultrastructural phenomena. The Department now completely housed in new facilities boasts the finest in modern equipment and staff and we encourage you to send your students to the University of Illinois.

We must, of course, give credits to our stalwart band of researchers who so willingly posed for the editor for this year's cover. At the sintillation counter is Dr. Stan Friedman, actively engaged in the study of biochemistry of insects. At the electrophysiological set-up is Willard Woodward, a student of Dr. James Sternburg, working on the effects of DDT on chemosensory receptors. At the automatic tritrator is Bill Campbell, graduate student of Dr. Clyde Kearns, working on cholinesterase.

Standing at the constant temperature cabinets is Gary Eertmoed, a student of Dr. Richard Selander, who is actively engaged in a research program on the study of diapause and behavioral relationships in the Meloidae beetle (also photographer for the cover). The electron microscope is where your fearless editor works on the ultrastructure of sensory receptors.

As one more Newsletter year comes to a close, the editor takes the opportunity to thank those faithful gals in the office without whose help and consideration this tome would never come to pass. We are most grateful for the willingness and excellent service that our office staff gives to the entire Department. Ruth Plymire, our executive secretary, with her associates Judy Michael and Carolyn Thrasher. Also a word of thanks to the students, fellow colleagues and all of the alumni who so willingly share their activities of the past year. Until next year then, best wishes.

The Editor

MESSAGE FROM HEAD OF DEPARTMENT

One of the most pleasant occasions of the past year was the Illini Breakfast which we had at the Dallas meetings of the Entomological Society of America. A total of fifty-two alumni attended the breakfast and from the favorable comments we received we have decided to make this an annual affair. I feel that much of the success of the event was due to the fact that you received notice from Joe Larsen in advance of the meeting concerning the time and place of the breakfast. We will continue this procedure in future years and look forward to many more pleasant meetings.

We hope that you are making plans to attend the forthcoming meetings of the Entomological Society of America which are to be held in Chicago, December 1-4. We urge you to include in your plans either before or after the meetings a trip to Urbana for a visit with us and a chance to see some of the impressive changes which have taken place in the University and the community.

Sincerely,

C.W. Kearns
Head of Department

ACTIVITIES OF THE SCHOOL OF LIFE SCIENCES

In our report of Departmental activities it is most fitting that we stop and consider the activities of the School of Life Sciences of which the Department of Entomology is proudly a member. One sees a great deal of progress in the School of Life Sciences with increased involvement in the biological programs. At the initiation of the School of Life Sciences at the University of Illinois the rationale was promulgated that the School would become a framework for inter-departmental programs and the development of interdepartmental disciplines allowing the bringing together of the facilities of the various departments in unified concepts of biological science and we are certainly seeing fruition of this under the directorship of Dr. Reno Kallio.

From the early beginnings of the honors biology curriculum followed by a basic core course in Biology, the School of Life Sciences has now taken over the old DGS sequence and under the direction of Dr. George Keefer has developed an excellent audio-tutorial program in basic biology for non-majors. This is developing into an extremely popular offering, drawing some 900 plus students, using the modern concepts of audio-tutorial teaching and developing an excellent program for non-majors in the biological science. Also we have seen such interdisciplinary programs developed as the cell biology program, which is an extremely active group administering a large training grant and recruiting excellent students. This program is directed by Dr. Leon Campbell and is a model for future interdisciplinary programs in the School. The genetics group on campus, including the people in the College of Agriculture and Vet. Medicine and the School of Life Sciences, has banded together to develop an interdisciplinary program in genetics. Just recently a new program in neurobiology under the direction of Dr. Ladd Prosser has been approved on an interdisciplinary basis, drawing not only from the various departments of the School of Life Science but also the very active group (Jerry Hersch and his colleagues) from the Department of Psychology. There is also now in an active stage a formation for the development of an interdisciplinary program in environmental biology. Dr. Robert Metcalf, new Head of the

Department of Zoology, is actively involved in formulating the plans for this new group.

I think this year the key phrase from the activities of the School of Life Sciences would be the development and bringing to fruition of these very excellent interdisciplinary programs, utilizing the research facilities and the excellent faculty and staff of all of the departments of the School of Life Sciences. As you contemplate sending your students to the University of Illinois for graduate study, keep in mind that not only do the various departments still exist and exhibit a great deal of strength and stature in the scientific community but also there are interdisciplinary programs which allow students to cut across departmental lines and gain excellent training in the biological sciences.

The School of Life Sciences has recently addressed itself to the problem of establishing a new doctoral program in the teaching of the biological sciences. This degree would be a doctor of teaching arts, similar to the program recently established at the Carnagie-Melom Institute. If one were to summarize the activities of the School of Life Science it would be one of a dynamic institution continually sending out pseudopodia in search of new ideas and the exploration of new concepts in the continual desire to completely encompass all that is good at the forefront of research in the biological sciences. We share with the other departments in the school our pride in being associated with this organization and are grateful to Dr. Reno Kallio for another successful year within the school framework. The facilities instrumentation and Physical Plant with its accompanying faculty cannot be excelled.

Departmental Roster 1968-69

Faculty

Balduf, Walter V. - Professor of Entomology, Emeritus

Chadwick, Leigh E. - Professor of Entomology, Emeritus

Decker, George C. - Professor of Entomology, Emeritus

Fraenkel, Gottfried S. - Professor of Entomology

Friedman, Stanley - Professor of Entomology

*Ghent, Arthur W. - Associate Professor of Entomology

Hayes, William P. - Professor of Entomology, Emeritus

Horsfall, William R. - Professor of Entomology

**Jaycox, Elbert R. - Associate Professor of Apiculture

Kearns, Clyde W. - Professor of Entomology and Head of Department

***Larsen, Joseph R. - Professor of Entomology

Luckmann, William H. - Professor of Entomology and Head of Economic Entomology Section

MacLeod, Ellis G. - Assistant Professor of Entomology

Metcalf, Robert L. - Professor of Entomology and Head of Zoology Department

Milum, Vern G. - Professor of Entomology, Emeritus

Ross, Herbert H. - Professor of Entomology and Head of Faunistic Survey

Selander, Richard B. - Professor of Entomology

Sternburg, James G. - Professor of Entomology

Waldbauer, Gilbert P. - Associate Professor of Entomology

Willis, Judith H. - Associate Professor of Entomology

* - Joint Appointment with Zoology
** - Joint Appointment with Horticulture
*** - Joint Appointment with Physiology and Biophysics

Research Associates

Bhaskaran, Govindan

Bhattacharya, A.K.

Davies, Hugh

Ronquillo, Consolacion (Nen)

Zdarek, Jan

Research Assistants

Brattsten, Lena B.

Campbell, William R.

DeWitt, Jerald

Eertmoed, Gary E.

Fox, Michael

Hamilton, Andrew

Harris, Todd

Kan, Lu-ping

Kapoor, Inder

Nordin, Gerald

Penny, Norman D.

Pierce, Henry

Sangha, Gurcharan Kaur

Sell, Douglas

Sprenkel, Richard K.

Wilson, Thomas

Wu, Ming-fu

Yu, Ching-chieh

Teaching Assistants

Ameel, John J.

Benson, Robert L.

Casaburri, Angelo

Krone, Larry

Lee, An-horng

Lipsey, Richard

Scarbrough, Aubrey

Weddle, Richard

Woodward, Willard

Trainees and Fellows

Burrell, Dudley - Fellow

Chang, Franklin - USPH Trainee

Cupp, Eddie W. - USPH Trainee

Denlinger, David - NDEA Fellow

Dirks, Tobias - USPH Trainee

Dunwoody, John E. - Cell Biology Trainee

Gardner, Francis - Cell Biology Trainee

Morden, Robert - USPH Trainee

Nigg, Herbert - USPH Trainee

Olson, Jimmy K. - NDEA Fellow

Randall, Robert F. - USPH Trainee

Rustand, James L. - NDEA Fellow

Sanburg, Larry Lee - NDEA Fellow

Sheldon, Joe - NDEA IV Fellow

Voorhees, Frank Ray - U of I Fellow

Students not on Staff

Allen, Tom (in absentia)

Berrios-Ortiz, Angel

Bouseman, John K.

Diem, Michael H.

Fowler, H. Wade, Jr.

Hsieh, Feng-kuo

Hudson, Joseph W., Jr.

Kuhlman, Donald E. (Instructor, Entomology Ext.)

Molina, Adolfo

Moretti, Louis J.

Randell, Roscoe (Instructor, Entomology Ext.)

Singh, Zile

Wilson, Gary R.

Yamamoto, Toshio (in absentia)

Non-Academic

Duvall, Eloise

Fisher, Mary

Michael, Judy

Millholin, E. Ruth

Plymire, Ruth A.

Ransom, Terry

Thrasher, Carolyn

Wright, Grace

Yeh, Shaw-mei

Student Employees

Meyer, John R.
O'Neill, Patricia L.

Wojtowicz, Patrick J.
Broadbent, Alan H.

VISITORS TO THE DEPARTMENT

March 20, 1968

Dr. Marshall Laird
Head, Department of Biology
Memorial University of Newfoundland
St. John's, Newfoundland
Canada

May 9, 1968

Dr. Stanley Beck
Department of Entomology
University of Wisconsin
Madison, Wisconsin

September 4, 1968

Dr. Peter N. Usherwood
Department of Zoology
University of Glasgow
Glasgow, Scotland

December 9, 1968

Dr. L.M. Roth
Entomology Group
Pioneering Research Lab
Natick, Massachusetts

SPORTS REVIEW

This year the department fielded only two athletic teams. Although we did not have the top teams in the league, a great time was had by all who participated.

Last summer ('68) the "Flycatchers" once again took the field in the Faculty-Staff softball league. Incidentally, in the field is where we spent the major portion of each game. In our supreme effort to stay out of the cellar, the "Flycatchers," with Frank Chang at the helm, compiled an amazing two win and four loss record. We are all eagerly awaiting the start of softball this spring. With all of the new people in the department who have expressed an interest in playing, we should field a very fine team. The team will have a new pilot this year, Toby Dirks.

Winter found another group of hardy creatures on the basketball courts; they were called the "Dung Beetles." As the name might imply, we couldn't seem to get the ball off the floor and into the hoop. Even though we didn't win any games, we did manage to get a few people in shape for the coming softball season.

Arrangements are being made for an athletic banquet, in which miniature ball gloves (with a large hole in the center) will be given to the members of the softball team and three carat, gold plated "dung ball" tie clips for the basketball players. For the handball players we have tubes of "Infra-Rub" and for the golfers we have hand counters (which cease to function after two strokes over par).

To our fans and well-wishers we sincerely hope that you will "Keep the Faith."

CHRISTMAS PARTY

The Christmas Party this year was held at the University Club on December 11, 1968, from 8-11 p.m. We again used the "bar system" which proved to be successful last year and the punch bowl.

This year the Christmas Party was not as successful as it has been in the past due to the lack of interest shown by the graduate students. Therefore, the "next" Christmas party will be left in the hands of the students and their wives to organize.

RECENT GRADUATES

Robert Thomas Allen - 1969

Robert Thomas Allen was born December 14, 1939, in Farmerville, Louisiana. Tom grew up in Farmerville where he attended the Farmerville High School, graduating from there May 28, 1958. In September, 1958, Tom started his university career at Northeast Louisiana State College, which he attended for two years. After two years at Northeast, Tom transferred to the Louisiana State University and Agricultural and Mechanical College where he received his Bachelor's Degree in 1962. Tom stayed on at Louisiana State where he received a Master's Degree in Entomology in 1964. In 1964, Tom applied and was accepted to the University of Illinois, Department of Entomology, where he came to do graduate work at the Natural History Survey under the direction of H.H. Ross.

While Tom was completing his graduate studies at the University of Illinois he spent one summer studying biology and evolution of tropical insects at the Organization for Tropical Studies in Costa Rica. Tom did his graduate research under the direction of Dr. H.H. Ross, working on the systematics and evolution of the Carabidae (Coleoptera) especially the genus Loxandrus. He completed his thesis work in January of 1969.

In August of 1968, Tom assumed a position on the faculty as Assistant Entomologist in the Department of Entomology at the University of Arkansas. He is now a member of that department and is busy teaching not only entomology but working with undergraduate biology courses and carrying on his research. He is at the present time working on projects involving biological control of economic insects. Tom is a member of the Entomological Society of America.

Robert L. Benson - 1969

Robert Leland Benson was born October 27, 1941, in Tuscon, Arizona. Bob soon deserted the sunny climate of Arizona for Claremont, California, where he spent most of his youth attending Claremont High School from which he graduated in June of 1959. In September of 1959, Bob entered Pomona College where he graduated in 1963, receiving a Bachelor of Arts

experience before coming to the University of Illinois. He spent a summer session at the University of Colorado in July and August of 1961. He also spent a summer session studying entomology at the University of Michigan Biological Station in 1962-63. Bob was admitted to Stanford University in September, 1963, to work on a Ph.D. in biology. He stayed only one year at Stanford and then came to the University of Illinois in 1964 to pursue the Ph.D. While an undergraduate student at Pomona College, Bob majored in botany and biology and had adequate background in chemistry. While a graduate student at Stanford University, he held a teaching assistantship, teaching classes in both botany and cellular physiology. He was also recipient of a graduate teaching award at Stanford University.

While a graduate student here at the University of Illinois, Bob also held teaching and research assistantships in the Department of Entomology. Bob's interest in entomology stems from childhood when he started a personal collection of Anisoptera. He continued his interest in this and now has a collection of some 2,000 specimens from 47 states. While he was a graduate student here at the University of Illinois, Bob was active on the University rugby and soccer teams and was also very active in departmental sports. Bob did his graduate work under the direction of Dr. Stanley Friedman. He worked on metabolism in insects; the title of his thesis was "Synthesis of glucosamine-6-phosphate by the housefly, Musca domestica." On the completion of his thesis research in December, Bob left Illinois where he accepted a postdoctoral position with Dr. Bertram Sacktor at the National Institute of Health in Washington, D.C., where he will continue his research in insect biochemistry.

William J. Patterson - 1968

William J. Patterson was born October 30, 1925, in Ford, Kansas. Bill grew up in Ford, Kansas, where he attended grade school and later moved to Manhattan, Kansas, where he attended Manhattan High School graduating from there in 1945. At that time Bill entered the Kansas State College of Agriculture and Applied Science in Manhattan where he received a B.S. Degree in entomology in 1949. He received a Master's Degree in public health from Tulane University in 1958. Bill entered

under the direction of Dr. William Horsfall. His thesis research was on the histopathology of the developing reproductive system of Aedes stimulans under thermal stress. Bill came to the University of Illinois from a tour of duty with the 485th Medicine Unit. Bill is a career man in the Army. He is currently holding the rank of Lt. Colonel in the Medical Service.

In March 1968, Bill was assigned to Vietnam where he is serving as the Medical Entomology Consultant to the Surgeon, U.S. Army Vietnam. In this capacity, Colonel Patterson is the principal director of all aspects of the U.S. Army entomological program in Vietnam. Bill's tour of duty in Vietnam will be completed in April 1969 and it is expected that he will be assigned to the Medical Entomology Information Service, Forest Glen Section, WRAMC, Washington, D.C. 20012. His current address in Vietnam is as follows: LTC William J. Patterson, Office of the Surgeon, HQ US Army, Vietnam, APO San Francisco 96375.

John D. Pinto - 1968

John D. Pinto was born December 10, 1940, in Illinois. However, he soon forsook the state of Illinois where he moved with his parents to Banning, California, where he attended Banning High School, graduating in 1958. Upon graduation from high school, John entered Humboldt State College where he graduated with a Bachelor's Degree in Zoology in 1963.

While still an undergraduate at Humboldt he was working on a National Science Foundation research problem under the direction of Dr. David Lauck, a former graduate of the University of Illinois. His interests in entomology grew while working on qualitative analyses of insects inhabiting the soil in the Redwood Forest in California. He also had teaching experience as an undergraduate assisting in the laboratory courses of general biology and general botany at Humboldt State College.

John came to the University of Illinois in the fall of 1963 commencing graduate study under the direction of Dr. Richard Selander. While a student here at the University, John was the recipient of a U.S. Public Health Service pre-doctoral fellow in entomology which he held during his entire tenure as a graduate student. John worked on the taxonomy and biology of Meloe. His thesis was "Bionomics and taxonomy of Meloe (Coleoptera: Meloidae) with a classification of the New World species." Upon completion

of his thesis research John accepted a position at San Luis Obispo State College in their department of Biology. He is presently residing in San Luis Obispo, California.

Maria C. (Nen) Ronquillo - 1968

Nen Ronquillo came to the University of Illinois from Manila in the Philippine Islands, where she was born and has lived all her life. She did her undergraduate education at the University of the Philippines where she received an Associate of Arts in 1948 and a Bachelor of Science Degree in 1950. From 1950-1963 Nen was employed by the University of the East in Manila in the Philippine Islands. From 1950-55 she served as an instructor and from 1955-63 as an assistant professor at the University of the East.

In 1963 Nen came to the United States where she enrolled in the University of Illinois in the Department of Zoology. Her first work at Illinois was the completion of a Master's Degree under the direction of Dr. Watterson where she did research in experimental embryology of the chick. On completion of her Master's Degree, Nen transferred into the Department of Entomology and pursued graduate work under the direction of Dr. William Horsfall. Her thesis research had to do with the determination of the effect of temperature on the development of female characters in male mosquitoes. The title of Nen's thesis research was "Organogenesis of female reproductive system of an aedine mosquito." Upon the completion of her Ph.D. in 1968, Nen stayed on at Illinois where she accepted a post-doctoral position on the U.S. Public Health Training Grant where she is continuing her research on growth and development of mosquitoes.

Nen has been extremely active in the Philippine Scientific Societies. She was a member of Phi Sigma, The Philippine Association for University Women, and the Philippine Association for the Advancement of Science. She is also a member of AAAS and an advisor to the University of the East Alpha Biological Society from 1958-63. We are delighted to have Nen's pleasing personality and scientific expertise continuing on here at Illinois.

George Robert Wilson - 1969

George Robert Wilson was born April 16, 1936, in Baltimore, Maryland. He attended high school at the Baltimore City College in Baltimore, Maryland, where he graduated in June 1954. Upon graduation George entered Johns Hopkins University where he received his B.S. degree in 1960. While an undergraduate, George worked in the laboratories of Dr. Charles Hassett at the Army Chemical Center in Edgewood, Maryland, and also worked in the laboratories of Dr. Hans Laufer at Johns Hopkins. He worked on the anti-serum of protein fractions of cecropia blood.

George entered graduate school in the department of entomology at the University of Illinois in September 1961. George spent the first part of his graduate career in the entomology department working on cholinesterase under Dr. Kearns and pursued a problem he was unable to solve due to technical difficulties. In 1964 he began doing research under the direction of Dr. Joseph Larsen where he worked on insect hormones. He completed his research in January of 1969. George worked on diapause termination in the tobacco hornworm working out deep diapause, diapause maturity, and the effects on diapause of response to the hornworm photoperiod and wounding. Upon completion of his thesis, George accepted a post-doctoral fellowship with Dr. Stanley Beck at the University of Wisconsin where he is continuing his research studies on insect diapause.

PRESENT ENTOMOLOGY GRADUATE STUDENTS

John J. Ameel

As I passed my prelims in June, my time has been spent partially on research on food utilization by the Cadelle (Tenebroides mauritanicas) and teaching biology laboratories.
Advisor: G.P. Waldbauer

Angel Berrios-Ortiz

Although no formal research has been attempted a lot of time has been devoted to collecting and classifying immature forms. An immature insect collection has already been started with the help of students in entomology courses.

Very warming to have a chance of knowing about entomology department professors and students. Next September I will be back at Illinois for some more studying. [Taken from alumni news comments sent to the Newsletter Committee.]
Advisor: no advisor officially assigned yet.

Dudley (Doug) Burrell

I received my B.S. from Olivet Nazarine College at Kankakee, Illinois. I began studying for my M.S. at the University of Illinois in September 1968. I hope to teach at the college or high school level. I am interested in behavior and ecology. My research problem has not yet been selected. I am married and have one child.
Advisor: J.R. Larsen and/or J.G. Sternburg

William R. Campbell

Regarding my research -- it looks like maybe we will get some answers regarding fly acetylcholinesterase and its differences with the ell enzyme. Hope to be finished by June. Hoorah!

Publications (in preparation) -- Some properties of flyhead acetylcholinesterase.

Question? Does anyone know of a job?
Advisor: C.W. Kearns

Angelo Casaburri

Activities this year include course work -- among which is electron microscopy. Big major events are all my deficiencies are almost made up, except for calculus. I now have a new classification, 1A, complete with physical. Wonder what they'll do to me next?
Advisor: J.R. Larsen

Franklin Chang

I'm in the process of finishing my thesis in absentia at Alma College, where I am presently employed. Most of my time since the last newsletter was taken up by research. However, I took out some time in November to adjust to a new addition to the family, a baby boy.
Advisor: S. Friedman

Eddie W. Cupp

I am currently involved in thesis research and a separate investigation using the scanning electron microscope. During January and February of 1968 I was the recipient of an LSU-Interamerican Fellowship in Tropical Medicine which allowed me to travel in Central America and Mexico. This was quite a rewarding and educational experience. I went to the ESA National Meetings in Dallas this year.

Other than the travel mentioned above my activities have largely been in finishing Ph.D. degree requirements. I was the co-author of a paper entitled "Anomalous Dimorphism in Aedes vexans (Diptera: Culicidae)" which has been submitted for publication to the Annals of the ESA. We have a new addition, Eleanor, who arrived on November 26.
Advisor: W.R. Horsfall

David Denlinger

Course work has occupied most of my time this past year, and I suppose it will continue to do so until the end of the spring semester.

My draft board reclassified me, but a few letters and an appeal evidently made them reconsider my case. They have now given me two years to get my degree, so I have to make my minutes count.

My wife, Judy, is enjoying her year as a first grade teacher at Robeson Elementary School in Champaign.
Advisor: G.S. Fraenkel

Jerald DeWitt

During the past year I have attended the North Central Branch Meetings in Denver, Colorado, and have vacationed in Florida and Minnesota. Research has continued on the diapause of the alfalfa weevil under the guidance of Dr. Edward J. Armbrust.
Advisor: W.H. Luckmann

Tobias Dirks

The past year was largely devoted to research into Polistes venoms. Some collecting trips and attendance of the Dallas Meetings afforded respite.
Advisor: J.G. Sternburg

John E. (Ernie) Dunwoody

I arrived at Urbana in September after working on the synergism of organophosphate insecticides to German cockroaches at UPI. I am currently a Cell Biology program trainee and plan to center my research around some specific aspect of enzyme regulation. Until then course work remains the primary concern.
Advisor: Cell Biology

Gary E. Eertmoed

Except for attending the meetings of the Entomological Society of America, I spent my entire last year doing research for my thesis.
Advisor: R.B. Selander

Harland Wade Fowler, Jr.

I was promoted to Lieutenant Colonel (US Army Medical Service Corps) during 1968. I am now in the final phase of my research on the bionomics of Aedes vexans and plan to take my final examination in May or June 1969. During 1968, Eddie Cupp and I collaborated on a paper entitled "Anomalous dimorphism in Aedes vexans", which was submitted for publication in the Annals of the Entomological Society of America. I participated in the 1968 meeting of the Entomological Society of America in Dallas, Texas, and presented a paper entitled, "Colonization of Aedes vexans."
Advisor: W.R. Horsfall

Michael Fox

During the past year I have been working with the enzyme, glutamic acid decarboxylase, of the honeybee brain. I am attempting to isolate a "synaptosome" fraction from central and, perhaps later, peripheral nerve and to test for a localization of the enzyme in such a fraction.

One high point last year was my marriage to Glenda Ann Howlett. Glenda Ann is working with the Englemann Program for Education of Culturally Deprived Children.
Advisor: J.R. Larsen

Todd Harris

I finished up all the requirements for Masters degree. I also attended the North Central Branch Meetings in Denver, went on two leafhopper collecting trips throughout the "prairie states." I worked for the Aquatic Biology section of Illinois Natural History Survey during the summer.

Publication: "Notes on the Biology of Baccha fascipennis (Wied.)" Ent. News, Vol. 79, No. 8, October, 1968.
Advisor: H.H. Ross

Lu-ping Kan

I am in the second year of course work and working on the pigments of Caster semi looper, Achaea janatta.
Advisor: G.S. Fraenkel

Inder Kapoor

I am a transfer student from the University of California, Riverside, California.
Advisor: R.L. Metcalf

Lawrence J. Krone

During the past year, I have continued my classroom studies in addition to being a teaching assistant in Entomology 322 and 410. I have been doing preliminary work in preparation for my thesis research. The summer was spent as a LSU Tropical Medicine Fellow to Central America.
Advisor: W.R. Horsfall

Donald E. Kuhlman

I worked as an Extension Entomologist for the College of Agriculture and the Illinois State Natural History Survey. My work this past summer was primarily concerned with the bionomics of the western and northern corn rootworms. My thesis research at present is concerned with factors that influence the oviposition behavior of both Diabrotica longicornis and D. virgifera. I am married and have 2 boys, ages 6 and 2 1/2.
Advisor: W.H. Luckmann

An-horng Lee

I am still busy in second year of course work.
Advisor: C.W. Kearns

Richard Lipsey

I am at present a teaching assistant in Entomology 103 for Dr. MacLeod. My aims are teaching and a little research.

I spent last summer as a ranger-naturalist at Grand Teton National Park, Wyoming. I submitted a research proposal to the park service to study the biology of the family Hydropsychidae (Trichoptera) in the park. It was accepted but waiting on funds.

My wife, Mary Ann, had "Cheryl Ann" on New Year's Eve.
Advisor: E.G. MacLeod

Robert Morden

I am presently concerned with trying to discover factors that regulate the phenology of the bagworm with special emphasis on its diapause.
Advisor: J.G. Sternburg

Louis Moretti

I started work in this department in September after completing my M.S. in Zoology. Currently I am taking courses.
Advisor: W.R. Horsfall

Herbert N. Nigg

This summer I assisted in Research under Dr. E.R. Jaycox on the influence of "queen-substance" on the industriousness of worker honeybees. Completed preliminary research on the influence of queen substance on the larvae queenless worker honeybees pick to raise as a queen. I am also a new trainee.

I vacationed for three weeks in Horton Bay, Michigan.
Advisor: C.W. Kearns

Gerald L. Nordin

I am in my third year of studies and plan to finish course work by the end of the spring semester. I will be working in the future with Dr. J.V. Maddox of the Illinois Natural History Survey and Dr. R. Rennels of the Department of Forestry in the area of insect pathology. A research problem in insect virology is being considered.
Advisor: W.H. Luckmann

Jimmy K. Olson

The past year has been a continuation of course work, which should be completed by June 1969. The summer was divided between completing German and performing some preliminary research on the effects of tree canopies on insect distribution at Trelease Woods. In late August, the women in the Olson family returned to Idaho for a visit with inlaws and outlaws while I was spending two weeks on Army Reserve duty in Utah.
Advisor: W.R. Horsfall

Norman D. Penny

I received my B.S. degree in Entomology from Iowa State University in June 1968. As an undergraduate I worked part-time during the school year for Dr. Laffoon on the Iowa State University Insect Collection and during the summer for Dr. Brindley at the U.S.D.A. European Corn Borer Laboratory. However, last summer it was necessary to spend 6 weeks at Fort Benning, Georgia, as part of the R.O.T.C. program. My research interests are in the areas of insect ecology and biological control. I am currently completing my courses as a first year graduate student in Entomology and doing research on seed-corn beetles.
Advisor: W.H. Luckmann

Henry F. Pierce, Jr.

I have a B.S. in Zoology from the University of Illinois and am now in my first year of graduate work. I hope to complete my master's thesis, the life history and control of the leaf crumpler, by the end of the summer and begin Ph.D. work in the fall. My research is through the Economic Entomology section of the Natural History Survey.
Advisor: W.H. Luckmann

Robert F. Randall

Along with the thesis research of this past year, the fall of '68 gave me the opportunity to assist in Entomology 301 laboratory. I found the experience quite valuable.

Carlene and I enjoyed some time in Michigan this past year and are looking forward to this coming fall, and with it, the first addition to our family.
Advisor: C.W. Kearns

Roscoe Randell

I have been busy as an Extension Entomologist with an office in the State Natural History Survey. I passed my prelims in June. My research has been in the area of behavior of the corn leaf aphid on the corn plant.

My wife, Marjorie, and I have 3 children, Lorraine (11), Steven (8), and Linda (5).
Advisor: W.H. Luckmann

Larry Sanburg

Attempting to get a real start on my research into diapause in Anopheles punctipennis. Besides courses my main problem this past year has been the difficulty in maintaining a colony so I could start research. I made several trips to southern Minnesota for Anopheles and will soon take a trip to Florida with Dr. Kitzmiller of the Zoology Department. Vivienne has been working for the Illinois Department of Mental Health and

Aubrey Scarbrough

I completed my course work and passed my preliminary examination in the spring of last year. I attended the Meetings in Dallas, Texas. Presently, I am completing my work on the behavior of Hyalophora cecropia.
Advisor: G.P. Waldbauer

Joe Sheldon

During the last three weeks of June 1968 Donna and I visited our friends and relatives in Oregon. Naturally this included trips both to the mountains and the ocean. Shortly after our return I left for Florida where I spent about a month collecting different species of Chrysopidae and studying them in the field. I brought back a number of the species to Urbana where Dr. MacLeod and I are continuing our study of them.

In 1968 I also finished up my course work and the next thing to get out of the way is the prelims.

Publications: The nesting behavior and larval morphology of Pison koreense (Radoszkowski) (Hymenoptera: Sphecidae). Psyche 75(2):107-117.
Advisor: E.G. MacLeod

Zile Singh

My research concerns the "studies of the dietary requirements of the adult western corn rootworm, Diabrotica vergifera LeConte."

Publications: 1) Studies on Caliothrips indicus (Bagnall) and a note on assessment of damage to pea crops. Indian J. Agrl. Science, 38(2):295-297. 2) Further studies on the chemical control of Caliothrips indicus (Bagnall) on pea crop. JNKVV Res. J. (India) 1968.
Advisor: W.H. Luckmann

Richard K. Sprenkel

During the past year I was able to begin my research on entomogenous fungi. In particular, I investigated Entomophthora spp. attacking Anthomyiids and the corn leaf aphid.
Advisor: W.H. Luckmann

Frank Ray Voorhees

I have been preparing for prelims. I presented a joint paper with Ed Cupp at the Dallas Meetings, Dec. 2-5, 1968.
Advisor: W.R. Horsfall

Richard Weddle

Travel during the past year was confined to the Meetings in Dallas. Present activities include completion of thesis and job hunting, plus a bit of babysitting as there was an addition to the Weddle family in June. His name is Robert Wilson.
Advisor: R.B. Selander.

Willard E. Woodward

Work during the past year has consisted largely of taking courses and assisting in Entomology 103 and 423. Research is now underway concerning the effects of DDT on the response of sensory neurons in labellar hairs of

the house fly. I have recently transferred to an interdepartmental Ph.D. program in the Neurosciences, but will continue to be closely associated with this department.
Advisor: J.G. Sternburg

Ching-chieh Yu

I have finished course work and passed the preliminary examination. I devote all my time on research now. My research is on the insect cholinesterases. Currently I am studying the kinetics of honey-bee ChE inhibited by bis-carbamates. I am expected to finish the thesis in September. I made trips to New Orleans and Dallas, Texas, last year.
Advisor: C.W. Kearns

PRESENT ENTOMOLOGY POST-DOCS

Govindan Bhaskaran

I am a native of India (Kerala State). I received my Ph.D. from Bombay University in 1962, then joined the Biology Division of the Government of India'a Atomic Research Center at Bombay. I joined this department on September 1, 1968, as a Research Associate with Dr. Fraenkel. My research interests include (a) hormones in insect development and (b) effects of ionizing radiations on insect development.

My wife's name is Shyamala, and we have two children.

A. K. Bhattacharya

I attended the Entomological Society of America meetings in Dallas. At present I am working on the consumption and utilization of food by stored grain insects.

Maria C. Ronquillo

I received my Ph.D. degree in June, 1968. My thesis title was "Organogenesis of the female reproductive system of an aedine mosquito." My research includes studying the development of the reproductive system of genetically induced dimorphic extremes of femaleness and maleness and intermediate forms induced by environmental pressure. I presented a paper at the Dallas Meetings--"Organogenesis of the female reproductive system of an aedine mosquito." I have a publication (in press) entitled: "Genesis of female reproductive system of an aedine mosquito."

I have two sons: Carlos III who started this semester as a freshman at the University of Illinois and David a junior at the Urbana High School. My younger sister, Letty, arrived on campus from Manila, Philippines, last December and is at present a student in the College of Education.

Jan Zdarek

I came from Czechoslovakia in August last year, where I had worked in the Department of Insect Physiology (headed by Dr. V. Novak), Institute of Entomology CSAV, Prague. My M.S. thesis topic at the Charles University, Prague, dealt with some morphological and ethological problems of feeding in spiders. My earlier research in the Insect Physiology Department was

concerned with the study of insect visual abilities, thermoreception in the stable fly, Stomoxys calcitrans and with the insect repellents for veterinary use. I completed my Ph.D. thesis, the topic of which was the mating behaviour and its hormonal control in the bug, Pyrrhocoris apterus, in the laboratory of Dr. K. Slama. Since I joined this department as a Research Associate with Dr. Fraenkel I have been working on the mechanism of pupation in Sarcophaga.

I am married; Eva works in the Entomology Department of the State Natural History Survey; we have a daughter, Paula (3).

NEWS ABOUT THE STAFF MEMBERS

Dr. Walter V. Balduf

Our travels in 1968 were limited to the habitual retreat near Ely, Minnesota, but hope to visit our Ohio folks in April. Minnesota affords escape from the summer heat of central Illinois, as well as plenty of opportunity to inquire into insect life in evergreen forests. Each summer now adds information about borers and their parasites in balsam fir.

While at the Olsen Eaglerest resort, we were thrilled by the surprise visit of Dr. David Lauck and family, head of the department of biology at Humboldt College, California. Dr. Lauck was scouting the northern evergreen country in search of Scalytidae--his present research group.

Dr. Leigh E. Chadwick

Leigh and Maria Chadwick continue to live happily and busily in their Maine homes: summer in North Brooklin (P. O. address Blue Hill Falls, Maine, 04615) and winter in nearby Sargentville (04673).

Last fall we enjoyed a brief motor trip to Nova Scotia and Prince Edward Island.

We are favored with occasional visits from Dick Storch and family; he is with the Department of Entomology of the University of Maine, at Orono. It seems that whenever he comes he has just been fishing or hunting, and we profit accordingly.

During summer 1968 I translated for the Natural History Press a short INTRODUCTION TO BIRD LIFE, by Adolph Portmann. So far as I know, the translation has not yet been printed.

Dr. George C. Decker

Another year as interesting as all those that passed before. Good health, good friends, good weather (no hurricanes, no tornadoes, no snow).

Made a few local trips to Washington, New York, Chicago, St. Louis, Atlantic City, Gatlinburg, and even Champaign, but only for a few hours.

In November we were joined by our oldest daughter, Mrs. Mary Green, in a trip to Israel, Greece, and Italy. Aside from a minor bout with the flu and Mary's three-day stomach upset, the whole trip was most enjoyable.

No real progress in research, but it goes without saying one cannot live in or near a semi-tropical area and not learn something new about insects.

Have managed to do a little writing (2 papers published and 2 in the mill).

Dr. and Mrs. Loren Steiner (of Vincennes and Honolulu) now live only a few miles from us, and we find we have much in common. For one thing the four of us hope to have coffee with world traveler W. P. Hayes when he docks at Port Everglades January 11.

Incidentally, while we enjoyed visits by many old friends, except for Harlow and Esther Mills and Perky Weinman, Champaign and Urbanaites have failed to win, place, or show.

Dr. G. S. Fraenkel

Gottfried has current research projects on the biophysical and biochemical mechanism of formation of the fly puparium and hormonal and nutritional effects control of ovarian development in flies (together with Catherine Hsiao, now at Utah State University). He is also continuing his work on heat resistance of intertidal snails, and other intertidal organisms and is currently interested in the melanization of soft-skinned insect cuticles.

Dr. Fraenkel has been responsible for bringing two new research associates to the Department of Entomology. Dr. Jan Zdarek from Prague, Czechoslovakia and Dr. Govindan Bhaskaran from Bombay, India.

Gottfried took a sabbatical leave between November 1967 and August 1968, during which he did extensive traveling. In November, 1967, he attended the Fifth International Symposium on Comparative Endocrinology at New Delhi, November 23-28, 1967.

From December until January 20, 1968, he made visits to about 10 centers of learning and research in India, from the Himalayas to the

southern tip, during which he gave lectures, seminars and discussions. This trip was organized and supported by the Rockefeller Foundation. From January to April, 1968, he did research at the Department of Entomology, The Hebrew University, Jerusalem, Israel. He also gave lectures at research centers at Jerusalem, Tel-aviv and Rehovot.

From April to the end of July, 1968, he gave lectures and did research in France, as "professeur exchange" of the University of Paris. Most of the time he was stationed at the Laboratory of Zoology, Faculty des Sciences, Orsay (20 miles outside Paris). He also did four weeks of research at Laboratoire de Zoologie, Villefranche-sur-mer (a marine laboratory) where he has worked on several occasions before.

In August he attended the International Congress of Entomology at Moscow. He also visited Leningrad where he delivered two invited papers.

To avoid the Illinois winter Gottfried and Rachel went south of the border where they spent three weeks in Mexico for vacation.

Son, Gideon, is now Associate Professor of Chemistry (organic, N.M.R.) at Ohio State University at Columbus.

Son, Dan, is Assistant Professor of Microbiology (biochemical genetics) at Harvard Medical School, Boston, Massachusetts.

The capstone of the year for Dr. Fraenkel was in April of 1968 when he was elected a member of the National Academy of Sciences. We of the Department of Entomology give our heartfelt congratulations to Gottfried for this singular honor so justly deserved and long overdue.

Dr. Stanley Friedman

Stan was unusually cooperative this year, being one of the first to return his faculty questionnaire. He shared with us his annual verbosity on his yearly activities writing "none" to all questions except for publications.

I am delighted to report that "none" freely translated means that Stan has enjoyed a full year of activity. He continues his very active research program on the metabolic effects of hormones, and was involved

in seeing Benson and Chang, two of his graduate students, finish their research.

Stan made his annual pilgrimage to the Federation Meetings in Atlantic City and did take the family into Missouri Valley again for a summer vacation.

Dr. William P. Hayes

If there is a stampede to retirement, Dr. Hayes will be the precipitator. His yearly travel itinerary looks like a page out of the tour guides.

From January to April on a cruise around both South Africa and South America. In April San Antonio fair and Great Bend National Park. May and June in California with my two daughters. June and July (2 months) in Estes Park and Denver. August--In High Sierras of California. From September to January at home in Urbana. In early January another cruise, this time to the South Pacific to wind up again in California. Regards to all former students!

Dr. William R. Horsfall

Research

Thermal stress and anomalous development of mosquitoes with completion of two Ph.D. theses.

Travel

Trip to XIII int. Congr. Ent., Moscow, August 2-9, with visits to laboratories in Czechoslovakia, Austria, England (July 29-September 7).

Visitors

R. M. Crowell, St. Lawrence University, Canton, New York.

R. W. Gerhardt, USPHS, Atlanta, Georgia.

L. M. Roth, US Army Lab, Natick, Massachusetts.

P. T. M. Lum, USDA Lab, Savannah, Georgia.

Extra-curricular activities

Numerous trips to southern Illinois in connection with an outbreak of St. Louis encephalitis. Assisted by John Meyer, an undergraduate major. Sabbatical leave for study in Europe and U.S. - June to February.

Dr. Elbert R. Jaycox

The year 1968 was a good one for honey bee behavior studies. The bees and equipment cooperated to give us a clearer idea of the effects of the queen's pheromones on the activity of the workers. The primary pheromone, 9-oxodecenoic acid, appears to regulate nectar collecting activity with little effect on pollen collection. It also plays a role in worker longevity and when lacking, mortality is greater among the workers.

Apiculture extension activities increased during the year because of greater interest in using bees for pollination of vegetable crops in Illinois. I wrote a new 100 page beekeeping manual that will be available in 1969 to replace Dr. Milum's popular Honey Production circular. Because of greatly increased costs of printing, the manual will be sold by the Extension Service.

During the summer the entire family traveled to California for business and pleasure. The business included visits to the University of California at Davis and Utah State University. The pleasure took in San Francisco, Disneyland and Bryce Canyon. The cold and wet weather completely ruined the bee collecting.

The utility of honey bees as research subjects is becoming increasingly evident in the Department. I received so many requests for them in 1968 that we finally had to refer them to commercial sources.

Dr. C. W. Kearns

We intended to spend last summer in England but finally had to settle for one month. We will probably make another trip to England this summer in preparation for an extended stay in 1970. Our other travels have taken us to California about four times this year, which has enabled us to have short visits with our son, David, and his family in Riverside and Camille in Berkeley.

Dr. Joseph R. Larsen

Work this past year on insect sensory receptors has been greatly enhanced by the addition to the central electron microscope facilities

of a scanning electron microscope. This is an exciting tool that will greatly enrich the study of external structures and morphology. Hopefully the work can be correlated with transmission electron microscope studies to better understand physiology of insect sensory reception.

The Larsen's had a magnificant trip this year. We went north through International Falls across the Canadian Plains into Banf, Canada, where we spent the better part of a week. Leaving Banf, we went south through Waterton, and Glacier National Park, down through Yellowstone and on to Utah where we visited friends and relatives. We had a tremendous opportunity to take a look at some of the wonders of nature in this great country and had a most enjoyable time together. Our trip through the Canadian Rockies was dampened a little by rain but we did have an opportunity to observe the majesty of that great mountain range.

Teaching responsibilities are about the same. Still involved in the Biology 110-111 series and Insect Physiology with Stan Friedman. The children are one year older, hopefully the parents one year wiser.

Dr. William H. Luckmann

Administrative duties were very demanding in the form of Program Committee assignments for ESA, building a new laboratory facility and insectary, and implementing new programs in research. A PL-480 grant was approved to support some research in India, and one NHS entomologist was on short-term assignment there in 1968. Research programs half a world away are very interesting.

The challenges of entomology are more apparent each day, and we are fortunate in attracting more bright young graduate students to Economic Entomology each year. We encourage past students to visit when on the campus.

Dr. Ellis G. MacLeod

Travel

None, spent the whole damn year cooped up in Champaign-Urbana except for a 5-day camping trip to western North Carolina in June.

Research

1). Continuing studies on several aspects of the biology of the

a study of the ultrastructure of an ultrasonic-sensitive, tympanal organ.

2). A restudy of the Neuroptera fossils of the Baltic amber.

3). Just received a 2-year NSF grant for a continuation of a study of the cytotaxonomy of the Chrysopidae.

Visitors

Lou Roth from Army Pioneering Research Lab, Natick, Massachusetts.
Courtney Smithers from the Australian Museum, Sidney
Edgar Riek from C.S.I.R.O., Canberra, Australia } fellow Neuropterists

Publications

MacLeod, E. G. 1968. Studies on the systematics of the Berothidae, Part I. A redescription of the genus Sphaeroberotha Navás, with a critique of the taxonomic characters used in the Berothinae (Neuroptera), Psyche 74:342-352.

MacLeod, E. G. and P. A. Adams. 1968. A review of the taxonomy and morphology of the Berothidae, with the description of a new subfamily from Chile. Psyche 74:237-265.

Dr. Robert L. Metcalf

We were most delighted in the entomology department this past year with the coming of Dr. Robert L. Metcalf to join our staff here at Illinois. In a sense it was a homecoming for Bob who returned to the University of Illinois where his father had been head of the department and where he had received both his bachelor's and master's degrees. Robert L. Metcalf was born November 13, 1916, in Columbus, Ohio. He attended the University of Illinois where he received his bachelor's degree in 1939 and his master's degree in 1940 working with Dr. Clyde Kearns who is the current head of the department. Dr. Metcalf went on to Cornell University at Ithaca, where he received the Ph.D. in 1943. He served as a teaching assistant at Cornell from 1940-1943 and taught at the University of California at Riverside from 1952 to the present where he was professor of entomology.

His curriculum vita and background read like a page out of Who's Who. During the war years (1943-1946) Bob worked at the U.S. Tennessee

Valley Authority where he did research on mosquito biology and control. He then went to the University of California where he served as Assistant, Associate and Professor of Entomology, eventually becoming Vice-Chancellor of the University of California at Riverside. He held this position from 1963-1966.

Dr. Metcalf was recipient of the Faculty Research Lecture of the University of California at Riverside in 1958. He served as president of the Entomological Society of America in 1959 and received the Charles F. Spencer Award from the American Chemical Society in 1966. He also has received the Order of Cherubini from the University of Pisa in 1966. He was nominated a member of the National Academy of Science in 1967, making two of our faculty in entomology who are members of the National Academy.

He has done research in malaria mosquito control for the Tennessee Valley Authority, the state of California, and the World Health Organization. He has been eminent in the field of development of new insecticides and their mode of action. He has done work on insect resistance to insecticides, and selected toxicity and metabolism of insecticides in biological systems. He has worked on the physiology of insect heart, physiology and biochemistry of the insect nervous system and recently he has been actively involved in the problems that face the world in environmental biology. His research has been recognized all over the world, particularly his discovery of in vivo metabolism of organophosphorus insecticides, the development of N-methyl-carbamate insecticides in the role of cholinesterase inhibition and in general the mode of action of insecticides.

His membership in Societies reads like the National Register of Scientific organizations. In addition to a number of professional societies which he belongs, he is a member of the Presidential Science Advisory Committee on the Subpanel for Pesticides. He is a Consultant to the World Health Organization in the Agency for International Development and he is also a Consultant for the U. S. Department of Agriculture, and Tennessee Valley Authority. He received the Chancellor's award for excellence in research from the University of California at

Riverside in 1967. He continues to carry on the textbook initiated by his father, Destructive and Useful Insects. He is also author of Organic insecticides, their chemistry and mode of action and has over 190 scientific publications.

The coming of Bob Metcalf to this faculty can best be summed up by plagarising the words of another who made the following statement: "Comments concerning his research achievements seem to be superfluous. His record speaks for itself. He is the most productive faculty member this campus has ever known. He is regarded as a superb teacher and his lectures are models of inspiration." Dr. Metcalf's value, abilities, and capacities were soon recognized by the University as he recently has been invited to assume the headship of the Department of Zoology at Illinois. He will continue to carry on his research and teaching activities in the Department of Entomology.

We are delighted to have Bob on the staff and he certainly makes an outstanding addition to the Department. When asked to give a contribution to the Newsletter, he modestly gave the following information which is appended to this brief introduction.

Research

Environmental biodegradability of insecticides.

Interaction of carbamates and organophosphates with cholinesterase.

Role of mixed function oxidases in insect life.

Travel

Geneva, Switzerland in September for Annual Meeting of Insecticide Development Committee, WHO.

Family

Daughter, Esther Lee, 24, Graduate Student, University of California, Davis.

Son, Robert A., 20, Sophomore in Biology, University of Illinois, Urbana.

Son, Michael R., 16, Junior, Urbana High School.

Dr. Vern G. Milum

Over holidays Vern and Esther Milum visited son, George, wife and two grandsons at Lafayette, California; then motored with son Dick to

his home at Lampor and on to sister Ruth's home in Desert Hot Springs, finally heading home after a reverse bus ride to Los Angeles--account fog plus more of the same (fog and bus rides) from O'Hare to Champaign.

Celebrated 3/4 century birthday February 6, 1969.

Dr. Herbert H. Ross

Principal activities during the past year for the Ross family were a trip to Alaska and preparations for the move to Georgia. The Alaska trip was part of a study on the evolution of the prairie biomes using leafhoppers as index organisms. Collections were made every 50 miles on a zigzag transect from Bismarck, North Dakota, through southern Canada and along the various accessible routes in Alaska, the most northern collection being at Point Barrow. A highlight of the trip was a two-day visit with ex-Illini Dr. Kathryn M. Sommerman at Fairbanks, who has just received the government trailer which will be her base for mosquito collecting. The leafhopper transect was unusually successful, thanks to marvelous cooperation from the weather man. The transect was resumed after taking the auto ferry from Alaska to Vancouver Island, and collections were made on the southern route from northern Vancouver Island to Nebraska. Preparations for the move to the University of Georgia are still in progress.

It is with a great deal of regret that we will be saying goodby to the Ross family. Herb has accepted a position as Professor at the University of Georgia. He will be working on developing an interdisciplinary biological program in systematics and evolution. He will also be continuing his research on caddisflies. We know his new position will be a challenge and we wish him all the success in the world. Georgia's gain will be Illinois' loss. We will miss greatly the influence of Herb both at the State Natural History Survey and the Department of Entomology where countless graduate students came under his astute guidance and direction.

Dr. Richard B. Selander

Travel

Twice to David Mountains, Texas, to get material for rearing and to install continuous soil temperature recording equipment.

December in southeastern Brazil with Luis E. Peña, of the University Chile. Worked from Saõ Paulo to Uberlandia and then eastward to Belo Horizonte and Rio de Janeiro, collecting and studying Meloidae.

Research

Continual experimental analysis of ecological factors controlling metamorphosis in Meloidae.

Family

Son, Mike (18), attempting to build electronic desk calculator for me. If successful will be seeking other orders.

Dr. James G. Sternburg

Research

Biology and behavior of cecropia - coinvestigator with Gilbert Waldbauer.

Mode of action of DDT.

Effect of insecticides on nervous activity.

Stress factors and their role in insecticidal action.

Travel

Dallas, Texas, for the Entomological Society Meetings in December.

Vacation spent in northern Wisconsin during August. Some fishing, more collecting, and much loafing.

Dr. G. P. Waldbauer

Research

With John Ameel and Anoop Bhattacharya the project on the consumption and utilization of food by stored-grain insects goes forward.

Jim Sternburg and I are still deeply involved with our Cecropia work. We are at the moment spending much of our time trying to get some of our data ready for publication. Aubrey Scarbrough is doing his thesis work on this problem.

Personal

Most of the rest of my time was spent in getting settled in our new house. This year the family spent its vacation at home on Maynard Lake swimming or fishing for largemouth bass and bluegills.

Dr. Judith Willis

Judy is on sabbatical this year in Cambridge, England, where her husband, John, is working in physiology. We hear very little from Judy. However, she did pass on a short note that she was enjoying Cambridge very much. She indicated that V. B. Wigglesworth was available every day at tea for visiting and talking about various research projects and she was taking full advantage of this opportunity. She is also spending considerable time with Weis-fogh and reports that he is unbelievably meticulous and a critical commentor on every imaginable aspect of biology, biochemistry and electronics, etc. Also she reports that many other people are insect oriented at Cambridge and she is finding this a most stimulating and enjoyable year. She also mentioned that she had an enjoyable visit with John Heslop who was here working in Dr. Kearns lab two years ago. She reports that he is joining Trehern's group in June.

We will look forward to Judy's return and know that she will come back charged with new ideas for research.

NON-ACADEMIC EMPLOYEES

Eloise Duvall

Having now been with the department for 6 1/2 years I feel like this is my second home. This is truly a great place to work and I have enjoyed the grad students of the past, some of whom I hated to see leave for greater things. I hope, with good health, to be here for many years to come -- learning new things every day.

Mary Fisher

I came to the Entomology Department on October 1, 1968, from the Department of Botany. This has been a challenging change after spending many years with plants. The investigation of ultrastructure is yet another change from my previous endeavors in the study of nucleic acids and most recently some work with plant viruses. I am looking forward to this new facet of work and a continuing association with those of the Entomology Department.

Judy Michael

I have kept busy another year in the Entomology Department. My husband, Don, is making progress at Parkland College while working at the Northern Illinois Water Corporation as a plant operator. My son, Jeff, is now almost three years old and as full of mischief as any could be.

E. Ruth Millholin

I joined the Department of Entomology here at Illinois on July 1, 1968, coming from 5 years of experience at University of California, Riverside, with Dr. Robert Metcalf evaluating insecticides on mosquitoes and houseflies for the World Health Organization. It has been a very exciting year for myself and my 12 year old son, meeting lots of new and wonderful people, trying to adjust to the climate changes and is being topped off by the purchase of a house and looking forward to many more wonderful years.

Ruth A. Plymire

In the fall semester I tackled two English courses and this semester I am struggling with a physical geography course. This, of course, is taken care of in my "spare time." All three daughters are well and growing by leaps and bounds. The youngest will be giving the kindergarten teacher fits in the fall. My husband, Bill, has been switched from track to baseball coaching and is ready for the opening of a successful season.

Terry Ransom

I have just completed my third year as the Department's Equipment Attendant. I am married and have four children, Charles (9), Jenifer (7), Dawn (3), and James (2) and also a brother-in-law who is staying with us, Edwin (5).

Carolyn Thrasher

I joined the Department in October of 1968, coming from the Champaign County State's Attorney's Office where I was employed by the former State's Attorney John Bresee. I am enjoying my work in the Department of Entomology, due mainly to the pleasant people and surroundings. My husband, Bill, is employed by the Special Projects Laboratory at the Coordinated Science Laboratory. We are anxiously awaiting the arrival of our first child in August.

Grace Wright

I am working in Dr. Horsfall's lab as a technician. My husband, a doctoral candidate in Electrical Engineering, is doing thesis research on lasers at the Gaseous Electronics Lab.

Shaw-mei Yeh

I am completing my second year in Dr. Friedman's laboratory as a NSLA III. I am busy running the experiment plus calculation Problem Set from my Statistics course.

PUBLICATIONS FROM THE DEPARTMENT OF ENTOMOLOGY, 1968-69

BALDUF, WALTER V., Professor, Emeritus

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CHADWICK, LEIGH E., Professor, Emeritus

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FRAENKEL, GOTTFRIED S., Professor

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Fraenkel, Gottfried S. 1968. The heat resistance of intertidal snails at Bimini, Bahamas; Ocean Springs, Mississippi; and Woods Hole, Massachusetts. Physiol. Zool., 41:1-13.

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FRIEDMAN, STANLEY, Professor

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GHENT, ARTHUR W., Associate Professor

Ghent, Arthur W. 1968. Selected problems in biometry. 4. The concept of randomness. Bioscience, 39(1):1-20.

Ghent, Arthur W. and Bruce Hanna. 1968. Application of the "broken stick" formula to the prediction of random time intervals. Am. Midland Nat. 79(2):273-288.

HORSFALL, WILLIAM R., Professor

Horsfall, William R. and A.A. Aly. 1968. Bionomics of Psorophora varipes, a model laboratory mosquito. J. econ. Ent., 61:1657-1660.

LARSEN, JOSEPH R., Professor

Larsen, Joseph R. and A. Broadbent. 1968. The neurosecretory cells of the brain of Aedes aegypti in relation to larval molt, metamorphosis and ovarian development. Trans. Amer. Microsc. Soc., 87:395-410.

MACLEOD, ELLIS G., Assistant Professor

MacLeod, Ellis G. 1968. A review of the taxonomy and morphology of the Berothidae, with the description of a new subfamily from Chile (Neuroptera). Psyche, 74:237-265.

MacLeod, Ellis G. 1968. Studies on the systematics of the Berothidae, Part I: A redescription of the genus Sphaeroberotha Navas, with a critique of the taxonomic characters used in the Berothinae (Neuroptera). Psyche, 74:342-352.

METCALF, ROBERT L., Professor

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ROSS, HERBERT H., Professor

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ALUMNI NEWS

As always we are grateful for the response of the alumni in sharing their activities, publications and points of interest which have concerned them during the past year. We were delighted to hear from some we have not heard from in the past and we would like to reiterate that it would be good to hear from all of you as often as possible so that your colleagues past, present and future might keep track of your activities and travels. Many of the alumni have shared their appreciation for the Newsletter and also their interest in its continuation and their feeling for a desire to hear from more of you regularly so that they might keep track of your activities and whereabouts. We appreciate these words of encouragement and will continue to put out the Newsletter on an annual basis.

As in past years we have included in the back a perforated information sheet which we would like you to fill out and return to us. If you continue to indulge in this yearly ritual the sharing of news with each other will become a standard and enjoyable part of the Newsletter.

Probably the highlight of alumni activity for the year was a Breakfast for former Illini held at the Dallas Meetings. Such an activity had been suggested in last years newsletter and we were delighted with the response. Over 50 people attended the breakfast and had an opportunity to renew old acquaintances and hear Dr. Kearns give a resume of departmental activities.

The breakfast was such a success that plans are already in the mill to have a similar activity at the meetings in Chicago this year. If any of you have any suggestions, or comments on this type of activity, we would be glad to hear from you.

Manfred Brust

My current research has been (1) effects of therapeutic ultrasound on skeletal muscles - mechanism of action. (2) Effects of temperature on contractions of fast and slow mammalian muscles and their fatigability.

Publications: (1967 through April 1968)

Brust, M. and H.W. Costa. 1967. Contractibility of isolated human skeletal muscle. Arch. Phys. Med. Rehabil. 48:543.

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I vacationed for one week in New Hampshire in August 1967. I attended meeting of American Academy for Cerebral Palsy in San Francisco, California, in December 1967. I attended FASEB meeting in Atlantic City, N.J., in April 1968.

B.D. Burks

The usual round of papers on the chalcidoidea--they are of no interest to anybody not working in Hymenoptera.

My wife and I took a trip to New Hampshire last fall--climbed some mountains and, of course, took pictures and collected insects. We expect to go to West Virginia this year.

Wayne P. Carlisle

Took a pleasure trip in July, 1967, to Oahu, Kavai, Maui, and Hawaii. I spent 14 delightful days.

I enjoy the "Newsletter" very much and relish memories of my graduate work in entomology department at the University of Illinois (January 1946 to June 1947). A special "hello" to Doctors: Balduf, Hayes, Horsfall, and Milum.

Robert W. (Bert) Clegern

I have done some very basic work in correlation of human responses in the Barany chair to incidence of in-flight spatial disorientation. I am still collecting the Syrphidae of Oklahoma.

My travels have been: Fall, 1967, Air Force sponsored trip to Wisconsin, Illinois, Indiana, Ohio, New York, and Pennsylvania for purpose of personal and survival equipment training. Fall, 1967, I went to Panama Canal Zone for Jungle Survival School. Spring, 1968, took trips to Kansas, Missouri, Illinois, Arkansas, and Ohio for personal and survival equipment upgrading. September 1968, took pleasure trip to Texas, Mexico, and California with wife Carol.

John L. Eaton

I am presently interested in insect sensory reception and I have begun preliminary studies on heat reception in Triatoma. I have also suddenly become very interested in pheromone reception, since I have

accepted a position at V.P.I. to do work in that area. (Effective July 1st)

I attended a Summer Institute in Radiation Biology at the University of California at Berkeley this past summer. Needless to say, this trip involved travel for a great deal of pleasure while crossing the wide-open spaces between Kalamazoo and the west coast.

No new additions to family. Two growing boys, Scott (6) and Marc (2), are enough to keep us busy. In addition, Peg stays out of trouble by playing in a local bridge group and working with the Faculty Women's Club.

Suggestions for Newsletter -- Congratulations and keep up the good work.

Robert F. Harwood

My current research involves photoperiod and coddling moth, photoperiod and mosquitoes. As of July 1 I was appointed Chairman of the Department.

I enjoy the information received each year.

Edwin W. King

My recent travels include a sabbatical leave to N.C. State University in 1967-68. Purpose: statistics and biomathematics.

My recent research interests are biomathematics, weather effects.

Is it really "quite impossible" to "contact everyone on a yearly basis"? I did it once, and though I'm sure there are more names now it still seems like a good idea.

Herbert Lipke

My current research deals with (1) maturation of granulocyte nuclei (2) amino acid sequences in cuticle mucopeptides.

Mrs. Lipke is teaching in the elementary schools. Our oldest son is at the University of Chicago and our other children are in Jr. High and High School.

William E. "Mac" McCauley

Administration duties -- no publications.

Our literature consists of labels for various formulation and uses

no-pest strip[R], azodrin[R], landrin[R], gardona[R], all insecticides; planavin[R], allylacohol, aqualin[R], herbicides; and nemagon[R], and Shell-do[R] nematocides.

Travels: All around U.S.A. and an occasional trip to Europe.

I truly enjoy the annual "Letter". May I suggest that your students mention their career interest. Many of your readers could possibly be helpful in finding employment for their fellow Illini. Some of us can even be helpful in finding useful situations outside the U.S.A. My career continues to be development of pesticides through registration -- a strictly red ink function. I now have a staff of over 20 engaged in this activity.

David C. Newton

The Connecticut Research Commission has granted $7514 to Central Connecticut State College to be used in establishing apicultural research facilities. These facilities will be used to extend behavioral studies begun at the University of Illinois.

The summer of 1967 was spent moving to Connecticut and finding a home. With this half accomplished, we attended the XXIst International Apicultural Congress at the University of Maryland and later camped for a week at Wellfleet, Cape Cod, during the only warm sunny period of a cool, wet New England summer.

Lance G. Peterson

Research: Development of biological control mechanisms for insect pests.

I was unable to get away but Cleone spent 3 weeks in England and Scotland visiting friends and new places.

I attended Southeast Branch Meetings of the ESA in Charleston, South Carolina in January.

I made a fishing trip into Minnesota's canoe country and had real good lake trout fishing.

Morris Seligman

I have two papers to be published soon with Dr. S. Friedman and G. Fraenkel, but don't hold your breath.

the smell the happier I am. The Australian Government pays me to do research on the biosynthesis of defense secretions and pheromones. From this I make a living!

We spent a very pleasant three months meandering to the antipodes visiting family and friends. While in Australia our excursions have been limited to weekends in the mountains or at the coast -- amenities that the Illinoisians should arrange for their fertile state.

Additions to the family: None, for a change.

Comments concerning the "Newsletter": "Fine, jes' fine."

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Current Research and Recent Publications:

Recent Travels for Business or Pleasure:

Additions to the family (names, dates):

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