ANNUAL NEWSLETTER

Department of

Entomology

University of Illinois

Urbana, Illinois

February 1966

TABLE OF CONTENTS

The Newsletter comes to you a little earlier this year in the hope that you will have an opportunity to share it with your students who may be considering the University of Illinois as a possibility for graduate studies.

I would like to thank all of those who have been so helpful in bringing this year's Newsletter to fruition. A special thanks is due our faithful secretary Ruth Plymire without whose help the task would have been impossible. All those intrepid souls who so willingly handed in write-ups of their activities are also due a kind word.

The Editor

in 1966. The department has increased from 8 to 10 faculty members, some of whom hold joint appointments with the Illinois Natural History Survey, Department of Horticulture, Physiology and the School of Life Sciences.

Graduate student enrollment has increased to between 40 and 50 students. Many new research facilities and major equipment items have been added to the resources of the department.

Much of the above mentioned progress began while Dr. Chadwick was head of the department and the department is greatly indebted to his foresight, judgment and effort.

In September of 1963 Chad asked to be relieved of administrative duties to devote more time to his research activities. His major areas of research while at the University of Illinois have been studies on insect cholinesterase and the comparative morphology of insect musculature. He is the author or co-author of over 50 scientific articles.

Dr. Chadwick has been honored with membership in the American Academy of Arts and Sciences. He is also a member of a number of scientific and honorary societies: American Association for the Advancement of Science, American Association of University Professors, American Physiological Society, American Society of Zoologists, Entomological Society of America, Harvard Chapter of Sigma Xi, New York Academy of Science, Society of General Physiology, and Phi Beta Kappa.

Dr. Chadwick is a distinguished scientist and scholar and his absence will be greatly noted at the University. We of the Entomology Department would like to offer our most sincere thanks and appreciation for his years of service and dedication to his profession. We know that all of you as alums and former graduate students would like to join us in wishing Dr. Chadwick the very best for a continued active and productive life in the years to come.

DEDICATION TO

DR. LEIGH E. CHADWICK

This issue of the Annual Newsletter is respectfully dedicated to Dr. Leigh Chadwick who has announced his intention to retire from the Staff of the Entomology Department in June of 1966.

"Chad" as he has been affectionately known by his colleagues for many years, was born August 9, 1904 in Washington, D.C. He received his early education at the Swarthmore Preparatory School in Swarthmore, Pennsylvania. He then attended Haverford College where he received his B.S. in 1925 in the field of German and Chemistry. Upon graduation from Haverford he was nominated to Phi Beta Kappa. Chad went abroad for a year to study at Phillipps University in Marburg Germany. Upon his return from Germany he entered the University of Pennsylvania where he took a Masters Degree in German. During the period of 1925-1927 Chad taught foreign languages at various prep schools. From 1929-1934 he taught French and German at his Alma Mater, Haverford College. In 1936 he entered Harvard University where he received a Masters Degree and subsequently a Ph.D. in 1939. After graduation from Harvard, Chad taught Biology at Pueblo Junior College in Colorado for two years. He then moved to Rochester, New York where he taught physiology at the University of Rochester School of Medicine. In 1944 Chad moved to Baltimore and there he assumed the position as Chief of the Entomology Branch of the Chemical Corps Medical Research Directorate. During his period of tenure with the Chemical Corps Chad was responsible for directing a large share of the research effort in entomology during the difficult years of the 2nd World War. He was also responsible for maintaining a pleasant research atmosphere for the large number of scientists who passed through the Chemical Corps labs as part of their tour of duty for Uncle Sam.

Chad was appointed Professor and Head of the Department of Entomology at the University of Illinois in July of 1956. During this period of time while he served as head of the Department a great deal of progress was realized. A large part of the Department was able to move into new quarters in Morrill Hall. The rest of the Department will be able to move into the new addition

MESSAGE FROM HEAD OF DEPARTMENT

It was my pleasure to have a sabbatical leave last year and return to find things much better than when I left. During my absence Dr. James Sternburg handled, in his typically proficient way, all the red tape and problems that confront a department head in a large University. I was most pleased to find that communication had been re-established with our alumni through the advent of a newsletter. Last year's newsletter and this years is the product of a relatively newcomer to our staff, Dr. Joseph Larsen. It is my hope that each of you will respond to Dr. Larsen's effort and show your appreciation by providing him current information of your doings which will be of interest to your fellow Illini.

Last year Dr. Stanley Friedman joined our staff and began directing graduate students interested in doing work on the biochemistry of insects. We felt that his acquisition would complement the work of Drs. Fraenkel, Chadwick, Larsen and Willis in insect physiology and lead to better integration of toxicology into these basic studies. Judging from one year of experience the results are very encouraging, but more evident is the fact that a highly stimulating atmosphere has developed for both staff and students interested in these areas of study.

During the past year Drs. Arthur Ghent and Judith Willis joined our staff. Although their formal teaching duties are in the School of Life Sciences they are to direct graduate students in our department. Dr. Ghent will supervise graduate students interested in various phases of population biology, statistics, etc. Dr. Willis will direct graduate students in insect physiology, particularly those interested in growth and development.

The department has added numerous items of equipment to its inventory during the past year many of which are sufficiently sophisticated to deserve itemization in a newsletter of this sort. This year, however, we only admit to the acquisition of an electron microscope to facilitate among other things the work of Dr. Joseph Larsen on the fine structure of the insect sensory system.

In the near future, perhaps June, we will occupy about 6,000 square feet of floor space in the addition to Morrill Hall. This will enable us

to move Dr. Selander and Dr. Ghent out of Harker Hall and bring the department together again under one roof in a modern air conditioned building. Besides providing a new location for Drs. Ghent and Selander it will furnish much needed room for Dr. Fraenkel and Dr. Friedman. Then Dr. Sternburg and I will hopefully be able to recover from the ravages which Dr. Friedman and his graduate students have inflicted upon us for the past 18 months while this space was being made into a laboratory.

In most respects 1966 looks like a good year for the department. We will, however, lose Dr. Leigh Chadwick who will retire at the end of this year. I'm sure I express the sincere regret of every member of our staff on his decision to retire. With the retirement of Dr. George Decker in September of 1965 the department is obviously faced with the insoluble problem of adjusting to the loss of these two outstanding people.

I hope you will take the earliest opportunity to visit us. The University and our department have expanded and the two towns have undergone an explosive building period. If you have not been here within the past five years I am sure you would have trouble recognizing the community.

With best wishes to all,

Sincerely,

Clyde W. Kearns

DEPARTMENTAL INSECT COLLECTION

A project to revise and modernize the insect collection of the Department of Entomology has been in progress for several years. Larval and other material preserved in alcohol has been transferred to standard-sized vials with rubber stoppers and arranged in three cabinets. The pinned material is being collated and arranged in the unit tray system. In the past two years the space available for pinned specimens has been increased by the acquisition of four cabinets, holding a total of 100 drawers. The preliminary and major task of putting the insect collection in working order under the new system will be completed by June. Thereafter emphasis will be placed on securing specific identifications for a large backlog of material, preparing and incorporating new material, and making the collection available to taxonomists engaged in research projects. The collection, which is of modest size, has as its main function providing a synoptic representation of families and genera. Nevertheless, it does contain, in some groups, material of interest to the specialist. At present G.E.Eertmoed is serving as curator, under the supervision of R.B. Selander. Others who have been engaged in the project are J.K. Bouseman and R.C. Weddle. Recent contributors to the collection include W.R. Horsfall, E. Jaycox, J.M. Mathieu, R.B. Selander, and G.P. Waldbauer.

Departmental Roster 1965-1966

Faculty

Balduf, Walter V. - Professor of Entomology, Emeritus

Bouseman, John K. - Instructor

Chadwick, Leigh E. - Professor of Entomology

Decker, George C. - Professor of Entomology, Emeritus

Fraenkel, Gottfried S. - Professor of Entomology

Friedman, Stanley - Associate Professor of Entomology

Ghent, Arthur W. - Associate Professor of Entomology

Hayes, William P. - Professor of Entomology, Emeritus

Horsfall, Willian R. - Professor of Entomology

* Jaycox, Elbert R. - Associate Professor of Apiculture

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

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

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

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

White, Joan F. - USPH Post-doctoral Fellow

Willis, Judith H. - Assistant Professor of Entomology

* - Joint Appointment with Horticulture

** - Joint Appointment with Physiology and Biophysics

Research Assistants

Allen, Robert T.

Banerjee, Amal C.

Bharadwaj, Rama K.

Campbell, William R.

Chandran, Raman S.

Eaton, John L.

Flattum, Roger F.

Fogal, Willard

Hsiao, Catherine T.

Hsiao, Ting-Huan

Killmer, Paul S.

Maddox, Joseph

Newton, David C.

Randall, Robert F.

Ronquillo, Consolacion R.

Rotramel, George

Storch, Richard H.

Unzicker, John D.

Weddle, Richard C.

Wilson, George R.

Yamamoto, Toshio

Yang, Anna Y.

Teaching Assistants

Abou-aly, Aly A.

Cullop, Samuel

Dirks, Tobias (DGS)

Eertmoed, Gary E.

Reinbold, Keturah A.

Seligman, Morris I.

Trainees and Fellows

Ameel, John J. - NDEA Fellow

Benson, Robert L. - NDEA Fellow

Chang, Franklin - USPH Trainee

Clegern, Robert W. - USPH Trainee

Cupp, Edward W. - USPH Trainee

Fox, Philip M. - NDEA Fellow

Gemrich, Edwin G. - USPH Fellow

Krysan, James L. - University Fellow in Entomology

Mathieu, Jean M. - Rockefeller Foundation Fellow

Peterson, Lance G. - USPH Trainee

Pinto, John D. - USPH Fellow

Reynolds, Judith L. - AAUW Fellow

Sastrodihardjo, S. - Fellow

Scarbrough, Aubrey - NDEA Fellow

Students not on Staff

Fraembs, Frank

Gangrade, Govind

Janicke, James F.

Kulman, Donald E.

Parshall, Stephen J.

Patterson, William J.

Randell, Roscoe (Instructor with Agriculture)

Schmidt, Fred

Non-Academic

Adams, Paula

Bangeman, Judy

Duvall, Eloise

Plymire, Ruth

Ransom, Terry

Schoff, Gwynne

Student Employees

Black, Anne

Brandon, Dennis

Broadbent, Alan

Frick, Mary

Hanna, Bruce

Lindstrom, Jon

Marsh, RaVae

Prickett, Alice

Reynolds, Vera

Weibel, Cheryl

Williams, Elizabeth

VISITORS TO THE DEPARTMENT

Dr. Geoffrey Chapman
Botany Department
University of the West Indies
Mona, Jamaica

Dr. Marshall Hertig
Gorgas Memorial Laboratory
Canal Zone, Panama

Dr. Peter Karlson
Physiological Chemistry Institute
Philipps University
Marburg, Germany

Dr. Lloyd Knutson
Department of Entomology
Comstock Hall
Cornell University
Ithaca, New York

Dr. E. J. Mostyn
England

Dr. David Novogrodsky
Ministry of Agriculture
Israel

Dr. A. G. Richards
Department of Entomology,
Fisheries, and Wildlife
University of Minnesota
St. Paul 1, Minnesota

Dr. K. Slama
Department of Insect Physiology
Entomological Institute
Czechoslovak Academy of Sciences
Praha, Czechoslovakia

Dr. David Smith
University of Virginia
Charlottesville, Virginia

Mrs. Una Smith
University of Virginia
Charlottesville, Virginia

Dr. Frank Stark
Director of Research
Agricultural Division
American Cyanamid Company
Stamford, Connecticut

Dr. Milan Trpis
Bratislava, Czechoslovakia

Dr. F. P. W. Winteringham
Department of Biochemistry
Pest Infestation Laboratory
Slough, Bucks., England

SPORTS REVIEW

Sports continue to be an attractive diversion for our graduate students. This past year we had an excellent turnout for our intermural softball team, the "Flycatchers." With a much improved team we posted a season record of 6 wins and 6 losses, tying for 3rd place in the league.

With an eye on the championship for 1966, Zoology, the defending champion, is the team to beat. In three outings against Zoology the Flycatchers have yet to win a game, although each one has been close. We will have no trouble being up for that series this season.

Due to graduation, we will have to replace our pepperpot catcher Dick Storch and speedy center fielder Ed Gemrich, but recruiting prospects are good. We have already acquired the arm of fast ball pitcher Bert Clegren and are expecting great things from him. Our coach, Lance Peterson, believes that the Flycatchers will be a staunch title contender for 1966.

Handball also continues to be a major attraction for a large number of the students. Some of the lunch hours each week are taken up by inter-departmental competition, which has become quite keen since those of us new to the game have begun to master it.

Golf also was a common word around the department in the summer time as several students took an interest and started to invest some time and money into learning the game.

The Entomology Department has been intimately associated with the University of Illinois Rugby Team since its conception in the fertile mind of "breakaway" Isaac Morris Seligman in the fall of 1963. "Hooker" Peter H. Hewitt and "fly-half" Richard H. Storch were also among the founding fathers of the team. "Winger" Robert L. Benson joined the team in the fall of 1964 and he is the only entomologist presently participating. Persons interested in playing should contact Bob Benson immediately, if not sooner.

The rugby team plays both a fall and a spring fixture list (schedule) with matches against such teams as Indiana U., Chicago U., Notre Dame, Wisconsin U., Michigan U., and St. Louis U. as well as non-university clubs. During the first three seasons the team managed to win 23 and lose only one.

They appeared on national television with the University of Wisconsin during the half-time of a Green Bay Packers game in the fall of 1964. Since that time the rubgy fortunes have run afoul and the team has won only half of its games the last two seasons.

There is good student participation in a variety of sports activites. The overall effect is one of closer ties between the students in the department.

Before closing out the sports section, we feel obligated to report that "Ma (Ruth Plymire) Barker" is still running the office pools. The fact that she won at least three of the major pools herself makes the honest investor wonder just a little. However, with her usual smiling face she makes the loser feel so good we just can't complain. If you want odds on anything, except preliminary oral exams, give "ma" a call.

SOCIAL ACTIVITIES

Christmas Party

December 16 proved to be another freezing night when the whole clan gathered together for the Entomology Christmas Party. It was held at the University Club on Oregon Street, once again, from 8 till 11 PM. We had lots of new faces in attendance and about 85 people were present. Thanks to Ruth and Gwynne everyone had a festive name tag to wear which was very helpful in putting a name with a face for those of us with short memories. Records provided the rhythm for dancing. We regret to say that Ed Gemrich did not lead us in Christmas songs as he did last year, but everybody seemed to have a good time in spite of this void. Small sandwiches and punch were the refreshments and an extra added attraction were the rum balls.

Entomology Spring Picnic

May 23 turned out to be a very hot, sunny Sunday; just the perfect kind of day for the Entomology Spring Picnic. Hessel Park was the site of the action and the faculty and graduate students came out with their families in droves; last count, we had more than 100 in attendance.

Each wife made enough fried chicken for her family, plus, and also brought a salad or dessert. We had more fried chicken than we knew what to do with and about 57 varieties of potato salads. Everybody went for those good desserts that "Moms" know how to make.

Everybody seemed to enjoy the pre-dinner volleyball game, but the post-dinner softball game was for "Men Only." The women did get into the act on the sidelines and did a few cheers to root the fellas on. Tennis and basketball were also available for those that really wanted to make the day into a decathlon. Swings and slides are always fun for the kids and they were kept busy all afternoon.

Along about Sunday evening, there were a lot of pooped people driving home from Hessel Park trying to recuperate for Monday morning.

RECENT GRADUATES

James Louis Krysan - 1965

Jim was born March 12, 1934 in Calmar, Iowa. Jim is really a product of the mid-west. After graduation from Notre Dame High School in Cresco, Iowa in 1952 he entered upon his next academic persuit at Loras College in Dubuque, Iowa. After one year at Loras College he transferred to Iowa State Teachers College in Cedar Falls, Iowa. While at Iowa State Teachers College, Jim distinguished himself as an outstanding student. In addition to his nomination to Beta Beta Beta Jim was on the Dean's List, in the Hall of Scholarship, Hall of Recognition and graduated with honors with a B.A. in 1961. While at Iowa State Jim was both a laboratory assistant in biology and a graduate teaching assistant in his last semester.

In the summer of 1961 he entered Graduate School at the University of Illinois in the Department of Entomology.

While here at the University Jim has had positions both as a research assistant and University Fellow. He did his research under the direction of Dr. L.E. Chadwick on cholinesterase. The title of Jim's thesis is STUDIES ON SOLUBLE AND PARTICULATE CHOLINESTERASE FROM THE HOUSE FLY (MUSCA DOMESTICA L.).

After Dr. Krysan finished his thesis in the summer of 1965, he and his wife, Carole and their two boys went to Winona, Minnesota where he accepted a position on the staff of St. Mary's College in the Biology Department where he will be teaching biology and continuing his research on cholinesterase.

Richard Harry Storch - 1966

Dick was born March 16, 1937 in Evanston, Illinois. He attended high school at the Maine Township High School in Des Plaines, Illinois. Dick entered Carleton College located in Northfield, Minnesota in September of 1955. He received his B.A. degree from Carleton College in June of 1959.

Dick came to the University of Illinois in the fall of 1959 in the College of Education with a major in the teaching of biological sciences

in the teacher training program. In January of 1961 Dick switched rather than fight, to the Entomology Department. While in the Department of Entomology he held positions both as teaching assistant and research assistant.

While here as a student Dick was married to Kay Saeger who was also very active in the Physiology Department. They have one son, Carl.

He carried on his research under the direction of Dr. Chadwick in the area of insect morphology. He took his Master's degree without a thesis in 1961 and completed his Ph.D. in November of 1965. The title of his thesis is: DEVELOPMENT OF THE CERVICAL AND THORACIC MUSCULATURE IN THE AMERICAN COCKROACH, PERIPLANETA AMERICANA (LINNAEUS) (DICTYOPTERA: BLATTIDAE).

In September of 1965 Dick accepted a position in the Department of Entomology at the University of Maine located in Orono, Maine. His duties will include some teaching and he will have an opportunity to continue his research activities. We envy them in that beautiful country.

Raman Satisa Chandran - 1966

Raman Satisa Chandran was born March 2, 1935 in the coastal town of Quilon, Kerala, India where he attended elementary and high school. He graduated from the government English High School in 1949. He attended the Sree Navayana College in Quilon, India from 1949-1951 at which time he received an Intermediate in Science. In 1955 he obtained a B.Sc. in zoology and botany also from Sree Navayana College. Chandran worked for a year as a volunteer relief worker in the cyclone affected areas of Madras State. Then in 1956 he entered the University of Kerala at Trivandrum where he received the M.Sc. degree in zoology and entomology in 1958. For 3 years Chandran worked as research assistant under the Indian Council of Medical Research on the behavior and resistance of Anopheles mosquitoes and also as a technical assistant of entomology in the National Malaria Eradication program. He entered the U. of I. in the fall of 1961. While here he held the position of research assistant.

He did his work under Dr. Chadwick on the effects of thermal stress on morphology. The title of his thesis is: THE EFFECT OF NORMAL AND HIGH TEMPERATURE APPLIED DURING DEVELOPMENT ON THE MUSCULATURE AND ASSOCIATED STRUCTURES IN AEDES STIMULANS (WALKER) (DIPTERA: CULICIDAE).

Upon the completion of his work in November, Dr. Chandran decided to stay on at the University of Illinois doing some postdoctoral work under Dr. Horsfall on comparative morphological studies of Michigan and Finland mosquitoes reared in elevated temperatures and histological studies on thermally induced "female" mosquitoes.

Dr. Chandran is at present looking for a position in a University where he can continue on with his research and do some teaching.

Amal C. Banerjee - 1966

Amal was born January 1, 1934 in Bengal, India. Before coming to the U.S. he lived in Calcutta, India where his parents still reside.

He graduated from the Metropolitan High School in Calcutta in 1949. He entered the University of Calcutta in the fall of 1949 and in 1953 he was awarded the B.Sc. with distinction from the Bangalasi College. In 1959 he received the M.Sc. degree also from the University of Calcutta in the field of zoology and comparative anatomy. In 1958 Amal came to the United States where he entered the University of the Pacific in Stockton, California where he received a 2nd M.S. degree in Zoology in 1960. While at the University of the Pacific he held the position of teaching assistant. While there he was also elected to membership in Beta Beta Beta. He is also a member of the Zoological Society of Calcutta and the Entomological Society of America.

He came to the University of Illinois in 1960 to work on his Ph.D. While here he held research assistantships with the State Natural History Survey under the supervision of Dr. G.C. Decker.

Dr. Banerjee also did his research under the direction of Dr. Decker. The title of his thesis is: THE BIOLOGY OF CRAMBUS TRISECTUS WALKER, IN ILLINOIS AND NOTES ON RELATED SPECIES.

In December 1965 he accepted a position as a research associate in Agricultural Entomology at the State Natural History Survey. His job is concerned with the laboratory and field studies on the biology and control of insects attacking forage crops, particularly the alfalfa weevil.

Amal is married. His wife's name is Ranu and they have one child, a daughter named Renee, age 2.

Rama Kant Bharadwaj - 1966

Rama was born July 15, 1930 in Badli (Punjab), India. He received his high school and intermediate education at D.A.V. College in Dehra Dun, India.

In 1951 he graduated from D.A.V. College, Dehra Dun with a B.Sc. degree. He then attended the Government College in Naini Tal, India where he received a M.Sc. degree in Zoology with a thesis in Entomology. At the completion of his work at Naini Tal he was awarded a Certificate of Merit for being the best all around student of the year 1957. He also secured first division and first position in M.Sc. at Agra University in 1957. From 1957 to 1961 he served as Assistant Professor in the Zoology Department of Meerut College, Agra University in Meerut, India.

Rama was awarded a Fulbright Travel Grant to proceed to the U.S.A. in 1961. While here at the University of Illinois he has held the position of research assistant in entomology while working on the comparative morphology of insects. He has done his research under the direction of Dr. Leigh Chadwick. Rama is married and they have one child. They have both been very active in the campus social affairs of the international student group.

The title of his thesis is EMBRYONIC DEVELOPMENT OF THE CERVICO-THORACIC SKELETON AND MUSCLES IN DERMAPTERA.

After receiving his degree in February, Dr. Bharadwaj hopes to find a position in a University where he can continue his research and have the opportunity to do some teaching.

PRESENT ENTOMOLOGY GRADUATE STUDENTS

Aly A. Abou-aly

Research: Medically important insects, their bionomics and relations to disease causing pathogens. He is working on the bionomics of Psorophora varipes. He is also doing some teaching in the laboratory of Dr. Horsfall's classes.

Advisor: Dr. W.R. Horsfall

Robert T. Allen

Research: Working on the systematics of the family Carabidae (Coleoptera). Recently published a paper on a taxonomic study of the Carabidae of Louisiana. La. Acad. Sci.

Advisor: Dr. H.H. Ross

John J. Ameel

Research: Received an M.S. degree from Kansas State University in the summer of 1965. Worked on stress in cockroaches. He has not yet established a problem in his research at the U of I. He was in Costa Rica last year where he took a course in tropical insect ecology with the Organization for Tropical Study.

Advisor: Dr. J.G. Sternburg and Dr. J.R. Larsen

Robert L. Benson

Research: Insect hormones and their relationship to intermediary metabolism in insects.

Advisor: Dr. S. Friedman

John K. Bouseman

Research: Systematic studies of the families Rhipiphoridae and Cerambycidae. Also during the summer of 1965, John continued his participation in the current series of South American expeditions of the American Museum of Natural History. He returned to the "Green Hell" of eastern Bolivia to join a field party working along the upper Río Mamoré and its tributaries. This year's work was a continuation of a project initiated in 1964: The biological exploration of the little known area around the southern headwaters of the Río Madeira. In 1964 the expedition worked along the Bolivian-Brazilian frontier in the area drained by the Río Guaporé.

In addition to collections made for the Museum, John was able to collect a considerable amount of material in groups of personal interest to him, and he is looking forward to having the time to "work up" this material.

Advisor: Dr. Richard B. Selander

William R. Campbell

Research: Completed a master's degree from Virginia Polytechnic Institute in Blacksburg. Came to the U of I in the fall of 1965. Area of research not yet specifically determined. Bill presented a paper at the ESA meetings in New Orleans on the genetic factors for DDT resistance in the DDT-resistant strains of cockroaches.

Advisor: Dr. J.G. Sternburg and Dr. C.W. Kearns

Franklin Chang

Research: My research activities the first semester of the 1965-66 school year were centered around the qualitative and quantitative determination of the sugars and their levels respectively in the honey bee (Apis mellifica) hemolymph and the problem of the diffusion of sugars across the midgut of the same insect. The majority of the semester was spent in developing a TLC method for separating hemolymph sugars in the honey bee and assaying the sugars in the hemolymph by an enzymatic and organo-chemical method now being employed by Dr. Friedman in his research. I hope to complete the course requirements for the doctorate next semester and take the preliminary examination sometime next fall. My major interest as of now falls along the line of carbohydrate metabolism in insects, but as of yet I have not determined my specific thesis problem in this area.

The first semester was highlighted by a trip to New Orleans to attend the ESA meetings, the first of its kind for me.

Advisor: Dr. S. Friedman

Robert (Bert) Clegern

Research: No chosen research area as yet; likely to be in control or behavior. At the present time my major interest is to develop a winning softball team this spring.

Advisor: Dr. S. Friedman

Samuel Cullop

Research: Insect behavior in general and especially in tobacco hornworms, Protoparce sexta. At present working on the behavior of P. sexta including experiments and observations on all four stages of development. A few of these include the effect of starvation on larvae being reared under diapausing conditions, courtship and mating behavior, feeding from model flowers, time spent in each instar and in the premolt condition for each succeeding instar, developmental units, embryology, etc.

Advisor: Dr. G.P. Waldbauer

Eddie Wayne Cupp

Research: Area of research not yet determined.

Advisor: Dr. W.R. Horsfall

Tobias Dirks

Research: Area of research not yet determined.

Advisor: Dr. G.P. Waldbauer

John L. Eaton

Research: Studies of action of DDT on insect nervous system. John attended the ESA meetings in New Orleans where he presented a paper on the activity of the nervous system of DDT treated American cockroaches as related to visible symptoms of poisoning.

Advisor: Dr. J.G. Sternburg

Gary E. Eertmoed
Research: Teaching assistant and curator of departmental insect collection. Have also been working on my thesis research: "A revision of the genus Epipsocus (Psocoptera: Epipsocidae)." Recently published a paper on "A life history study of Peripsocus quadrifasciatus (Harris) (Psocoptera: Peripsocidae)" in the Journal of the Kansas Entomological Society.
Advisor: Dr. R.B. Selander

Roger F. Flattum
Research: Investigating the mode of action of nicotine and curare in the insect nervous system. Also had the opportunity to attend the ESA meetings in New Orleans.
Advisor: Dr. J.G. Sternburg

Willard Fogal
Research: Have narrowed down my present interests to a study of the histology of cuticle and subepidermal cells in flies.
Advisor: Dr. G.S. Fraenkel

Philip (Mike) Fox
Research: Research interests not yet determined.
Advisor: Dr. J.G. Sternburg

Govind Gangrade
Research: Working on onion maggot, Hylemyia antiqua Meigen. Came to the U.S.A. in September 1965 under A.I.D. program for one year.
Advisor: Dr. J.G. Sternburg

Edwin Gemrich
Research: Insect toxicology and biochemistry. Presently working on the enzymatic degradation of carbamates by insects and the enzymatic mechanism(s) responsible for carbamate detoxification in insects.
Advisor: Dr. C.W. Kearns

Catherine T. Hsiao
Research: Insect physiology. At the present time working on bursicon, the new insect hormone which controls tanning in the adult fly and other insects. Also attended the annual ESA meetings in New Orleans.
Advisor: Dr. G.S. Fraenkel

Ting Huan Hsiao
Research: Insect physiology and biochemistry. Currently doing work on the physiological basis of host-plant selection in the Colorado potato beetle, Leptinotarsa decemlineata (Say). Also attended the annual ESA meetings in New Orleans.
Advisor: Dr. G.S. Fraenkel

James F. Janicke
Research: Area of research not yet determined.
Advisor: Dr. J.G. Sternburg

Paul S. Killmer

Research: Electron microscopy/histology of the brain of adult Aedes aegypti -- normal and virus infected. With Dr. Larsen I have been working on the fine structure of the ommatidia of Phormia regina, particularly at the level of nerve integration.

Mrs. Killmer and I spent the first week of September in Mexico where we had an unfortunate automobile accident. Mrs. Killmer broke her pelvis, but is recovering rapidly.

Also included in the travel is a trip to Fort Dietrich, Maryland, site of the Army Chemical Corps, in the first week of February to acquire material infected with virus for thesis study.

Advisor: Dr. J.R. Larsen

Donald E. Kuhlman

Research: Prior to enrollment in September, 1965, I was employed as Farm Adviser in Montgomery County, 1963-1965. Area of research not yet determined.

Advisor: Dr. J.G. Sternburg

Joseph V. Maddox, Jr.

Research: Primarily in the area of insect pathology and insect ecology. Currently engaged in a study of the diseases of the armyworm, Pseudalatia impuncta. Now specifically working on microsporidian pathogens of Pseudalitia.

Also attended the North Central Branch Meeting of the Entomological Society of America and the National Meetings of the ESA.

Advisor: Dr. G.C. Decker

Jean M. Mathieu

Research: I worked exclusively on my thesis the whole year on the biological studies of a group of closely related species of the genus Epicauta (Meloidae: Coleoptera). (Nothing exciting happened to me.) I will be going back to teach and do research in Mexico (March, 1966). Chances are I will be back shortly next summer for my final examination.

Advisor: Dr. R.B. Selander

David C. Newton

Research: A profitable summer was spent perfecting techniques for observing various phases on honey bee behavior. On several week-ends the Newtons sallied forth to see various points of interest in Illinois. Recently published a paper on honey bee temperature regulation in the American Bee Journal.

Advisor: Dr. E.R. Jaycox

Stephen Parshall

Research: Area of research not yet determined.

Advisor: Dr. S. Friedman

William J. Patterson

Research: Course work leading to the requirements for a Ph.D. degree should be completed during the spring semester 1966. Preliminary tests will be given during September 1966. Word has been received from the Office of the Surgeon General, U.S. Army that the present contract with the University of Illinois due to expire in August 1966 will be extended to 31 August 1967. Major Patterson, Medical Service Corps, will hopefully complete his research and dissertation on carbamate insecticide research during his last year at the University.

Advisor: Dr. J.G. Sternburg

Lance G. Peterson

Research: Insect immunology. At the present time working on interspecific responses of transplanted insect tissue. Recently published a note on the environmental specificity for the development of insect ovarian tissue with Dr. Larsen. Also attended the ESA meetings in New Orleans.

Advisor: Dr. J.R. Larsen

John D. Pinto

Research: Currently involved in studies on the sexual behavior and taxonomy of the genus Meloe (Coleoptera: Meloidae).

Advisor: Dr. R.B. Selander

Robert F. Randall

Research: Insect cholinesterases and studying the effects of inhibition upon these enzymes. Also attended the annual meetings of the ESA in New Orleans.

Advisor: Dr. L.E. Chadwick

Keturah Reinbold

Research: Did a problem on feeding behavior of tobacco hornworm adult to fulfill part of requirements for an M.S. in Biology. Will receive degree in February, 1966. Will be on campus next semester and probably teach next year.

Advisor: Dr. J.E. Heath (Physiology) and Dr. G.P. Waldbauer

Judith L. Reynolds

Research: Investigation of effect of competition under conditions of constant temperature and relative humidity on the population dynamics of two species of flour beetles Tribolium confusum and Tribolium castaneum.

Advisor: Dr. A.W. Ghent

Maria (Nen) Ronquillo

Research: Histopathology of thermal stress on subarctic aedine mosquitoes. Recently published with Dr. Ray L. Watterson a paper on the persistence of mesonephroi in chick embryos given amino guanidine sulfate at four days of incubation.

Advisor: Dr. W.R. Horsfall

George Rotramel

Research: Have been working on a survey of genital capsule morphology in male ants (M.Sc. thesis). Also working on distribution studies of winter stoneflies with Dr. Ross. In this connection I made trips to Ozark Plateau, Allegheny Mountains, Adirondock Mountains, and Mount Kutahdin area in Maine.

Advisor: Dr. H.H. Ross

Soelaksono Sastrodihardjo

Research: Developmental histology of Cecropia ovary. Culture of Cecropia ovary from diapause and developing pupae. Attended the mid-west endocrinology meeting at Iowa State University, Iowa City with Dr. Fraenkel's group. Also gave a paper at the annual meeting of the American Society of Cell Biology in Philadelphia, Pa. which was introduced by Dr. J.F. White.

Advisor: Dr. J.R. Larsen

Aubrey Scarbrough

Research: Due to course work and because of my first semester here, I have not yet chosen a specific area of research.

Advisor: Dr. G.P. Waldbauer.

Morris Seligman

Research: Restricted to summers, weekends and other times of freedom from courses [trauma]. Action of bursicon with particular reference to the metabolism of tyrosine. Recently gave a paper at the regional meeting of the Society of Comparative Endocrinology in Iowa City. Also submitted for publication a paper in Science on Bursicon with Dr. Fraenkel and Cathy Hsiao.

Advisor: Dr. S. Friedman

John D. Unzicker

Research: The comparative morphology and evolution of the female genitalia of Trichoptera. Also the evolution and dispersal of the Hydropsyche bifida group of caddisflies. Recently published on two new species of the genus Myrmecotypus from Central America (Clubionidae: Araneae) in the Jour. Kansas Ent. Soc. and the Micrasema rusticum group of caddisflies (Brachycentridae: Trichoptera) in the Proc. Biol. Soc. Wash. Had the opportunity to attend the annual meetings of the ESA in New Orleans.

Advisor: Dr. H.H. Ross

Richard C. Weddle

Research: Most of last summer was spent on further study and analysis of the behavior of blister beetles. In conjunction with this was a project involving the collecting and breeding of grasshoppers, eggs of which are used for the rearing of the beetles.

Travel consisted of collecting trips to southern Illinois, Missouri, Kansas and attending the ESA meetings in New Orleans.

Advisor: Dr. R.B. Selander

George Robert Wilson

Research: Diapause in cecropia and hornworm pupa and the relationship of the pupa brain to the control of wound metabolism and diapause. Ecdysone and its role in wound metabolism. The structure activity relationship of ecdysone.

Advisor: Dr. J.R. Larsen

Toshio Yamamoto

Research: Thesis research on genus Polycentropus (Trichoptera, Psychomyiidae). Publications this past year with Dr. Ross include papers on a new species of the caddisfly genus Polycentropus from eastern North America (Trichoptera, Psychomyiidae) in the Proc. Biol. Soc. Wash. and a phylogenetic outline of the caddisfly genus Mystacides (Trichoptera, Leptoceridae).

Advisor: Dr. H.H. Ross.

Anna Ying Yang

Research: I am currently taking courses in both English and Entomology. I expect to do research on the ultrastructure of the cockroach nervous system and the comparative biochemistry of the same system. I arrived in America on September 22, 1965 by plane from Taiwan (Republic of China).

Advisor: Dr. J.R. Larsen and Dr. J.G. Sternburg

NEWS ABOUT THE STAFF MEMBERS

Dr. Walter V. Balduf

Dr. and Mrs. Balduf spent six weeks in Mississippi and Texas during February and March, 1965. They also spent a week visiting relatives in Ohio in May. Following a delightful tradition of many years standing, Dr. and Mrs. Balduf returned to Olsen's Eaglesnest resort, near Ely, Minnesota where they stayed from June 1 to October 1, 1965. Besides enjoying the cool, and often rainy climate, Dr. Balduf again traced the life history of the Phycitid moth, Acrobasis rubrifasciella (Pack.) and the insect parasites of its caterpillar and chrysalis. This effort was particularly rewarding in that at least six parasites were reared from the chrysalis -- some new, others heretofore infrequent, and all very interesting. A manuscript describing the life of the host moth and certain of its parasites is presently in the hands of an editor.

Dr. Leigh E. Chadwick

Dr. Chadwick is currently concerned with the following courses in the department:

Entomology 301 Introduction to Advanced Entomology, shared with Dr. S. Friedman and Dr. J. Sternburg;

Entomology 410 Insect Morphology, shared with Dr. J. Sternburg.

His present research interests include a continuation of his studies of insect cholinesterase: properties and purification of insect cholinesterases; kinetics of the reaction of insect ChE with substrates and inhibitors; physiological role of ChE's in insects, including possible relation of the acetylcholine-cholinesterase system to events in growth and metamorphosis. This work is assisted by a research grant from the National Institutes of Health. Mr. R.F. Randall is participating in it as a candidate for the Ph.D. in Entomology. Dr. J.L. Krysan completed his Ph.D. studies in this area in June 1965.

Dr. Chadwick is also working on the comparative morphology of insect musculature; this work is concerned primarily with the thoracic musculature of all insects, and starts from the premise that a single muscular pattern underlies the present thoracic muscular pattern of all groups. Data bearing on this general problem and on details of muscular organization are sought in various insects. The stress is naturally on those insect types that have been least adequately studied in the past, and on the embryogeny of the muscular patterns and their subsequent development. The work is assisted by a research grant from the National Science Foundation. Three students working in the area have recently completed work for the Ph.D. in Entomology. They are:

Mr. R.K. Bharadwaj, who has studied comparatively the cervicothoracic musculature of Dermaptera,

Mr. R.S. Chandran, who with the guidance of Dr. W.R. Horsfall has studied the musculature of the head and genital segments of Aedes stimulans, both of the normal sexes and of thermally-induced "males".

Mr. R.H. Storch, who has studied the embryogeny of the cervicothoracic muscular pattern of the cockroach, Periplaneta.

Dr. Chadwick is now completing work on the translation from German to English of two entomological books, the English versions of which are expected to appear shortly:

1. The World of Insects, by W. Linsenmaier, to be published by Artists and Writers Press.
2. The Language and Orientation of Bees, by K. von Frisch, to be published by the Harvard University Press.

Dr. Chadwick is resigning from the department in June 1966. He expects to spend about 5 months a year at his summer home in Blue Hill Falls, Maine; and to continue entomological research at some as yet undecided location during the winters.

A present tabulation on the Chadwick family include three married children: Frederick Latreille, of Rockville, Maryland; Pierre Latreille, of Baltimore, Maryland; Mrs. Frances Buhrdorf, of Newport News, Virginia, and at present count there are eight grandchildren.

Dr. Gottfried S. Fraenkel

Dr. Fraenkel is carrying on a continuation of his research on bursicon, a new insect hormone of the nature of a protein which controls tanning in the adult fly and other insects. Connected with this research and working under Dr. Fraenkel's guidance are Catherine Hsiao, full-time research assistant, also M. Seligman and W. Fogal, graduate students. Dr. Fraenkel is also continuing his research on the heat resistance of inter-tidal snails. His other research activities include the thesis research of Ting Hsiao on nutrition and host plant selection of the Colorado potato beetle and pupal diapause in the fly, Sarcophaga falculata.

Gottfried spent 6 weeks at Woods Hole during July, August and September, of last year and he is preparing to spend 3 weeks during February of this year at the Lerner Marine Laboratory at Bimini in the Bahamas. We have a feeling that the current 4° above zero weather in Champaign may have something to do with this trip. He attended meetings of the ESA at New Orleans in November and the AAAS meeting at Berkeley in December, and the meeting of Society of General Biology at Woods Hole in September. He also attended the regional meeting on endocrinology at Iowa City, with Catherine Hsiao, Willard Fogal and Morris Seligman who all read papers.

A family report on the Fraenkel's tells us that son, Gideon, is now associate professor of chemistry at Ohio State University, Columbus, Ohio, and Dan is teaching bacteriology at Harvard Medical School.

Dr. Stanley Friedman

Stan is continuing his research activities on the mechanisms of metabolic interconversions in Diptera. He has just completed two articles on the enzymes involved with trehalose metabolism which will appear in Volume 7 of Methods in Enzymology published by Academic Press. He is also getting involved along with his graduate students on the effects of insect hormones on intermediary metabolism in insects.

He spent a great deal of this past semester developing the new graduate level course in Insect Physiology. What started out to be a half semester of teaching turned into a very full semester of insect biochemistry.

Stan is anxiously watching the progress of the construction of the new building with the anticipation of moving into his own permanent quarters.

Travel for the Friedman family this past year consisted of an extensive trip in June by car through the northeast and back across Canada with time out for some research discussions at Woods Hole, Massachusetts. Stan also attended the Federation meetings at Atlantic City, New Jersey last spring.

All of the biologically distinguished children of the Friedman clan seem to be well acclimated to life in Urbana and we are all looking forward to the first published poems of Mathew Arnold.

Dr. Arthur W. Ghent

During the past year, Dr. Ghent continued his writing and research in several fields of interest. His model of crossing-over, involving the postulated existence of alternately oriented dipoles along opposite surfaces of chromosomes, was accepted by the Journal of Theoretical Biology for publication early in 1966. His work on the use of the binomial in the assessment of contagion in three dimensions was completed during the summer of 1965, and prepared for publication during the fall. Biometric research now in progress includes the extension of Fisher's exact test for 2 x 2 tables to larger tables. The problem with larger tables is not the mathematical formulation of an exact test, which has proven elementary, but rather the spatial representation of these larger tables in a manner permitting the isolation of more extreme tables than the one observed. Satisfactory methods have recently been found for 2 x 3, 2 x 4, and 3 x 3 tables, which seem extendable, in principle, to any sized table. A second problem in biometry, also currently under study, involves the greater elaboration of analytic methods suitable to 3-dimensioned contingency tables.

New acquisitions in the Ghent family, in 1965, included a house in Urbana, and a Tom kitten named Gregor Mendel, so named because of a certain air of imminent genetic transmission about the beast. Gregor, a grey and white shorthair, has grown exponentially since his birth last spring in Canada. His parents were also genetically oriented, having represented evidently the descendants of many generations of rigorously non-selective, even indiscriminant, outbreeding.

Dr. Ghent is offering a new course in Quantitative Biology in the spring semester of 1966. This course has attracted a pre-enrollment of over 30 graduate students.

Dr. William P. Hayes

Dr. Hayes tells us that after 10 years as a "Faculty Drop Out" he is spending his time with travel and golf. Last winter he took a cruise to South Africa and the Holy Land. This winter it will be a 77-day cruise in the South Pacific to New Zealand and return to Chili and the east coast of South America. He says all this luxury travel is hard to take and in the same sentence sends his regards to all the entomology graduates who might remember him.

If retirement is this good, people will be standing in line to sign up.

Dr. William R. Horsfall

Dr. Horsfall is currently working on the histopathology of thermal stress on subarctic aedine mosquitoes. Bill has published rather extensively this past year with his former graduate students John Anderson and Reinhart Brust. They have put out some five papers on the effects of thermal stress on the anomalous development of mosquitoes.

He also published with Dr. Ross a synopsis of the mosquitoes of Illinois.

Having spent the better part of four months in Europe last year Bill has confined his travel to the good old USA this year. He has made collecting trips both to Minnesota and Wisconsin to obtain subarctic mosquitoes.

Dr. Elbert R. Jaycox

Dr. Jaycox is continuing his work on the behavior of honey bees with two graduate students. David Newton, Entomology, continued his study of the bees' behavior in relation to smoke. Patrick Tyler, in psychology, began work on the genetics of flight behavior.

Dr. Jaycox also arranged and presided at a half day program for the American Beekeeping Federation in Atlanta, Georgia in January. The program, a symposium, dealt with "The impact of pesticides on beekeeping".

He was also responsible for a session on fruit and vegetable pollination for the National Pollination Conference at Texas A & M University in September, where he also presented a paper on "How bee behavior may affect pollination research."

The Jaycox family camped to California and back during August. The whole tribe, including wife, 4 children, and dog (such courage). They visited Entomology Departments at Utah State University and University of California at Davis.

Dr. Clyde W. Kearns

Camille and I spent the 1964-1965 academic year in England where I worked with Dr. Cyril Donninger in the Milstead Laboratory of Chemical Enzymology at Sittingbourne in Kent. During my stay we made an unsuccessful effort to elucidate the nature of the acetylcholine receptors in insects, but in the course of our work we discovered a conformational difference in the cholinesterase of insects and that of mammals. I hope through continued efforts to use this information as a basis for explaining some of the many uncertainties concerning the cholinergic system in insects.

We lived in the beautiful and ancient city of Canterbury. This meant a 20-mile drive for me each day over a narrow, winding road and over a very hilly terrain. For about a week this proved to be a formidable undertaking until I became more adept at driving on the left side of the road. The inconvenience of 30 minute drives each day to work was fully compensated for by the close proximity to our home of the excellent Canterbury Golf Club.

We went to Spain over the Christmas holidays to soak up some sunshine. We located at Torremollinas on the Costo del Sol and spent most of our time driving up and down the coast between Malaga and Gibralter. This vacation also included a one-day trip to Tangier which proved to be a very interesting city.

We spent a long Easter vacation at Glen Eagles in Scotland. The main object in this trip was, of course, to play golf. We found the golf courses to be excellent, but the weather became gradually worse until on the last day of our stay it became intolerable even for me.

This first visit to Scotland was enough to induce me to give it another try. In the middle of May I joined a friend of mine on a 10-day tour of Scottish golf courses. We made our headquarters in the town of Troon on the west coast of Scotland. There are no less than 20 championship courses in and around Troon. We found it possible to easily play two different courses each day and on one day of our stay we added a third course, where we left the last green at 10:00 PM in still bright sunshine. This trip left me feeling slightly over-golfed.

Dr. Joseph R. Larsen

The activities and research in Dr. Larsen's laboratory during the past year have been concerned primarily with the continuation of a study of the chemo- and mechanoreceptors of insects. This study is being carried on presently at the ultrastructure level with the use of the electron microscope. In conjunction with this work have been some studies on the compound eye on the insect, particularly the blowfly Phormia.

Recently Joe and Shauna attended a Symposium on the compound eye held in Stockholm, Sweden where Joe presented a paper. This was followed by subsequent visits to Karolinska Institute in Stockholm with subsequent visits to Copenhagen with Dr. Ellen Thomsen, with Dr. Dietrich Schneider in Munich and also laboratories in London before returning home. The trip was just long enough to wet the appetite and to want to go back and take the whole family.

Teaching is divided between Insect Physiology with Dr. Friedman and Biology 110 and 111.

The family number remains stable at 3. However, with Pam 16 and now at the wheel of the family chariot the stability is somewhat questionable. Having volunteered the second time to do the yearly newsletter my sanity is also somewhat suspect.

Dr. William H. Luckmann

When Dr. Decker retired last August and left for the sunny clime of Miami, Florida there was a void at the Natural History Survey. That void was most adequately filled as of the 1st of September by Dr. Luckmann who is now entomologist and Head of the Section of Economic Entomology for the State Natural History Survey.

In his new position Bill has an abundance of administration. However, he still finds time to carry on his research on aphid resistance in sweet corn and induced sterility in the onion maggot.

There are no new additions to the Luckmann family -- just five children. However, the Luckmann's share with the editor that certain pride only a parent can have in the Jefferson Junior High Orchestra where both Chuck and Nancy Luckmann play in the concert band.

Our congratulations and wishes for success to Dr. Luckmann in his new position.

Dr. V.G. Milum

Even though he has been in retirement for going on 4 years, Dr. Milum still manages to keep very busy. He has just completed his History of the National Beekeepers' Association from 1860-1964. Over 100 years of bee-keeping covering 80 pages. He also has several articles in the American Bee Journal.

After their trip last year to Italy, Spain and Portugal, they spent two months at Sarasota, Florida, golfing and watching the White Sox, shelling -- 'shellebreties'.

Dr. Milum tells us that he is the oldest grandfather with first grandson by George -- Jeffrey Shedd Milum. Also second daughter-in-law by oldest son, Bob. We trust this is the first in a long line of grandchildren and heirs to the Milum fortunes.

Dr. Herbert H. Ross

For Dr. Ross as with most biologists on the campus, vivid memories for 1965 seem to center around the AIBS meetings, in particular his part in the organization, conduct, and later publication of the Biological Logic symposium. His research activities center around the caddisflies and the winter stoneflies. The "Winter Stonefly Club" now consisting of over 100 members continues to send in winter stonefly collections from all over eastern North America and in addition staff members here made quite a number of trips in February and March and again in December of 1965. The aim with these little winter stoneflies is to try to convert them into thermometers registering the temperatures of glacial times. The project is a cooperative one with Dr. W.E. Ricker of the Canada Fisheries Board. Dr. Ross and Dr. Ricker spent a profitable week recently getting their notes synchronized in a conference at Vancouver, B.C. Considerable progress was made also with leafhopper studies, especially in cooperation with Dr. Leon W. Hepner who spent May at the Survey.

Visitors to the Survey systematics group included Louise M. Russell, George B. Vogt, and Willis W. Wirth from the U.S. National Museum, Dr. K. Sakimura from the Pineapple Research Institute of Honolulu, Vernon H. Lee of the Rockefeller Foundation, Columbia, Dr. Marshal Hertig of the Gorgas Memorial Laboratory at Panama, and our old friend ex-Illini Edward Becker of the Entomological Research Institute of Ottawa, Canada.

The Rosses enjoyed a delightful reunion with their son and daughter-in-law at Western Washington State College in October and with relatives in Louisiana at Thanksgiving. Both trips also netted elegant leafhopper collections.

Dr. Richard B. Selander

The major research activities of Dr. Selander this past year include the organization and analysis of the behavioral and taxonomic information obtained during his recent sabbatical leave. The analysis and interpretation of an experiment to determine the effects of specific identity and body size on certain parameters of sexual behavior in Meloidae; and also a recently completed taxonomic study of one of the subfamilies of Meloidae.

The Selander's are building a new home in Champaign having surpassed the capacity of their present house. Also Dick informs us that Lorraine has received an undergraduate research grant from the NSF for a project in the Department of Psychology .

Dr. Selander has written a report for the newsletter (page 6) on the state of the Departmental Insect Collection which should be of interest to all of you.

Dr. James G. Sternburg

Dr. Sternburg's research this past year has been to continue studies on the mode of action of DDT, particularly through an electrophysiological approach to this problem. He is also continuing a study of the effects of organophosphate anticholinesterases on nervous tissues, with respect to amount of inhibition needed for production of visible symptoms. Jim has started, with Dr. Waldbauer, a study of certain features of behavior and biology of Cecropia.

Travel this year has been to attend the Entomological Society Meetings in New Orleans.

During this past year, Jim served as acting head of the department until August 31, 1965. It was a hectic year. Our hats off and sincere appreciation to Jim for an arduous task well done.

Vital statistics on the Sternburg clan presently read Ginny 10, Tommy 7, and Janet 5. The Sternburg's spent a delightful 2-week vacation in northern Wisconsin during late July, early August.

Dr. G.P. Waldbauer

Dr. Waldbauer's research this past year has been on the feeding behavior of phytophagous insects, the biology of Hyalophora cecropia with Dr. Sternburg, and the mimicry and taxonomy of the Syrphidae.

During late April and early May, Gil spent 3 weeks all over eastern Mexico collecting Syrphidae with Howard Weems of the Florida State Plant Board and Wally Boyes of McGill University.

Gill informs us that wife Stephanie has completed her requirements for the M.A. in French this year. (Our congratulations!) She continues as a teaching assistant in the French Department.

Dr. Waldbauer was also chairman of a session of a symposium on the Bioenergetics of Animals at the AIBS meetings here this past summer and gave an invited paper in this symposium of the food efficiency of phytophagous insects. Gil was also local arrangements chairman for the Animal Behavior Society for AIBS meeting.

Dr. Joan F. White

Dr. White is continuing her research on pupal moth ovaries in tissue culture. Also attempts are still being made to culture larval and embryonic mosquito tissues.

Joan attended the Tissue Culture Association meetings in Miami, Florida in June, 1965, and she also read a paper at the American Society of Cell Biologists in Philadelphia in November 1965. She visited with Horikawa and Fox at the University of Wisconsin in early December to observe their culture techniques with Drosophila.

Joan's two boys are in 1st and 6th grade this year. Her husband temporarily chaired the Department of English at Eastern Illinois University during the first quarter of this year, and she learned how hectic administration can be. Dr. White hopes to go to Canberra, Australia next January to work in Dr. Grace's laboratory on insect tissue culture at his invitation.

A virtually snowless winter in Champaign this year has made it considerably easier for Joan's daily drive to and from Charleston.

Dr. Judith Willis

Dr. Willis' research this past year has been on the cuticular proteins and the mode of action of the principal hormones on metamorphosis.

In addition to her research, Judy is still very much involved in the undergraduate Honors Biology Program. She has just finished a semester of teaching "The Organism" and she is still responsible for the laboratory of "The Cell" course.

This summer Judy helped to organize and participated in a special symposium at the AIBS meetings. The subject of the symposium was Modern Trends in Biology with the University of Illinois being the case study. This was one of a series of special symposia arranged to consider the problems of undergraduate teaching.

This past summer Judy and her husband, Dr. John Willis of the Physiology Department, attended the meetings of the Society of General Physiologists in Woods Hole. The meetings were followed by some camping in the northeast and an opportunity to keep their canoeing arms in shape.

PUBLICATIONS FROM THE DEPARTMENT OF ENTOMOLOGY, 1964-1965

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Fraenkel, G. 1965. A brief survey of the recognition of carnitine as a substance of physiological importance. In Recent Research on Carnitine. Its Relation to Lipid Metabolism. Ed. G. Wolf. The M.I.T. Press, Cambridge, Mass. 1-3.

Fraenkel, G. and C. Hsiao. 1965. Bursicon, a hormone which mediates tanning of the cuticle in the adult fly and other insects. J. Ins. Physiol. 11:513-556.

Hamby, R.J. and G. Fraenkel. 1965. Effects of high temperatures on the prosobranch snail, Littorina littorea. Biol. Bull. 129:406-407.

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Ghent, A.W. 1965. Sciences, existentialism, and the search for a naturalistic ethic. Bios 36(3):103-125.

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Parks, J.J. and J.R. Larsen. 1965. A morphological study of the female reproductive system and follicular development in the mosquito, Aedes aegypti (L.) Trans. Amer. Micro. Sci. 84:88-98.

Peterson, L.G. and J.R. Larsen. 1965. Environmental specificity for the development of insect ovarian tissue. Amer. Zool. 5:210-211.

LUCKMANN, William H.

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ROSS, Herbert H.

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Selander, R.B. 1965. The systematic position of Meloetyphlus, a genus of blind blister beetles (Coleoptera: Meloidae). Jour. Kansas Ent. Soc. 38:45-55.

WHITE, Joan F.

White, J.F. 1965. A study of the development and competence of the Cynthia ovary in vivo and in vitro. J. Cell Biology, 27 (Abst.)

ALUMNI NEWS

We were gratified by the response of the alumni to our reincarnation of the annual newsletter. As a result of those who responded to our information sheet we have this year considerable news to pass on to you on the whereabouts and whatabouts of many of your former associates.

We are most grateful to all of you who did cooperate by sending in information about your recent activities. Next year we would like to hear from all of you.

In this newsletter as in the last and all future issues we are including an information sheet which we would like you to remove, fill out and return to us. If this becomes a yearly habit with you we will be able to maintain contact with and keep track of each others activities.

Some of the alumni have suggested a reunion of all the graduates of the entomology department or a special symposium of some sort next fall when the new building is dedicated. If you would be interested in such an activity and be willing to support it, please let us know on your returned "Information Sheet." If enough heat is generated we might reach the point of combustion.

We will be looking forward to hearing from all of you.

John Fredric Anderson ('63)

John was at the Entomological Society of America meetings at New Orleans, Louisiana and had a good visit with old friends.

At the present time he is working on griseofulvin, an antibiotic that affects the morphogenesis of the cell walls of fungi which contain chitin. The exposure of larvae of mosquitoes to griseofulvin results in (a) gross anatomical changes in the cuticle, (b) the detachment of muscles from the integument, and (c) a prolongation of development.

James W. Apple ('49)

My recent research is on the biology and control of field crop insects (northern corn rootworm, cereal leaf beetle, corn earworm).

Elizabeth Heiss Arnason ('36)

Dr. Elizabeth Arnason has informed us that her husband Dr. Arni Pall Arnason passed away in October of 1964. We all extend our sincere regrets at her loss. We are delighted to note that Dr. Arnason has resumed her own activities and is doing part time teaching in entomology at Carleton University.

Angel Berrios-Ortiz ('61)

In the summer of 1964 I attended a summer course in Desert Biology at the Arizona State University, Tempe, Arizona and also traveled to Mexico. Recently I have completely devoted my time to the teaching of the freshman course in biology, general zoology and general entomology. Spare time is usually very scarce and most of it is dedicated to reading, studying and some administrative work.

Lusettie Blevins ('25)

My recent travels include trips to Florida and Washington, D.C.

My recent research interests have been a study on how to grow vegetables without moisture in addition to my continued interest in gardening. Dr. Blevins is retired and living in Atwater, Illinois, 62511.

Murray S. Blum ('55)

1965-1966 was spent as a NSF Senior Postdoctoral fellow at the University of Bristol in England. My recent research interests are the pheromones, olfactory chemistry and reproductive biochemistry. Recent publications include various papers on pheromones, biochemistry of semen and insect defensive secretions.

Under additions to the family Dr. Blum has passed on the following gem: "cuatro es sufficiante"!!

Reinhart Albert Brust ('64)

I have made recent trips to Flin Flon, Churchill, and Baker Lake (Northwest Territories) Canada. My recent research interests are the effects of thermal stress in northern Aedes mosquitoes and diapause (embryo) in univoltine mosquitoes. I have just published with Dr. W.R. Horsfall a paper on the thermal stress and anomalous development in the mosquito, Aedes communis.

Wayne Price Carlisle ('47)

We have had recent pleasure trips to New York, Canada, Ireland, Scotland, Great Britain, Holland, Belgium, Germany, Switzerland, Italy, Monaco and France.

At the present time I am teaching Biology and Physiology at Madison Senior High School in Madison, Illinois.

John J. Corrigan ('59)

This past summer I attended a seminar on insect biochemistry, sponsored by NSF in Chiba, Japan. I also toured universities in Tokyo, Kyoto, Osaka, Nagoya, and Sendai, Japan. I was there from June 26 to July 10, 1965.

My research interests at the present time are metabolism of amino acids and enzymatic transformations in insects, particularly Lepidoptera and Coleoptera. Recent publications include a paper with N.G. Svinivasan and A. Meister on biosynthesis of D-serine in the silkworm, Bombyx mori.

The present size of the family including additions are: Deborah 8, David 5, Judith 3, and Susan 2.

William B. Cutts ('61)

I received my M.D. degree in June 1965 and at the present time am interning at Johns Hopkins Hospital. I have accepted a residency in Tucson, Arizona for 1966-1967.

Our additions to the family are limited to one who is Daniel Bryant Cutts, born August 9, 1965 (only 9-1/4 lbs).

Stanley Black Fracker ('14)

My recent travels include attendance at the International Congress of Entomology in London and a tour of Scandinavia. Other travel in the last three years includes Mexico, the Caribbean and Florida.

My recent publications include the "Visiting Research Scientists Program, 1958-1961; Report of Field Survey," 35 pp. Jan. 1961, Nat. Acad. Sci.

Our own issue having ceased we now have three married daughters and six grandchildren in Colorado, Virginia and Washington, D.C.

Since I retired from the U.S.D.A. in 1958, my recent research interests have been geneology and family history in U.S. and England.

Dr. Fracker informed us that with one exception (R.D. Glasgow) he is the only survivor who has had an entomology Ph.D. from Illinois for over 50 years. Hats off to continued long and happy life.

Philip Garman ('16)

In addition to correcting his address, Dr. Garman suggests the next cover of the newsletter might have a picture of a butterfly or dragonfly or honey bee.

George Waldo Hahn ('53)

The past few years my summers have been spent as a Park Ranger Naturalist at Yellowstone National Park, 1953-1959, and Canadian Rockies, 1964.

My recent research interests are cytology -- cellular migration of cells of adrenal cortex (Escalator theory) as traced with tritiated thymine.

George Hahn, Continued

Additions to our family are Ross, 1952 (after Herbert Ross) and Karl, 1954.

I received an M.A.T. degree in Biology at Brown University in 1963 and at the present time am teaching biology and physiology at Newton Junior College in Newtonville, Massachusetts.

Robert F. Harwood ('54)

My most recent travels were to attend the XII International Congress of Entomology in London followed by a visit to the Netherlands and Germany.

My recent research interests are insect photoperiodism, daily rhythms, and nutrition and phagostimulation in phytophagous Lepidoptera. My recent publications include papers on photoperiod and mosquitoes.

We have no recent additions to the family, still 1 boy and 2 girls.

John M. Kingsolver ('61)

I recently spent time at the Museum of Comparative Zoology at Harvard University to study types of Bruchidae. My recent research interests are taxonomy, evolution and phylogeny of the family Bruchidae. I have had some recent publications on the genus Neltumius (Bruchidae), and on a new fossil genus of Bruchids and also on the genus Abutiloneus (Bruchidae) all of which appeared in the Coleopterists Bulletin.

John Paul Kramer ('58)

In late July and early August (1965) I traveled to London to give an invitational paper at the Congress of Protozoology on microsporidian diseases of muscoid flies.

John is now on the staff at Cornell University where he will be developing a course in insect pathology and biological control in addition to continuing his research on protozoan diseases of insects.

John Kramer, Continued

His recent publications are numerous and he suggests we check Biol. Abstracts for 1964, 1965, and 1966.

John claims no new additions to the family. He says he still has one wife (no age given), one son, age 7 and one daughter, age 5.

Herbert Lipke ('54)

In the past few years my travel has taken me to the London School of Hygiene 1961-1962 as a WHO Fellow, 1964 Grand Teton and Yellowstone, 1965 France and England, San Francisco and Grand Canyon (summer).

My recent research interests are the configurational changes in granulocyte membranes and Oligosaccharide sequences in structural tissues.

Herb has had recent publications on DDT metabolism in Anophelines, Polysaccharide and Glycoprotein formation in cockroaches, gluthatione in dipterans and turnover of chondroitin sulfate B in rat skin which is now in press.

Herb tells us there have been no new additions to the family.

John A. Lowe ('60)

My recent travels are my major persuits at the present time as I am covering S.E. Asia for Rohm and Haas, primarily Thailand and Philippines at the moment.

Even though I am presently living in Bankok, Thailand the home address is still the same.

Edward Lee Mockford ('60)

My travels in the 1963-1964 school year took me on leave to Mexico where I was teaching first semester in the Instituto Tecnologico at Monterrey.

My recent research interests are on the taxonomy of Psocoptera, especially tropical and subtropical New World and polymorphism in Psocoptera.

My most recent publications are on the genus Caecilius and on a new genus of hump-backed psocids from Mexico and southwestern U.S. which is in press.

Carl Otto Mohr ('34)

Recent travels took me to Oahu, in June.

My recent research interests are on the methods of evaluating infestations of vertebrates by arthropod parasites.

The most recent publications are on louse and chigger infestation as related to host size and home ranges of small mammals and relation of flea infestations to spacing between cottontail rabbits.

Dr. Mohr tells us that he will be leaving Berkeley in January of 1966, possibly for Sand Key, an island in the sun, west of Tampa. (How green with envy can you get.)

Jai K. Nayar ('62)

Recently I have visited several institutions in the midwest and eastern U.S. to talk about my present findings.

My current research interests are the physiology of Circadian rhythms in insects. I am presently working on the circadian rhythms of pupation in mosquitoes and several manuscripts are in preparation.

Dr. Nayar was married at the end of 1964. His wife's name is Gisela K. Nayar.

Thaddeus H. Parks ('25)

My recent research interests are on tree fruit insects. I have been and am now consultant for two large fruit farms in Ohio since my retirement from the University of Ohio.

We would like to thank Dr. Parks for his suggestions for future newsletters.

John E. Porter ('55)

We spent most of 1965 trying to recover from a grand and glorious camping trip to the West made in 1964.

My recent research interests as related to my duties have been studies connected with Aedes aegypti rearing and biology at the station.

John Porter, Continued

My recent publications are on the significance of water-holding cavities of trees, re. Aedes aegypti control. Improved techniques in rearing A. aegypti and some recent work on analysis of aircraft application on med-fly spray on indices of A. aegypti and the incidence and control of insects found in ships.

Our family now stands at four: Sue, 1945; Nancy, 1947; Thomas, 1949; and Mary, 1953.

Our U.S. Quarantine Station is due to move to our new location at Dodge Island Seaport in Florida in January of 1966.

Reginald Joseph Roberts ('62)

In May of 1964 I took a trip to Brisbane, Queensland, to address the Entomological Society of Queensland. In September 1964 I was involved in a Pasteur insect survey trip to Victoria and South Australia.

My recent research interests are the behavior and ecology of Scarabaeidae a Coleoptera and Hepialidae (Lepidoptera); sex attraction in insects; epidemiology and ecology of soil insect diseases and plant-insect interactions under different environmental regimes.

Most recent publications are on sex attraction in Rhopaea (Coleoptera: Scarabaeidae).

Since graduating in 1962 we have increased the family by two: Tania Louise, Sept. 14, 1962 and Stephen Anthony, Feb. 11, 1964.

George K. Schumaker ('35)

Since 1951 I have been associated with the Agricultural Chemicals Division of the Velsicol Chemical Corporation, in the northeastern area. As manager of this area, my entomological activities have been closely associated with the introduction and development of the pesticides we manufacture. This has brought me in close contact with all of the state universities and experiment stations in the 13 northeastern states. I find this work interesting and challenging, and, I might add, endless in scope.

Robert John Snetsinger ('60)

This past summer I attended the Institute of Acarology at Ohio State University.

I am presently working on the classification of Pymotid mites, spiders of Pennsylvania, tick distribution, host resistance to spider mites, biology and control of Pritchard mealybug, rodent control, mushroom pests, greenhouse and ornamental pests.

I have recently published papers with C.P. Balderston, and Richard Craig on the resistance to the two-spotted mite in Pelargonium and with S.L. Chiang on environmental effects upon reproduction of a mushroom infesting cecid fly.

Our newest addition to the family is Laurel Snetsinger, born December 6, 1962.

Dr. Snetsinger was promoted to associate professor in June 1965. CONGRATULATIONS!!

Kathryn Martha Sommerman ('45)

My recent travels have taken me to the Philadelphia meetings and also to London, Copenhagen and back over the Pole to home.

My recent research interests are trapping mosquitoes and black flies, Culicoides and snipe flies in Alaska.

Dr. Sommerman has just published a note on the ideal way to collect insects in a car-top insect trap with the terminal cage in the auto.

Calvin F. SooHoo ('63)

Calvin is now returning after 3 years with C.S.I.R.O. in Australia via the Orient to take up a new post of assistant professor at Washington State University in January, 1966.

His present research interests are plant resistance to insect pests, digestion in insects, chemical composition of roots, feeding and orientation behavior, sex recognition in Oncotera digestion of cellulose by scarabs and sex attraction in scarabs.

Recent publications include sex attraction in Rhopaea, light sensing device for the measurement of insect feeding and cellulose digestion in scarabs.

Calvin SooHoo, Continued

Recent additions to the family are: Brent Lyle, March 3, 1964; Garran Mark, August 15, 1965.

Colonel Robert Traub ('47)

Colonel Traub has been a world traveler for many years. His most recent travels have taken him to Pakistan, Japan, Malaya and Mexico.

Research interests are Arthropod-borne diseases and ecology-classification of fleas and parasitic mites.

Bob's publications list is now so extensive it takes 8 mimeographed pages to hold it all.

He has also informed us that he took his degree in 1947 not in 1952. (Please excuse our slip.)

Donald Monroe Tuttle ('52)

We occasionally go to Mexico and California, also for the last two summers we have attended the Institute of Acarology at Ohio State University.

Most recent publications are with E.W. Baker on the spider mites of Arizona (Acarina: Tetranychidae), and the false spider mites of Arizona (Acarina: Tenuipalpidae).

My recent research interests are the plant mites, especially Tetranycoidea.

Additions to the family include: Ronald J., 1956; Andrew W., 1959; Timothy D., 1963.

Roger W. Williams ('41)

Our most recent travels were in the 1964-1965 school year during which I was on the field staff of the Rockefeller Foundation working at their new Arbovirus lab in Ibadan, Nigeria, while on sabbatical leave. Also spent the summer of 1963 for the Rockefeller Foundation in Trinidad and Brazil. En route and returning from Nigeria we traveled in England,

Roger Williams, Continued

France, Switzerland, Italy, Greece, Holland, Egypt, Uganda, Kenya, South Africa and the Congo. The family enjoyed Nigeria so much they didn't want to come home.

My recent research interests are arbovirus investigations.

Margaret Windsor ('25)

Margaret Windsor is at the present time working in the library at Stanford and she tells us she has a rare collector's item; all of the old Illients (V 1-17, 1934-1950). Indeed years of great heritage.

Since the re-initiation of the Newsletter last year, it has come to our attention that the following entomology alumni have passed away:

Arni Pall Arnason ('42)

Henry Gordon Crawford ('17)

Charles Stockman Spooner ('36)

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James L. Krysan
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St. Mary's College
Winona, Minnesota

Charles D. LeSar
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Patrick T.M. Lum
Stored Product Insect Lab.
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Bruce C. MacDonald
Central Chemical Corp.
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Wichita, Kansas 67208

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Francisco Pacheco
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Secretaría de Agricultura y Ganadería
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George K. Schumaker
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Robert Traub
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School of Medicine
University of Maryland
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Baltimore, Maryland 21201

Margaret Windsor
Catalog Division
Stanford University
Stanford, California

Robert T. Yamamoto
Department of Entomology
North Carolina State University
Raleigh, North Carolina 27607

A number of Newsletters were returned due to insufficient addresses. If you know of the whereabouts of any of the following people, please let us know.

Harry E. Anderson

John E. Fraley

Gladys Hoke

George Edward King

Ronald B. Madge

Richard O. Malcomson

Jean Paul Picard

Albert Salako

Edgar Henry Smith

Elmer D. Sweeney

Perry Homer Welley

NEWSLETTER INFORMATION FOR 1966-1967

Name:

Home Address:

Business Address (Don't forget Zip Code):

Current Research and Recent Publications:

Recent Travels for Business or Pleasure:

Additions to the family (names, dates):

Suggestions or comments concerning the "Newsletter":

Comments on possible reunion or symposium
next fall at dedication of new building:

Return to: Newsletter Committee
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