AMERICAN ARACHNOLOGY

THE NEWSLETTER OF THE AMERICAN ARACHNOLOGICAL SOCIETY

No. 33 April 1986

1986 MEETING - ST. CHARLES, MO.

FINAL ANNOUNCEMENT
American Arachnological Meeting
Lindenwood College Saint Charles, Mo 63301
June 18-22, 1986

The 1986 National Meeting of the American Arachnological Society will be from 18 June to 22 June 1986. For those of you that will be driving in, we are about 20 miles West of St. Louis. Get off Interstate 70 at the First Capital/Weldon Springs Exit (Signs before the exit will indicate Lindenwood College). Go North on Highway 94 (First Capital Drive) about a mile. Look for the water tower on your left, followed by Lindenwood College. Turn left at the next light (King's Highway) and the gate is on your left. A lack of student help will make it impossible for us to provide transportation from the airport to Lindenwood College. Currently, cab fare is running $12.00-$13.00 for the trip (sorry). We will have a reception on 18 June, with papers being presented on Thursday and Friday (with the possibility of some overflow on Saturday). Rooms will be available at noon on Wednesday 18 June, check-out will be on Sunday (unless you make prior arrangements to stay longer).

We expect that there will be a minimum of 60 participants with about 3/4 presenting papers. There is a possibility of one or more symposia.

Registration forms are being mailed to society members and others who returned a pre-registration form. A duplicate registration form is included in the center of this newsletter to insure that all interested members receive it. Please complete only one of these forms and return it to Bill Tietjen, Department of Biology, Lindenwood College, St. Charles, MO. 63301, by 12 May, 1986.

1987 MEETING - LOCATION CHANGE

The location of the Society's 1987 meeting has been changed from Las Cruses, New Mexico to Cambridge, Massachusetts. This meeting will be held in late June at Harvard University with Herbert Levi serving as organizer. More information will be provided in the fall newsletter.

SOCIETY BUSINESS

During the last several months, the Executive Committee voted on several items of business. Changes resulting from these actions are listed below.

Editor of Journal of Arachnology. Jim Carico will serve as editor of Journal of Arachnology, replacing Oscar Francke who served in this capacity for the past ten years.

Journal of Arachnology Page Charges. The following page charges will be assessed members publishing papers in J.O.A.:

- -- papers acknowledging grant, institutional, or other support .... $15 per page
- -- papers from full members who do not have or acknowledge support ..... $10 per page
- -- student members who do not co-author with full members and who do not acknowledge support .... $ 5 per page

[Material submitted to American Arachnology, the society's newsletter will continued to be published free of charge.]

IN THIS ISSUE --

AMERICAN ARACHNOLOGY is the newsletter of the American Arachnological Society and is sent only to society members. For information on membership, write: Dr. Norman I. Platnick, Membership Secretary, American Arachnological Society, Department of Entomology, The American Museum of Natural History, New York, NY 10024, USA. Members of the Society also receive the JOURNAL OF ARACHNOLOGY.

Submission of items for AMERICAN ARACHNOLOGY or other correspondence concerning the newsletter should be directed to the editor, Dr. Brent D. Opell, Department of Biology, Virginia Tech, Blacksburg, Virginia, 24061, USA. Deadline for receipt of material for the fall issue of the newsletter is 24 September and for the spring issue, 24 March.

Eligibility for Publication in the Journal. Membership is the society is no longer required for publication of articles in Journal of Arachnology. However two conditions apply to non-members wishing to publish in JOA. 1. Non-members will pay a surcharge of $2 per printed page over the standard rate. This will help offset publication expenses borne by membership dues. 2. Members have priority to journal space whenever a backlog of manuscripts builds up for any issue.

C.I.D.A. Representative. Jonathan Coddington will replace Herbert Levi as the U.S. correspondent for the Centre International de Documentation Arachnologique.

Society Archivist. Jonathan Coddington will serve as the Society's Archivist, replacing Vincent Roth.

Liaison to the Planning Committee for the National Biological Survey. Jonathan Coddington will also serve as the society's representative to assist in planning and gaining governmental support for a National Biological Survey. This project is being organized by Michael Kosztarab, Department of Entomology, Virginia Tech, and has already received the endorsement of a number of professional societies. Its purpose is to support both basic taxonomic research and indexing of the nation's flora and fauna.

Student Paper Awards. Guidelines for selecting winners of the student paper competition at A.A.S. meetings were prepared by a committee chaired by George Uetz. These guidelines were approved by the executive committee and will be in effect at this summer's meetings and at all future meetings. These guidelines appear on page 2 of the newsletter.

Support for Editorial Staff. The editor of Journal of Arachnology will attend our annual meetings at the society's expense. Free reprints will be provided to those working on the JOA.

STUDENT PAPER AWARD GUIDELINES

A committee consisting of George Uetz (chairperson), Ann Rypstra, Debbie Fritz, Maggie Hodge, Nancy Reagan, and Martin Galindo-Ramirez proposed guidelines for judging the student paper presentation at national meetings. The emended guidlines as approved by the society's executive committee follow.

I. ELIGIBILITY:

A. Desire to enter the competition may be expressed when submitting the Abstract, by a letter to the meeting organizer, or at registration on arrival.

B. The presentation either represents independent research or joint research in which the student's contribution has been substantial. In the case of a co-authored paper, the student presenting the paper must be the first author.

C. Entry is limited to one standard research paper per meeting. (Invited symposia presentations are excluded from competition.)

D. Previous winners of the "Outstanding Student Paper" award are not eligible.

II. JUDGES:

A. A panel of three judges will be appointed by the President-elect. Judges should come from different disciplines (systematics, morphology, physiology, ecology, behavior).

B. Efforts should be made to avoid bias or conflict of interest in judging, either by appointing judges with no students in the competition or, if that is unavoidable, by having judges abstain from voting on their own students.

C. Judges should meet twice: once before the paper presentations to review the guidelines and once afterward to make a decision on the ranking.

D. At least one hour should be available between the last eligible presentation and the scheduled announcement of the award.

III. EVALUATION:

A. Judges should give equal weight to each of the criteria listed below. They may give point values or other grading marks to each of the categories. Decisions should be based on the total marks earned. In the case of a tie or very close ranking, the judges may decide on a joint award.

B. Criteria:

1. Scientific merit:
   --difficulty and scope of research problem
   --approach and design of study
   --details of analysis; technical achievements
   --soundness of conclusions
   --significance of results

2. Presentation
   --overall organization and clarity
   --oral presentation skill; poise
   --quality of visual aids
   --response to questions

3. Level of student (Undergraduate, Master's, Doctoral)

IV. AWARDS:

A. The top-ranking individual will receive a set of available back issues of the JOA, along with the designation of having presented the "Outstanding Student Paper."

B. The second-ranking individual will receive a year's student membership to the society and be designation as having been the "First Runner-up in the Competition for the Outstanding Student Paper."

BOARD OF DIRECTORS ELECTION

A nomination committee chaired by Gail Stratton has chosen Jonathan Coddington and William Eberhard as candidates for the board of directors. A brief bibliographic sketch of each appears below. Members in the United States will find a ballot in the center of their newsletter. Other members will be mailed a ballot separately to assure that they receive it in time to vote. Please return your marked ballot by 6 June to Gail Stratton, Depatment of Biology, Albion College, Albion, Michigan 49224.

JONATHAN A. CODDINGTON

Education:

B.S. Biology, Yale University, 1975.
M.A. Biology, Harvard University, 1978.
Ph. D. Biology, Harvard University, 1984. Thesis: Systematics and Comparative Ethology of the New World Ray Spiders (Araneae: Theridiosomatidae).

Job Experience:

Harvard University, Teaching Fellow, 1977-82
Organization for Tropical Studies, Teaching Fellow, 1979, 1980, 1982.
National Museum of Natural History, Associate Curator, 1983-present.

Professional Societies:

American Arachnological Society, British Arachnological Society, Society of Systematic Zoology, Willi Henning Society, Association for Tropical Biology, Cambridge Entomological Club, American Society of Zoologists, Xerces Society, Entomological Society of Washington, American Association for the Advancement of Science

Awards and Honors:

U. S. Fish and Wildlife Service Achievement Award, 1979; Grants from Anderson, Atkins, Richmond, and Barbour Funds of Harvard University (for doctoral research), 1979-1980; Best Student Paper Award, International Meeting of the American Arachnological Society, Knoxville, TN, 1981; Jessie Smith Noyes Predoctoral Fellowship, 1981-1982; Ernst Mayr Award, Society of Systematic Zoology, for best student paper presented at the 1982 annual meeting, 1983

Selected Publications in last 5 years:

Coddington, J. A. & C. E. Valerio. 1981. Observations of the web and behavior of Wendilgarda spiders (Araneae: Theridiosomatidae). Psyche 87:93-105.

Coddington, J. A. 1983. A temporary slide mount allowing precise manipulation of small structures. Verh. naturwiss. Ver. Hamburg. NF(26): 291-292.

Levi, H. W. & J. A. Coddington. 1983. Progress report on the phylogeny of the orb-weaving family Araneidae and the superfamily Araneoidea. Verh. naturwiss. Ver. Hamburg. NF(26): 151-154.

Coddington, J. A. 1984. Review of "The Explanation of Organic Diversity: The Comparative Method and Adaptations for Mating." Journal of Cladistics, 1:102-107.

----- in press. The monophyletic origin of the orb-web. in W. A. Shear, ed. "Spider Webs and Spider Behavior" (71 ms. pages, 26 figs., 2 tables). Stanford Univ. Press.

----- in press. Orb webs in "non-orb weaving" ogre faced spiders (Araneae: Dinopidae): a question of genealogy. Journal of Cladistics. (18 ms. pages, 12 figs., 2 tables).

----- in press. The genera of the spider family Theridiosomatidae. Smithosonian Contributions to Zoology. (197 ms. pages, 38 plates).

WILLIAM G. EBERHARD

Education:

A.B. Harvard College, 1965.
Ph.D. Harvard University, 1969. Thesis: The spider Uloborus diversus and its web

Job Experience:

Universidad del Valle, Cali, Colombia 1969-1979
Universidad de Costa Rica, San Jose, Costa Rica, (half time) 1979-present
Smithsonian Tropical Research Institute, staff biologist (half time) 1979 - present

Professional Societies:

American Arachnological Society (Editorial Board of Journal), British Arachnological Society, Cambridge Entomological Society, Association for Tropical Biology, Sociedad Colombiana de Entomologia (founding member), Bombay Natural History Society

Awards and Honors:

Richmond Fellowship in Animal Behavior, Harvard 1966-1969; Summer Fellow E.N. Huyck Preserve 1986; Distinguished Visiting Scientist, Museum of Zoology, University of Michigan, 1982; Associate Museum of Comparative Zoology, Harvard, 1984 - present.

Selected Publications in last 5 years:

Eberhard, W. G. 1981. Construction behaviour and the distribution of tensions in orb webs. Bull. Brit. Arach. Soc. 5:189-204.

----- 1982. Behavioral characters for the higher classification of orb-weaving spiders. Evol. 36:1067-1095.

----- & B. Briceno. 1983. Chivalry in pholcid spiders. Behav. Ecol. Sociobiol. 13:189-195.

----- & J. Castillo. 1983. The use of artificial webs to estimate prey available to web-weaving spiders. Ecol. 64:1655-1658.

----- 1985. Behavior and ecology of four species of Modissimus and Blechroscelis (Pholcidae). Rev. Arachnol. 6:29-36.

----- 1985. Sexual Selection and Animal Genitalia. Harvard University, Cambridge. 244 pp.

----- 1985. The "sawtoothed" orb of Eustala sp., with a discussion of the ontogenetic patterns of the change in web design in spiders. Psyche 92:105-118.

EXLINE - FRIZZELL AWARDS

Grants-in-aid for research on Arachnida (excluding Acarina) and Myriapoda are given twice a year by the Exline-Frizzell Fund. Recent receipients and their research projects are listed below. The selection committee was chaired by Bill Peck and included Charlie Dondale and Matt Greenstone.

Amy L. Darby, Virginia Tech, $600: The effects on male palpal sclerites of range overlap in two similar species.

Margaret A. Hodge, University of Cincinnati, $600: Ecology of Mixed species groups of web building spiders in tropical Mexico.

Linda S. Rayor, University of Kansas, $600: Effects of behavioral interactions on social spacing and individual fitness in a communal spider, Metepeira spinipes.

James C. Cokendolpher, Texas Tech University, $200: A catalog and bibliography to the arachnid order Schizomida.

TREASURER'S REPORT

THE AMERICAN ARACHNOLOGICAL SOCIETY
Department of Biology Norman V. Horner, Treasurer
Midwestern State University, Wichita Falls, Texas 76308

FINANCIAL STATEMENT 1985

Balance Brought Forward from Dec 31, 1984 Statement		$ 3,221.18
DEPOSITS		
Back Issues of JOA	$ 311.34	
Dues (Collections for AAS, BAS, ASEA & CLIDA)	17,915.08	
Interest on CD s	1,207.03	
Sales of Handbook	43.00	
Manuscript Reprints	96.45	
Redeposit of Returned Checks	50.00	
Bank Credit for Collections	20.00	
Return Issue Mailing	17.50	
	$19,660.40	
DISBURSEMENTS		
Postage & Shipping	1,159.63	
Supplies	137.20	
Dues to Organizations (BAS, ASEA, CIDA)	2,946.00	
American Society Systematics	50.00	
Handbook of Spiders Printing	1,826.88	
Newsletter Printing	531.80	
Journal Printing	4,055.35	
Filing Fee (State of California)	12.50	
Bank Charge (Foreign Ck. Collection & Activity)	136.09	
CD Purchase	5,000.00	
Honorarium for JOA Editor	1,000.00	
Honorarium for JOA Asst. Editor	300.00	
Refunds (Dues & Handbook)	30.00	
Returned Check	25.00	
Annual Meeting Exp.	136.45	
Subtotal	17,346.90	
Bank Balance		$ 5,534.68
Certificate of Deposit #13290		10,000.00
Certificate of Deposit #24578		5,000.00
Total Assets		$20,534.68

Norman Horner, Treasurer

RESEARCH REPORTS

Catherine Craig
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My research focuses on field and lab studies concerning the tropical ecology of orb web weaving spiders. I am interested in the interactions among ecological processes, morphological constraints and development that influence spider evolution. To date I have directed my studies to explore the foraging ecology of araneoids.

Spider webs are primarily feeding nets, and prey interception at webs is best thought of as a three step process. From the viewpoint of an individual insect, capture probability is a product of: 1) the probability of contact with the web, 2) the probability that after an insect and web make contact, the web is able to absorb the prey's kinetic energy without breaking and 3) the probability that the insect will adhere to the web's surface. My previous research outlines the kinetic properties of orb webs built by five coexisting araneoids (step 2 of the prey capture process). The principle discovery of this work was that web silk and web architecture act as two independent and alternative pathways to affect insect interception. Webs can be classed as high or low energy absorbing and data collected to date indicate that there has been a macroevolutionary trend from large spiders that build high fiber density (high energy absorbing) webs to small spiders that build low fiber density (low energy absorbing) webs. On the basis of these findings I propose there has been an adaptive shift in araneoid foraging modes. Because the orb architecture contributes greatly to web energy absorption, selection may constrain spiders that feed on prey characterized by high kinetic energies to build webs of only orb designs. In contrast, spiders that feed on prey characterized by low kinetic energies are not constrained to build webs of only orb designs. Spinners of low energy absorbing webs have been released from the constraint of building radial nets. Selection for high insect-web encounter rates (step 1 of the prey capture process), would direct spiders to new habitats and resources by favoring the evolution of diverse webs of other than orb architectures.

During the next three years I plan to explore the role of web visibility to the probability of insect-web encounter (step one of the prey capture process). In particular, I will study how the optical properties of web silks, web design and web background affect the ability of insects to see and avoid webs built by araneoids.

Craig, C. L. 1985. Predator-Prey Dynamics: The role of spider and insect ecological and behavioral interactions in the evolution of araneoid spiders Doctoral Dissertation. Ithaca: Cornell University (on microfische).

Craig, C. L. 1986. Orb-web visibility: The influence of insect flight behavior and visual physiology on the evolution of web designs within the Araneoidea. Animal Behavior 34:54-68.

Craig, C. L., A. Akubo and V. Andreasen. 1985. Effect of spider orb-web and insect oscillations on prey interception. Journal of Theoretical Biology 115:201-211.

William G. Eberhard
Escuela de Biologia
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Civdad Universitaria
COSTA RICA

My recent spider research has focussed mainly on trying to elucidate the cues used by Leucauge mariana to direct its behavior as it builds its orb. This species is especially nice to work with since 1) it is very common during a large part of the year; 2) it builds both horizontal and inclined orbs so the effects of gravity can be tested; and 3) it will build replacement webs during the morning or early afternoon, making for easier observations (otherwise the poor researcher is up at 3:30 AM shining lights on the poor spider) and for manipulation of the spider's silk supplies for the second web (by controlling how much goes into the first). I have repeated most of Hingston's classic experiments, and have done some others. Most of the spiders' responses are more complex than Hingston reported. Some results: it appears that the spiders have a very refined kinesthetic sense; tensions on radii are not very important in directing temporary spiral and sticky spiral placement; up to 4 or 5 (and perhaps more) different cues are used simultaneously during some stages of construction. Brief observations of Argiope and Nephila suggest that at least some of the cues used by L. mariana are used by other araneoids.

Projected near-future extensions of this project are 1) similar experiments with a uloborid (if similar cues are used, the case for a monophyletic origin of orbs will be strengthened); and 2) an attempt to examine the possibility that L. mariana's behavior is NOT absolutely hard-wired and that the spider frequently makes small "mistakes". The second objective is something behaviorists do not generally try to tackle (for obvious reasons), but orb construction, in which the cues are so clearly and completely defined (the lines in the web) and the animal's motivation is presumably not an important variable, may provide a case in which it can be tested (perhaps I am overly optimistic).

Gary L. Miller and
Patricia Ramey Miller
Department of Zoology
Weber State College
Ogden, Utah 84408

Greetings from Utah! Pat and I have had a busy and exciting summer and fall. I left Pat expecting a baby in Mississippi in September and headed west to start a new job here at Weber State College. Pat gave birth to our son (William Ramey *Miller, 7 lbs, 6 oz, SAT scores 1590), on 3 October. After a* brief period of adjustment, she moved to Utah in January. We are now settled and looking forward to a productive summer in the field.

Over the past several years we have been interested in various aspects of the ecology and behavior of Geolycosa and have studied populations in Mississippi, Florida and the Carolinas. This past summer we completed (in the nick of time) a four year study of dispersal patterns of a population of Geolycosa turricola in Mississippi. We have been looking at why some young stay in the maternal burrow throughout the summer and others disperse much earlier (something Emerton observed in 1912). Our preliminary analysis of the data indicate an interesting multiphased dispersal pattern, and we have been concentrating on survivorship in the dispersal groups. We have also been looking at the mechanism of sibling tolerance among Geolycosa spiderlings. This past summer we did some experimental work in this area. We hope to have some of this ready for you by the meetings this summer.

Our work with Geolycosa also includes studies of their courtship behavior. We have completed an analysis of the courtship of G. turricola and have observed some interesting variations on the basic lycosid courtship pattern which we believe are related to burrow living. Pat is continuing her study of the morphology of the sensory structures in the family Lycosidae.

Pat and I will be in Ogden all summer so, if you want to come west to collect (or whatever), you are welcome to stay with us.

Martin H. Muma
Road's End
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My current research interest is to catch up on time lost during 6 years of operation (with my wife, Kay) of Lake Robert's General Store in the Gila National Forest north of Silver City, New Mexico and 3 years of building and moving into a final retirement home. During these 9 years, I have accumulated 10 file folders on active arachnid research.

Not surprisingly 8 folders deal with solpugids, 4 with taxonomy and systematics, and 4 with biology and/or ecology. Two folders deal with populations of spiders in southwestern New Mexico.

Solpugid Taxonomy and Systematics

The following research projects are in various stages of completion; I have attempted to organize them in their order of completion and probable publication appearance.

1. New Species and Records of Solpugida from Mexico, Central America and the West Indies--Two unrecorded genera, 4 unrecorded species-groups, 16 new species and 9 new records are included in the ms.

2. Review of the magnus species-group of Eremorhax Roewer in the United States--I am junior author with J. O. Brookhart in this study. Five new species of the group are described from extreme southwestern United States; including these, the species-group will be known from 10 species within the study area.

3. Eremobates palisetulosus species-group in the United States--I am senior author with J. O. Brookhart in this study. In this review, 5 sub-group series of species are recognized; upon publication of this ms., 38 species of the group will be known from the study area, 17 previously described and 21 described as new. This species-group is proving to be the largest and taxonomically most difficult group of the genus.

4. New Species and Records of Solpugida from the United *States--Two new species-groups are designated, 2 previously* designated species-groups are combined into 1, 25 new species are described. and the ranges of 14 previously described species are extended in this ms.

Solpugid Biology and Ecology

With the exception of the fifth listed research project, the following research projects are still under investigation.

5. The Arachnid Order Solpugida in the United States (Supplement II, Biological Notes)--I am senior author with J. O. Brookhart in this study. The biological information and data summarized in this ms. have been accumulated since the publications of Brookhart (1965) and Muma (1967). Some of the data have been previously published but are included here for ease of reference. We realize that all of our family, generic, and specific summaries are incomplete, and many are fragmentary. However, they include much of the biological information accumulated, in the United Staes, in over a quarter of a century and should be made available to future arachnologists.

6. The biology and ecology of Ammotrechula stimpsoni (Putnam)--

7. The biology and ecology of Ammotrechula peninsulana (Banks)--Collection data on these two solpugids indicate that the two species may have unique life histories, life cycles, ecological niches, etc. Adults and immatures of both species are found throughout the year, but collections are not consistent. The former is the only solpugid known to occur in Florida and the latter is the most common, if not the only species of the genus, in most localities in New Mexico and Arizona.

At present I am trying to locate the micro habitats so that adequate specimens can be obtained for food habit, life cycle and life history studies. Ecological niche and population studies will come later.

8. The ecological niche of Eremorhax new species at Portal, Arizona -- Vince Roth has reported several times that species of this genus are regularly if not always associated with Pogonomyrmex nests in Mexico, and he has immature specimens so collected to prove it. This coming spring I am setting up experiments to validate his hypothesis and investigate the phenomenon.

Populations of Spiders in Southwestern New Mexico

Two ground-surface spider population studies have been held in abeyance by my move from the Gila National Forest north of Silver City, New Mexico to the Coronado National Forest south of Portal, Arizona. The data for #9 were collected in 1973, 1974 and 1975; those for #10 were collected in 1976, 1977 and 1978. The preserved spiders have not been sorted, counted or identified; when this is done the following manuscripts are planned.

9. Ground-surface spider populations in a Larrea thicket vs. a Prosopis-Yucca-Ephedra association.

10. Ground-surface spider populations at 6,000, 7,000 and 8,000 feet altitude in the Pinos Altos Mountains of Grant County, New Mexico.

Gary A. Polis
Department of Biology
Vanderbilt University
Box 93B
Nashville, TN 37235

I have been accused of not being a real arachnologist because my research uses arachnids as models to test interesting hypotheses rather than studying them as a goal in itself. In particular, scorpions can be used to address many ecological and evolutionary questions because they are easy to study: they are large, long lived, fluoresce under ultraviolet light, exhibit a relatively simple repertoire of behaviors, are diverse and abundant in some habitats, and their diet is readily quantified because they pre-digest their prey extenally. (They are not perfect organisms however: individuals are inactive for long periods and most research is conducted at night; unfortunately neither rattle snakes nor cactus spines fluoresce). In the past, I have used scorpions to analyze the evolution and dynamics of cannibalism (Beh. Ecol. Sociobio.), the evolution of life history strategy (Ecology), adaptations to desert environments (J. Arid Envir.) the significance of populations characterized by individuals from discrete age classes (Am. Nat., J. Anim. Ecol.), and predictions of foraging theory (J. Zool.) and home range theory (Oecologia). I also organized and edited a book (Biology of Scorpions, Stanford University Press; Spring 1986) in which nine authors in 12 chapters detail all that we know about scorpions.

My most recent research focuses on the interactions and patterns of a group of desert arachnid predators. Sharon McCormick and I used eight years of field data to describe the temporal, spatial and dietary patterns of an assemblage of desert scorpions (J. Anim. Ecol.). Although these species potentially compete for similar species of arthropod prey, exploitation competition was shown to be unimportant; the major interaction is intraguild predation with larger scorpions of any species eating smaller scorpions of any other species (Ecology). Such scorpion-scorpion predation forms 8-21% of the diet and removes 0.1-8.0% of the total population of different species. In a 2 1/2 year experiment, we removed >6000 individuals of the predatory, dominant scorpion (Paruroctonus mesaensis) from 300 (100m^2) quadras. The population of two smaller scorpion species singificantly increased (150-700%) relative to controls. Scorpions also include spiders (8.1%) and solpugids (14.2%) in their diet. The above removal experiments also allowed spiders, but not solpugids, to increase significantly (Oecologia). Again there was no evidence for competition for food.

My current research focuses on three topics. I am analyzing how predators (scorpions and spiders) influence the diversity and abundance of their arthropod prey. This work is conducted in the deserts of southern California. We know little about the effect of terrestrial predators on their prey community. This research is part of my long term goal to understand the structure and dynamics of desert ecosystems. Sharon McCormick and I are finishing a book, Food Web of the Coachella Valley (Stanford University Press), that will provide the most complete analysis of the trophic interactions of any terrestrial system.

Denise Due and I are analyzing the biogeography and island biogeography of scorpions from the Baja California peninsula and islands in the Gulf of California. Baja California has the most diverse scorpion fauna in the world (>60 spp; 13 sympatric spp near Loreto). We are comparing the scorpion fauna of the peninsula to that on >100 islands to assess differences in species composition, density, body size, and niche characteristics.

Finally, we now know that there are several species of subsocial scorpions. Aggregations of adults and juveniles occur among both unrelated individuals and extended family groups from several broods. We know practically nothing about such unexpected sociality. Wilson Lourenco and I are describing the social relations, costs and benefits and family structure of groups of Opisthacanthus scorpions in Brazil.

I sponsor a number of graduate students who conduct interesting research. Dr. David Sissom just finished his doctorate on the systematics of a major subgroup of the scorpion Vaejovis. Dr. Neal McReynolds experimentally analyzed competition and spacing between two species of Argiope. Chris Myers is studying the population and community ecology of the most common scorpion (=Centruroides exilicauda) in southern Baja California. Diguetia mohavea; he is also detailing the complex interaction between this spider and its' various parasites, parasitoids and nest predators.

GUIDELINES FOR SEEKING SPECIMEN IDENTIFICATIONS

Editor's Note: At the society's 1985 business meeting a suggestion was made that it would be useful to have a set of guidelines for persons requesting specimen determinations. Herbert Levi and Vincent Roth have sent copies of their guidelines. I have attempted to paraphrase and summarize the concerns and suggestions expressed in these guidelines and to add a few of my own. I hope that this article will provide some useful suggestions and will generate further comment both from those who are routinely asked to identify spiders and from those biologists who need such assistance in order to carry out their research.

Specimen identification is often time consumming and something that systematists are given little or no credit for by their home institutions. As a report in the May 1985 newsletter points out, the lack of support for such basic identification service is lamentable, but nevertheless real. This is not to say that systematists are not interested in assisting with identifications and do not benefit from an opportunity to examine new material. The following guidelines will help insure that persons interested in obtaining determinations gain the cooperation of systematists.

1. Sort and know what you have. Few systematists will be willing to sort and identify large, unsorted collections of specimens such as might be obtained in a pit-fall traps. Using keys such as Roth's Spider Genera of North America, sort and identify specimens to family if possible. Determine the sex of the sepcimens you wish identified. Immature specimens can almost never be identified to species; sometimes not to genus. It is always helpful to have both males and females of a species.

2. Write to request assistance before sending specimens. If you are planning a study that will require a large number of identifications, you should be certain that you will have the necessary cooperation of taxonomists before starting. In general it is best to request determinations from specialists studying a particular family or genus. The Centre International de Documentation Arachnologique periodically publishes a list of arachnologists and their specialities.

3. Don't ask for too much. If you are studying the behavior or ecology of a particular species, most taxonomists will be glad to help you determine its identity. However, you should provide them with mature specimens, even if this means rearing immatures to adulthood. For ecological studies that involve the identification of a large number of specimens, most taxonomists will see their role as helping you learn to identify your own specimens. This means that they will guide you to the literature and determine a few representative specimens for your use in a reference collection. Many taxonomists will request or assume that, aside from such reference specimens, they can keep specimens you send them for their or their institution's collections. For this reason, you should include with each sepcimen a unique number to which a taxonomist can refer when reporting determinations. If you wish some or all of your specimens returned, you should discuss this when you first write to request assistance.

4. Label your specimens. Collection labels should be either typed using a cloth ribbon or printed in pencil or waterproof India ink. Always use heavy, high rag content paper for labels. Never use photocopied labels or labels printed with a felt-tip or ball-point pen. These may look good at first, but will invariably fade. Collecting labels should contain the following information: Country (if outside the U.S.), state or province, county, locality (town or distance and direction from nearest town -- longitude & latitude are often useful for remote areas), habitat information if available, date of collection, name of collector, and a specimen or vial reference number. Always place the label inside the vial, never tape or rubber-band it to the outside. If you suspect that there may be more than one species in a vial, include an extra collection label.

5. Preservation. Use either 80% ethanol or 80% isopropyl (rubbing) alcohol. If specimens have been preserved in formalin, this will cause no problems, but they should be transferred to alcohol before shipping.

6. Pack you specimens well. There are four precautions to take. First, be sure that there is no glass-to-glass contact of the vials. Second, be sure the vials are not free to move within the box. Third, be sure there is at least four cm of compressible packing material (such as styrofoam) separating the specimens from each side of the box. Fourth, include your name and return address inside the box and make sure the box is securely taped.

7. Acknowledge the assistance of the systematist and his or her publications in the published results of your study. This will encourage support for systematic research and specimen identification.

INTERNATIONAL COMMISSION OF ZOOLOGICAL NOMENCLATURE

The International Commission of Zoological Nomenclature wishes to announce the following opion:

Opinion No. 1340 *Attus otiosus* Hentz, 1846 (Arachnida, Araneae): conserved.

IDENTIFICATION MANUALS

COMMON SPIDERS OF SOUTH CAROLINA

Gaddy, L. L. & J. C. Morse, 1985. Common Spiders of South Carolina. South Carolina Agricultural Experimental Station Technical Bulletin 1094, 182 pp. -- Reviewed by Brent Opell.

This publication describes 63 common species of spiders found in South Carolina. It also includes an annotated checklist of 326 species known to occur in the state plus an additional 164 species whose ranges probably extend into South Carolina. Following a brief introduction to spider natural history, a key to the included families is provided. Common species are listed alphabetically under a brief family description. For each a scientific and common name and a taxonomic reference is given. Each species' appearance and natural history is briefly described and its range and county records listed. Seventy-three drawings copied from previously published works are used to illustrate most of the common speices and their webs.

This guide is written in non-technical language that will be easily understood by the layman and its treatment of common species should encourage amateur naturalists to become familiar with spiders of this region of the country. The detailed county records it provides both in the description of common species and in the checklist will be useful to arachnologists interested in the distribution of included species. Because species diagnoses are not provided and only some species are described in detail, the guide should not be used as a final authority for identifications to be cited in scientific literature.

This publication is available free of charge from the Agricultural Experiment Station, Clemson University, Clemson, South Carolina 29631, U.S.A.

AMERICAN ARACHNOLOGY No. 33 APRIL 1986

AMERICAN ARACHNOLOGY
DEPARTMENT OF BIOLOGY
VIRGINIA TECH
BLACKSBURG, VIRGINIA 24061
U. S. A.

SPIDER GENERA OF NORTH AMERICA

Roth, Vincent D. 1985. Spider Genera of North America. Published by the American Arachnological Society, 176 pp. -- Reviewed by Brent Opell.

Although it bears a new title, this identification manual is, in reality, the second edition of Roth's 1982 Handbook for Spider Identification. Like the earlier handbook, this manual covers the spider fauna of America north of Mexico, but is also useful for adjacent regions of Mexico. It provides taxonomic keys and diagnoses for the 55 spider families represented in this region and identification keys for the roughly 500 genera included in these families. These keys are supported by 372 illustrations. Each family entry (except the Linyphiidae) includes a diagnosis, generic key, and list of the most current taxonomic references. The generic key indicates the distribution and number of known species for each genus. The lack of a key to linyphiid genera reflects the needful taxonomic condition of this large family of small spiders. However, the author does not ignore this common group; he devotes ten pages to a list of its genera and supporting taxonomic references.

Despite the similarity in coverage and approach between the Handbook for Spider Identification and this new manual, the number of improvements found in the latter will encourage those interested in spider identification to purchase the new edition. The new manual is softbound and appears in the same 8.5 x 11 inch format as the old. Although longer than the older handbook, the new manual is printed on both sides of the page, making it a thinner, more easily handled volume. Keys to the araneomorph families have been changed. The previous edition first divided these families into cribellate, haplogyne, entelegyne, two-clawed, and three-clawed "sections." The new manual first divides araneomorphs on the basis of eye number and includes a section for blind (troglobitic) spiders. Keys have been improved and expanded to accomodate both additional genera and suggestions from the users of the previous handbook. The new manual has 40% more illustrations than the old. A significant addition is the inclusion of a ten page key to Araneidae (traditional, broad sense) genera, modified from Herbert Levi's unpublished key.

Spider Genera of North America will be useful to anyone who wishes to identify U.S. and Canadian spiders to family and genus level and to learn what publicatons will permit species determinations. The manual will be useful to both amateur and professional, although its use requires a basic understanding of spider anatomy. The manual sells for $10.00 U.S. if pre-paid or $12.00 U.S. if you wish to be billed or are using a purcharder order. It is available from: Dr. Jon Reisking, American Arachnological Society, Department of Zoology, University of Florida, Gainesville, Florida 32611, U.S.A. For your convenience, two order blanks are provided in the center of this newsletter.