AMERICAN ARACHNOLOGY
THE NEWSLETTER OF THE AMERICAN ARACHNOLOGICAL SOCIETY
No. 38  November 1988

1989 Annual Meeting
Butler University
Indianapolis, Indiana
June 20-24, 1989

Host: Jim Berry, Department of Biological Sciences:
Butler University, Indianapolis, Indiana 46208
Telephone (317) 263-9344.

Calendar:

Tues., 20 June - Registration, afternoon & evening
Mixer in evening

Wed., 21 June - Morning & afternoon paper sessions
Social with films and video

Thu., 22 June - Morning paper session
Afternoon local field trip
Casual outdoor "banquet" in evening

Fri., 23 June - Morning & afternoon paper sessions
Business meeting in afternoon

Sat., 24 June - Field trip

Field Trips: On the free afternoon there will be a short
field trip to a close-by 10,000 acre forested park owned
by the city. The Saturday field trip will include
several habitats controlled by The Nature Conservancy
and the State Park system containing stands of hardwood
(beech-maple and oak-hickory) and relict evergreen
forest (hemlock, white pine and Canada yew) with clear
stream, sandstone bluffs, and deep gorges.

Transportation: Indianapolis is served by all of the
major airlines, and we plan to provide free pick-up at
the airport on the afternoon and evening of June 20.
The city is within one day by car of most of the eastern
United States. Parking on campus is no problem.

Accommodations: Moderate cost campus housing will be
available, some air-conditioned and some au naturel.
If you must have air-conditioned housing, be sure to
register early. Two miles away from campus is a Sheraton
Hotel with special Butler rates of $39 per night,
including free shuttle service.

Local: Butler University is located
in a residential neighborhood five
miles northwest of downtown
Indianapolis. Normal temperatures
in Indianapolis for late June
are highs of 83° F. and lows of 62° F.
There are lots activities for
families, including the new
facilities of the Indianapolis Zoo, the Conner Prairie
Historical Farm, an outstanding Children's Museum, and,
if you are interested, you can take a tour around the
Indianapolis 500 Motor Speedway (on a bus!).

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Proposed Changes in the By-Laws

The following changes in the by-laws have been
recommended by the Executive Committee and will be voted
on in the next general balloting (Spring, 1989).
Proposed changes are underlined.

Section 5: Associate Membership for low income workers
or for countries where it is not possible to send money
will be gratis and must be bestowed by two-thirds vote
of the Executive Committee.

Section 6: Life memberships shall be 25 times the
regular membership fee, paid in one sum or in two annual
installments.

Section 7: Records pertaining to Society funds shall be
open to any member at any time.

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Financial Status of the Society
Gail Stratton, Treasurer

1988 has the dubious distinction of being the first
year in which the American Arachnological Society is in
a less than ideal financial situation. The major
expenditure of the Society is to publish the Journal
of Arachnology. The cost of publication of the Journal has
tripled in the last 6 years. Our main sources of income
are from dues and, since 1986, from page charges. While
our income has grown slowly, it has not kept pace with
the rise in costs.

In June of this year, the situation was very
serious: it looked like we would not be able to pay for
part of Volume 16 of the Journal. At the June meeting,
the executive board took several steps to start
alleviating the situation: dues were raised for the
first time in 5 years, page charges were increased, it
was decided that the request for dues would be
sent early, and a new position of business manager was
instituted to collect page charges. Many thanks to Bob
Suter for agreeing to be our first business manager!
Our current assets (on the quarterly report) reflect
early dues collection -- it must be remembered that the
next two numbers of the Journal (due to be published yet
this fall) will probably cost $600 each. Also, since
we allow members to pay for other memberships through
our membership secretary, much of what we collected
must be paid to B.A.S., C.I.D.A., and Revue Arachnologique.
And we still have publication of the Journal in 1989 to
pay for!

On a brighter note, members have responded with
support. At this time, we have received almost $600.00
in donations, and two individuals have taken life
memberships. The executive board is looking into
finding more cost efficient means of publication, as
well as looking into other means of raising money for
the Society. It will be some time before we are out of
the woods. If you have ideas about raising money for
the Society please contact one of the executive board.
And remember, all donations are tax deductible!

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11th International Congress of Arachnology

The 11th International Congress of Arachnology will be
held at Turku, Finland on 7-12 August 1989. Those
interested in more information should contact: The
Secretary, 11th International Congress of Arachnology,
Zoological Museum, University of Turku, SF- 26500
Turku, Finland.

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NEWS FLASH !!!

Norm Platnick's new supplement to Brignoli's catalog can
now be ordered through the Society. The special order
form is enclosed in this newsletter. Orders placed
through the Society before fall will receive a significant discount. Details are in the
enclosed order form.

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**Third Quarter Financial Statement**

**Balance from June 12, 1988**

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**Interest through Sept 25**

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**Total Assets** $147,377.06

**Expenses**

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**Subtotal** $20,822.01

**Page Charges**

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<tr>
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**Total** $609.22

**What are folks up to?**

**G.B. Edwards** (Florida State Collection of Arthropods) reported that the Alabama Museum of Natural History has transferred its holdings of alcohol-preserved cave arachnids and spiders from the Allan Archer collection to the Florida State Collection of Arthropods. These species consist almost exclusively of web-building families.

**Andy Penniman** (Defiance College) is still interested in the Pholcophabidae, which he thinks belongs in Corinnidae.

**Cathy Tummon** (Univ. of New Hampshire) has left Texas and is now working with Ed Tillinghast in Durham, New Hampshire. Her research is definitely with spiders and probably in the area of genetics.

**Don Lowrie** (Santa Fe, NM) has been in Bismarck, ND studying the plants, as well as the ecology, mentioned in Lewis & Clark's journals. He is also working on a study of carapace widths in Pardosa, as well as number of eggs per egg sac.

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**Arachnological Research in Costa Rica**

Jerome S. Rovner

Central America offers a rich arachnid fauna, including many taxa that are unfamiliar to workers from the temperate zone. Of the available Central American countries for research, Costa Rica is one of the two that is in which to work, as regards possible political or criminal harassment. (Belize is the other). Although a small country (about the size of West Virginia), Costa Rica offers diverse life zones and, among the Central American countries, has the highest proportion of land devoted to protected national parks. Of particular interest to researchers from the temperate zone are the various rain forest sites, the best known being the preserve at Finca La Selva, near Puerto Viejo de Sarapiquí, in Heredia Province. It is located northeast of San Jose, the capital of Costa Rica.

The research station at La Selva is operated by the Organization for Tropical Studies and overseen by husband and wife co-directors David and Deborah Clark. Facilities for research include a system of well-marked trails, air-conditioned laboratories, comfortable lodging, and excellent meals. For a reasonable weekly fee that covers room, board, and laboratory space one can devote most time to data collection on an arachnological topic, as well as take time out to photograph the wealth of non-arachnid fauna and the diverse flora. For current information about La Selva (facilities, costs, obtaining collecting permits, etc.), as well as for approval of planned research, write to Donald E. Stone, Executive Director, Organization for Tropical Studies, P.O. Box DM, Duke Station, Durham NC 27706.

If possible, try to time your visit during a part of the year when the station is least crowded, as will be indicated in the literature from OTS. I was fortunate in being there during November and December, when there were relatively few other researchers. To minimize costs, take the least expensive flight to Miami and then Taca (Costa Rican airline) from Miami to San Jose. For a small fee, you can then be taken to La Selva from the Taca office in one of the OVS vehicles that makes the run several days a week.


If close by mentioning that it was Jonathan Coddington who suggested La Selva to me as one of the best places for research on spiders inhabiting a tropical rain forest. Prior to my trip, Bryant Spell and Ernst-August Seyfarth provided useful information as well. These three researchers are among the relatively few arachnologists who have been fortunate enough to visit the OVS station at La Selva, Costa Rica.

**Bulletin of Zoological Nomenclature**

COLLECTING IN MEXICO

Marsha Conley
New Mexico State University

Permit requirements for scientific collecting in Mexico have undergone major revision in recent years. New requirements include major restrictions on importation of specimens, and a detailed permitting process which is handled by the Dirección General de Conservación, Ecologica de Los Recursos Naturales. The permitting process requires letters of agreement to pay expenses for a Mexican technician, while working in Mexico, and a letter from a school or university indicating the level of specimen exportation that is planned. A more detailed description of permit requirements with additional updated information is available in Austin and Heather (eds.) 2988. The Australian Arachnology.

The fascinating phenomenon of the still poorly known Australian fauna, as discussed by J.R. Raven in Australian Arachnology, is the high number of spider families endemic there and in New Zealand.

Australian Arachnology reviews by Peter Sierwald


The volume of Australian Arachnology is presented with a handsome cover with color photographs. Some final critical remarks focus more on print and editorial quality rather than content. The text could have been better. There are numerous "fuzzy" characters, and the text is somewhat censored to read as the right margin. As a result, much information is not clear. Raven gives the figure of 1674 species in 430 genera, which comes to a mean of 4.3 species per genus. This is a high number of monotopic species (compared to North America with 502 species in 500 genera, which comes to a mean of 6.8 species per genus [Roth, 1986, Spider Genera of North America]).

The papers presented in Australian Arachnology are of good quality. Arachnologists everywhere will appreciate the publication of this volume, especially because it will become an important reference in a field where much of the systematic and biological research currently carried out in Australia. Travel distance and costs will inhibit many of us from attending meetings in Australia on a regular basis. Expressing concerns like those by Raven on special "logistic" problems of Australian systematics will make colleagues more aware and supportive.

THE LAS CRUCES FIELD TRIP REPORT

David Richman

It is difficult to evaluate field trips that one helped to plan and carry out. However, I can say that the success of these field trips to a large degree was due to the efforts of my cohost, Dr. Marsha Conley, and her husband John Brunt. We were greatly gratified by the number of people who attended the meeting and took part in the two days of field trips. We were also happy that nobody got lost, was bitten by a rattlesnake, or fell off the cliff while compiling information. But it is hard to imagine everything got a bit on the dangerous side when I discovered on the second field trip that the van I was driving had little in the way of brakes—then we made it back!

Our desert and oak zone trip began on July 1. We stopped first at New Mexico State University College Ranch in the shape of a bajada. Jonathan Coddington showed his boating technique to a Las Cruces Sun-News reporter who had come with us. Maria Rambla, Jon Reiskind and other intrepid arachnologists searched the bushes and sand for quarry. Bruce Cutler, after a ten-hour period and collected Synangaeus xaricera and Ankeleus angewei, with the ant Conocyrus bicolor. Other common spiders included Peucetia viridans, Habronattus sp., Metaphidippus sp., and Tegenaria sp.

We then pushed on to our second stop, a bajada also on the Arizona ranch. The group was split. Emure G. Edwards collected Philidippus on blooming sotol and Allan Jonathan Coddington took several Oxyopes tridens. Jonathan Coddington was photographed while collecting a Ditrigon (the photograph will appear in the May edition of The Las Cruces Sun-News). Several specimens of gravid females of Peucetia dominicatia were caught on flowering plants (by Jon Reiskind and Marsha Conley). Susan and Guzman climbed up on the boulders of the isolated piece of the Dona Ana Mountains, turning over rocks and examining plants. We were cautioned not to collect in the Long Term Ecological Research (ITER) site, which is represented by a permanent transact from this bajada down to a playa lake. We visited the latter next.

It was cooler at Aguirre Springs. We ate lunch under the Arizona oak and alligator juniper. Scott Edwards collected 100 species of spiders at Aguirre Springs. Larcher collected a number of Ditrigon under a rock outcrop. Near springs along the Pine Tree Trail there were Tetragenatha and Pardosa. The group went on to the Tema Term Ecological Research (ITER) site, which is represented by a permanent transact from this bajada down to a playa lake. We visited the latter next.

The second trip began on the next day at 7 A.M. when we drove to a smaller group (unfortunately missing Marsha Conley) to White Sands National Monument. We did not have permission to collect, but it seemed a pity not to take advantage of the unique habitat. Bruce Cutler was happy that we stopped on the way in to get a look at a western horned snake (he watches reptiles). The whole group gorged on the group of a sand dune (all this beach and no ocean). We were able to see some interesting flowering plants on a stop closer to the edge of the dune field. As for spiders, we saw a western black widow, Latrodectus hesperus, with a captured scolopigia over the back door to the visitor's center.

By this time everybody was getting hungry and ready to do some collecting in the high mountains. James Cokendolpher and Robert Kohlberg left us at this point to drop James back in Lubbock and to get Robert back in Las Cruces. Cokendolpher and Kohlberg found nearly 3000' in the Sacramento Mountains. He had our lunch and hunted spiders. Barbara Robinson did some photography, while James Brunt botanized all the while (we are supposed to be looking for spiders dear, unhard that cloudbine). Pardosa was common in the rocks around the creek bed. We thack to Bruce Cutler and G. B. Edwards, among others, for supplying information on what they caught. These were especially heavy in salticids (I wonder why), and I apologize for my relative lack of coverage on other groups.
Abstracts of the Papers presented at the annual meeting of the Society in Las Cruces, June 27-July 2, 1988

On Myxomanea (Myxomidae), a Kleptoparasite of Pholcidae

 Renner L. C. Baptista
 Museu de Zoologia - USP, Av. Nazaré, 481 Ipiranga São Paulo-SP Brasil 04263.

**M. archeri** is a tiny kleptoparasite of webs of *Blechroscelis* and *Corvssocnemia*. The guest's web is composed of irregularly disposed, nearly horizontal threads connected to the host's vertical sustaining threads. Some threads are directly attached to the host's sheet. Males and females occur in the same web.

In laboratory, *M. archeri* apparently didn’t capture prey by itself. There was a characteristic response to prey-movements of its host. *M. archeri* mounted on the prey during prey-wrapping by the host, feeding on the prey together with, and near the fangs of, the host.

A new species (sister-group of *M. archeri*) was found in the same habitat. The phylogenetic implications of this behavior are discussed.

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**Phylogenetic systematics of the Arachnida**

Bret S. Beall
Department of Geology, Field Museum of Natural History Chicago, IL 60605-2496.

Previous analyses of relationships within the Arachnida have produced disparate results, perhaps because each considered fewer than 40 characters. Additionally, extra-characters were not included in these analyses. A cladogram based on the phylogenetic analysis of 146 multi-state characters among 21 groups of arachnids (including extant taxa) and one outgroup (Eurypterida) is presented. The taxa include traditionally recognized orders, families and genera. Developmental and comparative morphological evidence permits arguing for homology. Character state polarity is evaluated using morphological transformation series rooted by outgroup analysis, resulting in several non-traditional interpretations that are also supported by traditional arguments. The algorithm is used to select the most parsimonious distribution of character states. The resulting phylogeny can be used to test process-level hypotheses as explanations of the macroevolutionary pattern within the Arachnida.

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**Implications of the discovery of "Repugnatorial Glands" in Cybaeota (Araneae: Agelenidae)**

R. G. Bennett
Environmental Biology, University of Guelph Guelph, Ontario, N1G 2W1, Canada.

A recently described type of spider integumentary gland with distinctive cuticular morphology, the repugnatorial glands, has been used to support a hypothesis of sister group relationship between the Telenteidae and the Leptonetidae. This paper reports the presence of strikingly similar glands in the distantly related spider genus *Cybaeota* (Agelenidae). The placement of these glands in *Cybaeota* supports the repugnatorial secretion function hypothesis proposed for them in the Telenteidae. The phylogenetic implications of the scattered distribution of this character and another, the distinctive series of paired elongate tubular macrosetae, are discussed.

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**Notes on the intertidal spider genus Paratheuma (Desidae)**

James N. Berry
Department of Biological Sciences, Butler University Indianapolis, IN 46208.

The recent discovery of five new species of intertidal spiders (descriptions in press) on the Pacific ocean islands indicates that the genus *Paratheuma* may be far more abundant in both species and numbers than the literature would indicate. Although distribution is very spotty, in some locations individuals are very abundant. So far only one species has been found on any one island group. Most of the species are found in eitherstorm-produced coral rubble on the shore or in black volcanic rock just below the high tide line. Mating behavior is remarkably similar from species to species, and permits arguing for homology. Character states pertain to the other species, but only the species from Rangiroa in the Tuamotu Islands crossed with the species from Fiji (and Australia) has produced viable offspring. Ectoparasitism has shown that these two species are different. Adult spiders of all species are present throughout the year. It takes about one month for the young to emerge from the cocoon and about three months for the hatchlings to reach maturity. Keeping *P. insulana* individuals from Florida at low temperatures indicates that the probable reason for this species cannot live over the winter is that the tropics are too high. Physiological functions appear to be near normal, the eggs will not hatch at temperatures of 10°C, or below.

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**A comparison of neoteny and troglotism in lanaiid harvestmen**

Thomas S. Briggs
Department of Entomology
California Academy of Sciences, Golden Gate Park
San Francisco, CA 94118.

Laniidorid harvestmen are well known in cave populations where they can exhibit classical troglobitic modifications from any neotenic modifications, particularly in California, which have interesting parallels to troglotism. These modifications suggest both adaptive (progressive) and regressive evolution. Regressive evolution in larval spaces can also be limited to anepithalmy and, possibly, loss of secondary sexual characters since depigmented juvenile stages are characteristic of the suborder. Neoteny can usually be regarded as an adaptation to food scarcity, but in the California examples it may be an adaptation to harsh climatic conditions on the surface and limited in larval spaces within the subsurface habitat. These selective factors are similar to those for cavernicolous and seem to lead to a similar loss of eyes. Laniidorid harvestmen have sexual secondary sexual structures that can be lost in neotenic species. These structures are usually reduced or absent on some highly troglotbic harvestmen. As with anepithalmy, an explanation for this regression is not as facile as it is for progressive evolution.

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**Ant mimicry in jumping spiders (Salticidae)**

Bruce Cutler
1966 Eastis Street
Lauderdale, MN 55113.

Ant mimicry in Salticidae is a well known, but ill-defined phenomenon. Approximately 10% of all jumping spider species are ant-like. In current practice ant mimicry is established by a morphological resemblance to ants as discerned by a human observer, with a few also recognized as behavioral mimics. Secondary confirming evidence consists of color similarities, cryptic behavior, temporal and ecological correspondence to a particular ant species by a particular, spider, and absence of antlike Salticidae in prey caches of salticid hunting spiders. An experiment was devised which demonstrated protection from predation by other spiders in an ant-like jumping spider. Further work is needed to elucidate the reasons for specific ant mimics in tropical areas, while in temperate climes ant mimics does not ordinarily concern specific models. Also not clearly understood is the reason for ant prey shyness. The reasons why some spiders are not ant-like or to which other spiders do not prey upon ants. Also we need better studies confirming model - mimic signal receiver (i.e. predator) relationships.

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**Quantitative analyses of Phidippus courtship patterns**

G. B. Edwards
Florida State Collection of Arthropods
P.O. Box 1269
Gainesville, FL 32602.

The courtship behavior of 13 species of *Phidippus* were analyzed using a combination of filming and visual observation. The following characters were analyzed: 1) epigastic ornamentation, 2) movements of palpi, 3) movements of legs I, 4) angles held by legs I, 5) timing of movements of legs I. Three main types of visual (Type I) courtships are diagnosed and used to support the placement of species into species groups based on morphology.

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Some of the genera are surprisingly well represented, as for example Grammostola and Philodromus — ten species each. There is at least one thriving colony of Sphodros rufipes. One of the commonest species turned out to be Cupiennius salei. Several other lyssoid species previously recorded only from southern areas have turned up as well.

The presence of four pairs of noncontractile, tendinous, ventral suspensors of the endosternite is a synapomorphy character state for all species of mygalomorph spiders that we have examined. These suspensors in spiders apparently are homologous to contractile, dorsi-ventral suspensor muscles that occur in certain Hymenoptera—ground-nesting bees, wasps, and araneomorph spiders in which similar, noncontractile, ventral suspensors of the endosternite are known to occur in the Filistatidae. It is here hypothesized that this is a plesiomorphic character state in filistatids, homologous to that of mygalomorphs, and that its function is an adaptive accommodation to the requirements of a burrowing behavior.

The mygalomorph fauna of a relict refugia on the Gulf Coastal Plain

Debbie Rydal Folkerts and George H. Folkerts
Department of Zoology and Wildlife Science
Auburn University, AL 36849

The western Red Hills of Alabama is the most deeply dissected area and the Gulf Coastal Plain of the United States. The area harbors a number of unusual endemic and many disjunct populations of southern Appalachian species. The Mygalomorph fauna of the Red Hills includes Sphodros rufipes (Mygalidae), Antrodiaetus unicolor (Antrodiaetidae), Myrseiaphila fluitellia (Cystaurenchiidae), Cyclosa truncata and Ummidia audouini (Ctenizidae). These burrowing spiders, most previously unknown from the region, utilize different microhabitats based on soil type, slope and vegetation cover. Sphodros rufipes seems to exhibit a greater degree of morphological variation than previously reported. The Sphodros population is morphologically intermediate between C. truncata and C. torvus.

What is the function of the processional portions of the spider midgut?

Matthew H. Greenstone
USDA-ARS
Biological Control of Insects Research Laboratory
Columbia, MO 65203

Arthropod predators are usually prepared for serological stomach analysis by homogenizing whole animals. If blood is prepared this way, weeds might be included in the homogenate and venous enzymes might attack prey antigens, thereby compromising the assay. This hypothesis was tested with Philodromus audax fed fifth instar larval of Holothrix azal and subsequently assayed by ELISA with a monoclonal antibody to the serylphorin (hemolymph storage protein) of H. azal. Abdomen and cephalothorax homogenates were assayed separately and also combined. The cephalothorax and abdomen homogenates have the same activity regardless of the time of incubation. More surprising is the high activity in the cephalothorax. This leads me to ask what the function of the proenomal midgut diverticula is, and more generally, how digestion is organized within the gut. Immunohistochemical studies could shed light on the organization and time-course of digestion.

The biology and life history of the spider genus Hololena (Agelenidae) in southern California

Blaine Hieber
Department of Biology
California State University
Northridge, CA 91330

An examination into the biology and life history of southern California Hololena was carried out prior to a revision of the genus. Only a single variable species, H. curta is believed to exist in the areas south of the San Gabriel and San Bernardino mountains with several recognizable subspecies. A second species, H. sulu occurs from the Santa Barbara area northwards. These two species occur in the same area they are never found together. Several isolated desert populations are closely related to H. sulu suggesting a plastidic element throughout the Mojave area. Hololena occurs in dense riparian habitats, on shaded hillside and in urban environments. Web site distribution appears to be related to the predation effects of birds and lizards. A single maturation event peaks at or very near October 1 for all species examined, with mating taking place between July and August. Males die out during the winter months, females persist into the following September, overwintering under bark and in deep retreats. One to eight egg sacs are laid with approximately 50 young per sac. Second instar young are found from March to September. Web site and age determine adult size with large adults being immatures from the previous season. Successful matings were made with a series of males from a single site in Los Angeles county and females from throughout southern California. Males were able to mate with females of H. sulu. Female genitails were variable and epigynal width was found to be inversely proportionate to carapace size. Male genitails were less variable but also tended to be somewhat inversely proportionate to carapace size.

Impact of egg sac parasitoids on foraging costs of colonial spiders

Craig S. Hieber
Department of Biology, St. Anselm College
Manchester, NH 03102

and George W. Uetz
Department of Biological Sciences
University of Cincinnati, Cincinnati, OH 45221

While foraging in groups is advantageous for some web-building spiders because of increased prey capture efficiency, living in aggregations may increase vulnerability to predators. We compared the impact of predation by egg sac parasites on two species of colonial orb-weaving spiders from Mexico which exhibit contrasting levels of social organization. In Mecystera atascadero, which occurs solitarily or in small groups in tropical rainforest and agricultural sites, rates of predation fluctuate widely year to year. Predation was highest during seasons when spider prey were most abundant, and spiders laid more egg sacs than in previous years. In contrast, females from Champostans's colony and females from throughout southern California laid more egg sacs than in average years. There was no difference in the rate of egg sac loss to parasitoids between solitary and grouped spiders in any year, and grouped spiders laid more egg sacs than solitary spiders in the high prey season. In M. atascadero most years. The proportion of egg sacs parasitized was positively correlated with colony size, although differences in success rates of the most common parasitoid varied inversely with colony size. Vulnerability of egg sacs to parasitoids may depend on colony size, timing of egg production, parasitoid attack strategies, and egg sac guarding behavior.
Growth and reproduction in the orb-weaving spider _Nephila clavipes_ (Araneae: Araneidae)

Linden Higgins

Dept. of Zoology, University of Texas at Austin, Austin, TX.

The orb-weaving spider _Nephila clavipes_ (L.) exhibits inter- and intra-populational variation in many life history parameters. Phenology and female growth and reproduction were studied in two tropical and one temperate population. The variation observed is best understood in context of the differences between the environments experienced by the populations. Under the temperate conditions of low prey availability and strong seasonality, the spiders grew more slowly, matured at a smaller size and produced only one generation per year. In insect-rich tropical environments, the populations usually had two generations per year, the growth rate was higher and the spiders matured at larger sizes. Variation between generations within the tropical sites corresponded to seasonal variation in climate and prey capture rates. Fecundity is correlated with female size at maturity.

* The behavioral ecology of mixed-species groups of web-building spiders

Margaret A. Hodge

Dept. of Biological Sciences, University of Cincinnati, Cincinnati, OH 45221.

Although relatively unstudied, mixed-species groups of web-building spiders have often been observed. This study concerns the relationship between _Netepeira incrassata_ (a colonial orb weaver, in Veracruz, Mexico) and its most frequent congener, _Nephila clavipes_ (Araneae: Araneidae). An index of species association calculated from census data showed that mixed-species groups were more frequent than expected owing to random co-occurrence. Several hypotheses regarding the costs and benefits of forming mixed-species groups were examined. It was found that _Nephila_ in mixed-species groups consumed greater prey biomass and grew faster than _Nephila_ in single species groups or solitaries. This may be due to the fact that by joining _Netepeira_ colonies, _Nephila_ are able to exploit new niches located in areas which are prime insect fly-ways.

* Natural history observations of _Salticus austinensis_ (Araneae: Salticidae) in North-Central Texas

Norman V. Horner, Frederick B. Stangl, Jr. and G. Kip Fuller

Department of Biology, Midwestern State University, Wichita Falls, TX 76308.

Field and laboratory observations were conducted on the biology of the salticid _Salticus austinensis_ Gertsch. The observations determined periods of activity, social behavior, distribution and habitat, prey species, population biology and an unusual interspecific relationship between _A. austinensis_ and _Platygyrus undatus_ (DeGeer).

* Food level and development in the pholcid spider _Holocnemus pluchei_

Elizabeth X. Jakob

Department of Entomology, University of California, Davis, Davis, CA 95616.

Ten sibling groups of pholcid spiders (_Holocnemus pluchei_) were reared on low, medium, or high food levels. (1) Spiders with less food were more likely to undergo an extra molt than spiders with more food. In the low feeding group 37.5% of the spiders molted six instead of five times post-hatch, as did 24.3% of the medium group and 16.0% of the high group. Females were more likely to have an extra molt than were males. Differences among families were also significant. These differences may be genetically based, though it is interesting to note that electrophoretic variation in _California Holocnemus_ is practically non-existent. (2) Instar length was significantly shortened with an increase in food supply. (3) Spiders that underwent six molts were larger at maturity than those that underwent only five. Preliminary data indicate that large body size confers an advantage during competitive interactions for food.

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Spiders of the Cape Region and a comparison with spiders from Sierra de la Laguna, Baja California Sur, Mexico

Maria-Luisa Jimenez


The Cape Region is located in the southernmost part of the Baja California Peninsula where there are different types of ecosystems, one of which is La Sierra de la Laguna. This ecosystem is considered as a relict area, since most of its floristic composition is a remain of early epochs. Furthermore, its geographic isolation has allowed the development of endemic species.

As a part of the project called " Biosphere Reserve of Sierra de la Laguna", we have collected a total of 148 species from which 45 are new descriptions and 39 are new records for this area. The spiders are distributed in several plant communities at the Cape Region: however, some are characteristic of a particular ecosystem such as some of the species of _Nephila_, _Pauliana_ (Agenidae), _Pardosa_, _Alloceps_ (Lycosidae), _Nephele_ and _Mispignus_ (Thomisidae) that are found in the pine-oak forest, whereas some species of Araneidae, _Therididae_ and _Salticidae_ are found in the low deciduous forest and the "desierta sonorese" vegetation.

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Water-resistant sex pheromones in lycosid spiders from a tropical wet forest

Renee S. Lizotte and Jerome S. Rovner

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We examined chemical communication in two nocturnally active lycosid, _LYcosus_ albus (L. helluo group and _Lycosa tristani_), inhabiting a clearing in a lowland tropical wet forest, in Costa Rica. Sampling the adults and pupae revealed that, as in other lycosids, pheromones are deposited on the dragline. However, unlike temperate zone _lycosa_ tested by previous workers, the pheromones of these tropical wet forest species were not inactivated when the draglines were sprayed with water. Even submerging the lines of _L. albus_ did not reduce male responsiveness when the lines were tested after removal from the water. In both species, spraying the draglignes with ethanol did not reduce male responsiveness significantly, while spraying with hexane did. Upon separation of the draglines, the pheromones of these tropical wet forest lycosids are non-polar compounds that would not be inactivated by nightly dew and probably not be washed away by rain, both conditions typifying this life zone. An additional finding was that penultimate female _L. albus_ build a molting nest with a sex pheromone bound to the silk, a behavior not reported before in _lycosa_.

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Computer-assisted restoration of a spider fossil in a translucent matrix

James Locke, William Shear and Ward Riley

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Paleocteniza crassipes Hirst was described in 1923 as the oldest known spider fossil. It was found in the famous Rhynie chert deposit in Scotland which has been dated as early Siegenian (Devonian; about 400 million years old). The tiny specimen (British Museum (Natural History)) is near the surface of a chip of translucent chert only one view is possible. The resemblance of the specimen to a spider is general and no clear aponomorphies can be seen. To clarify the nature of this fossil, a series of more than 75 photographic optical sections was taken, using Nomarski Inteference Contrast microscopy. Each section was carefully examined for evidence that the fossil is indeed of a spider. The sections were viewed on a graphics tablet and compiled into a rotateable, three-dimensional image, using PC-3D software. While many new details have come to light there is still no clear evidence that _Paleocteniza crassipes_ is a spider. Since other supposed Devonian spiders are also of dubious status, we consider that there is no reliable fossil evidence for the existence of spiders before the late Pennsylvania.
The pedipalpal brush of Ephedera sp.: a field of urticating hairs?

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Tarantulas in the genus Ephedra are known to possess a field of hairs on the pedipalps, surface of the pedipalps, and hairs. They have a distinct hair-shedding behavior wherein the pedipalps are brought down across the basal segments of the chelicerae. The ultrastructure of these hairs is similar to that of urticating hairs located on the abdomen of other tarantulids. The urticarial action of these hairs is examined.

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Nearctic Species of the wolf spider genus Rabidosa
Roever (Araneae: Lycosidae)

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This research is part of a continuing study to elucidate the systematics of North American species described in the genus Rabidosa. Species groups have been initially separated from Lycosa on the basis of dorsal color patterns. Preliminary studies have indicated that these species groups represent distinct genera. It is predicted that measurements of leg length compared to body length and certain dimensions of the eyes rows will help to verify or reject these perceived relationships. It is also apparent that the habitat (e.g. grassland species versus woodland species) and behavioral features (e.g. burrowing versus non-burrowing) may offer valuable clues to evolutionary relationships.

In our investigations it has become clear that the genus Rabidosa, established by Roever in 1959 with Lycosa, rabida Walckenaer as the type species, is distinct from several other Nearctic species of Lycosa. This species does closely resemble Lycosa, arenata L., and L. trivittata in the dorsal color pattern and closely resembles L. hentzi. However, the close correlation of hentzi to Rabidosa in genitalia structure and the similarities in habits and habitat preference between these two species indicate that hentzi belongs in Rabidosa. Thus, we have defined the genus Rabidosa on the basis of color pattern, genitalia structure, and ecological parameters and included the species rabida, arenata, trivittata, carrana, and hentzi.

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Subsocial organization and behavior in broods of the obligate burrowing wolf spider Geolycosa turricola
(Treat)

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Prolonged mutual tolerance is described for spiderlings in broods of the burrowing wolf spider Geolycosa turricola. (Treat). The length of the tolerant phase is compared to the facultative burrower Lycosa geolycosa Walckenaer. Specific behaviors are described from observations of pairs of spiderlings. The frequency of occurrence of these behaviors is studied in a series of bioassay experiments designed to test questions concerning the nature of the mechanism of communication among spiderlings, the length of the tolerant phase, and the ability to recognize siblings or non-siblings. The results indicate that chemical communication is the principal form of communication between spiderlings. Aggressive behavior increased in pairs of spiderlings but decreased if the spiders were exposed to a third spider. Similar results were obtained with Geolycosa turricola spiderlings. The advantage of prolonged tolerance, within the burrowing life strategy, is discussed.

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Mites parasitic on arachnid hosts

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Five arachnid groups are known to serve as hosts for parasitic mites: spiders, scorpions, solpugids, opilionids and other mites. The mites most commonly encountered are larvae of the Erythraeidae and Trombidiidae. Spider hosts include members of the Lycosidae, Pisauridae, Clubionidae, Theridiidae, Linyphiidae and Araneae. Most of the parasitic mites reported on spiders belong to the families Erythraeidae (Erythraeidae) and Trombidiidae (Trombidiidae). Scorpions are parasitized by the Erythraeidae (Lycosidae). All Chilopoda and Diplopoda are reported as hosts for mites, usually involving erythraeid larvae (Lycosidae). Scorpions include erythraeids, trombidids, amphi隯ids and orbibids mites; their parasitic mites are typically erythraeid and trombidiid larvae.

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Comparative study of the adenostyle surface ultrastructures of two c,yphophthalmid: Sire rubens Latreille, 1806 and Stylocellus silhavvi Rambla 1988
(Orchididea, Opiliones: Sironidae and Stylocellidae)

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All male c,yphophthalmids possess in the tarsus of the first pedipalp a secondary sexual character consisting of an apophysis called an adenostyle, connected to an underlying complex gland organ with a duct opening on the adenostyle.

The major adenostyle features were observed with the scanning electron microscope. The differences observed between these two species indicate that rubens belongs in Cymophthalmus and silhavvi in Stylocellus silhavvi will be shown, and additional adenostyle morphological types of other species will be presented.

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Lycosa ammophila and Lycosa ericetibola: a pair of cryptic/sibling species in northern Florida (Araneae: Lycosidae)

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Two species within the lenta group of the genus Lycosa were examined: Lycosa ammophila, widely distributed across northern Florida, and L. erictibola (the Rosemary wolf spider) with a highly restricted range of less than 3000 hectares. These two species are closely related, the former being indistinguishable ('cryptic'), and having very similar habitat preferences, and it is likely they are a single "sibling" species. Three populations were sampled: two of L. ammophila (from Levy Co. and Putnam Co.) and one of L. ericetibola (from Putnam Co. within 10 km of the L. ammophila population). Lycosa ammophila is morphologically and ecologically similar to L. ericetibola. This species has distinctly different genitalia, and SEM studies show some consistent differences in the female genitalia as well. Ongoing electrophoretic studies also clearly distinguish the two species. Preliminary studies show courtship behavior to be very similar but cross species matchings in the laboratory have not resulted in any copulations.

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Courtship in jumping spiders - a summary of research to date

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Courtship in jumping spiders can be either visual or non-visual. Although both types have stereotypic elements, there is a large degree of variation between individuals of a given species. Some of the stereotypic elements can, however, be utilized in taxonomy. Unfortunately, courtships have been described for only about 19 species. The current state of knowledge on courtship, is reviewed and some preliminary conclusions are made on possible homopolomorphies in courtship patterns.
Tests for submersion survival in aerial web-weaving spiders from a tropical wet forest

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Some species of web-weaving spiders dwelling beneath stones and therefore likely to encounter flooding conditions possess adaptations that enhance survival under water, whereas the few aerial web weavers that have been examined are much less resistant to drowning (Rovner 1988). In the present study I tested seven aerial web weavers (females only) from the lowland tropical wet forest at La Selva, Costa Rica to see if they are better adapted for enduring submersion than those species I had tested from a temperate deciduous forest. The seven species included six araneids—Archipiogon sanguinolenta, Ketaflanta sp., Ticathanta brawia, W. maculata, H. ochreifera, Naphila guatemalensis—and one theridial, Achaearanea tansui. Based on the intensity and duration of activity during a 1-hr submersion and the percentage of individuals surviving, most of these wet forest species are no better adapted for underwater survival than the temperate deciduous forest species tested previously. Some of the temperate species did show behaviors that reduced the possibility of submersion or drowning if the spider falls onto the water during flooding conditions.

Foraging and defensive behavior in a Brazilian colonial spider, Eriophora bistriata (Rengger, 1936) (Araneae: Aenidae)

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Eriophora bistriata is a pre-social spider, common in Brazilian cerrado vegetation. The spiders have individual orb webs but cooperate in the capture of large prey. The cooperation of the spiders and the aspects of the colonies change during the life cycle. The significance of these changes is discussed.

Periods of activity also change during the life cycle of the spiders. They correspond to peaks of abundance of flying insects which are predictable and show taxonomic and size class patterns. At 2nd and 4th instars the spiders build a special orb web to capture winged termites. These webs are twice the diameter and three times the mesh size of the normal webs. They are built only some minutes before the termite flight begins. The adults disperse from colonies by unique silk "nephilu"-like ballooning structures. Adult ballooning in large species has not been described before.

There is evidence that the social behavior in Eriophora bistriata may allow a more efficient utilization of resources. On the other hand, group living has the disadvantage of being more conspicuous to predators.

Homological structures in male copulatory organs in Pisauridae

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Since Comstock’s (1910) classical work on spider palps his nomenclature has been used extensively. The homology of male palpal sclerites and apophyses is discussed. In the present study, the morphology of pisaurid palps is analyzed to establish the homology of various palpal structures within the family. To date, the homology of subepigynum, tegumen, conductor, median apophysis, and embolus is undisputed among the pisaurid genera studied. Many Pisauridae possess complex, geometrically elaborate embolus and subepigynum, including terminal apophyses like the fulcrum in Pseudosycanus; those parts are difficult to homologize among genera of the family. The American "genus" Pseudoscyllia and the mainly African Pisaurina genus-group possess large, conspicuous, distally located, tegular apophyses. Their identity is not yet proven, but they do not occur elsewhere in Pisauridae. In course of this work, the systematics of Pisauridae will be revised, using apomorphies found in copulatory organs.

Signal specificity in wolf spiders (Araneae: Lycosidae): a comparison of closely related species

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George W. Uetz
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The acoustic signals produced by courting males in the Schizocosa octenta species group were analyzed and compared using digitized sonographs. There, is strong species specificity in the courtship songs of this group, with the behavior correlating closely with the presence or absence of male secondary sexual characteristics. Several new alternative species (as judged by reproductive isolation) have been recognized in this species-group. Species with conspicuous bristles on the first pair of legs use these legs extensively during courtship (S. octenta and S. crassipes). In S. octenta these leg moves are visual signals that are important for successful communication (Scheffer, unpublished thesis). The courtship behavior in the species with dark legs lacking the bristles is typically much less visually conspicuous, and consisted of stridulation (S. stitudans and S. flavida). The one species that lacked both bristles and stridulation (S. octenta) displayed a courtship behavior that produced very loud sounds. This species relies on vibrational cues for species recognition. The strong correlation between secondary sexual characteristics and courtship signals suggests that these characters have been selected for by sexual selection.
A preliminary phylogenetic analysis of scorpion families

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A preliminary cladistic analysis of scorpion families and subfamilies is presented. Thirteen terminal taxa and 56 characters were considered, and trees were constructed using the MUP and MacClade programs. The monotypic genus Belisarius (currently Euscorpiidae) was not considered. The families Chactidae and Vaejovidae, as currently comprised, are shown to be paraphyletic and polyphyletic, respectively. The subfamilies Superstitioninae (currently Chactidae) and Scorpisinae (currently Vaejovidae) are the hypothesized sister taxa of the families Iuridae + Vaejovidae and the subfamily Chactidae (Chactidae), respectively. Taxonomic rearrangements and new keys proposed as a result of this study will greatly facilitate the assignment of specimens to family. The following cladogram represents hypothesized phylogenetic relationships between the currently recognized families and subfamilies: (((Chactidae, Iuridae), Vaejovidae), (((Superstitioninae, (Chactidae, (Scorpisinae), (Vaejovidae)))), ((Superstitioninae, (Turidae, Vaejovidae)), ((Chactidae, Scorpisinae), (Megascorpiinae, Euscorpiidae))))).

Stochastic processes in decision making: cohabitation duration in bowl and doily spiders (Frontinella pyramitela)

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The visits of male bowl and doily spiders (Frontinella pyramitela) to females' webs are highly variable in duration (0.04 h to >50 h; mean ± S.D., 11.9 ± 15.8 h) and much longer, usually, than the time required for courting and mating. In this study, we attempted to determine what variables were responsible for the large variability in cohabitation durations in F. pyramitela, and why cohabitations were prolonged beyond the time necessary for courtship and mating. We tested female identity, female reproductive status (i.e., virginity, presence or absence of a female, time of day, relative humidity, recent intrusion by a second male, and resident prey capture by the male. Only the first and last of these influenced, though mildly, the duration of cohabitations, and none could account for the large variability in cohabitation durations. Further analysis of the data showed that the durations of males from females' webs were governed by stochastic processes within the spiders, not by responses to environmental variables or to individual histories. These processes are readily modelled by a pair of die-rolling strategies, one apparently resident in the male and the other a product of the interaction of both male and female.

Congruent biogeographic patterns in harvestmen and salamanders

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California Academy of Sciences, Golden Gate Park
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The harvestmen of the genus Calicina (Phalangodidae) are endemic to California and they occupy a wide variety of biomes, from desert to open grassland. As may be expected of cryptic organisms, the species are allopatic or parapatric. Our cladistic analysis, using primarily reproductive characters, clusters the 25 species into four species groups with an unresolved basal trichotomy. The most plesiomorphic clade occupies the high elevation, central Sierra. The second range along the middle elevation Sierra, the third ranges along the low elevation Sierra and northern Coast Ranges, while the third occurs along the low elevation Sierra and northern Coast Ranges. The slender salamander genus, Batrachoseps, shares many of the above patterns. The presumed phylogeny also contains three clades whose distributions are very similar to those of Calicina. Furthermore, the plesiomorphic clade has an east-western (although disjunct) distribution (Yaney, 1980).

Given these congruent patterns, as well as the similar ecological requirements of these organisms, it is likely that Calicina and Batrachoseps are representatives of the same ancestral biota.

Size distribution, prey capture success, and spatial position in colonial orb-weaving webs

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University of Cincinnati
Cincinnati, OH 45221-0006

The size distribution of spiders within colonies of Megaspider kingkanga from tropical Mexico is non-random; larger (mature) spiders and females guarding egg sacs are more prevalent in the center, while more small (immature) spiders are found on the periphery. Availability of prey and the capture rates are significantly higher on the periphery than in the core. Experimental field studies with spiders of selected size classes showed that the larger spiders are more aggressive and see more positions in the center of the colony webbing, even though prey availability is less there than on the periphery. Preliminary data suggest that for colonial spiders there may be a trade-off between foraging and protection from predation. The influence of such trade-offs on individual fitness and the structure of colonies is discussed.

Salticid color vision - the story so far

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Almost one hundred years of literature on salticid color vision will be reviewed from the experiments of Peckham and Peckham to the present day.

Observers of salticid behavior believe that color vision is used in mate selection, prey discrimination, and all activities involving the anterior median eyes. For those activities not involving the anterior median eyes, the salticid can base discriminations on brightness but not on differences in wavelength. Intracellular recordings from the AM eyes have shown two (Blest et al. 1987), three (Devos) or four (Yamashita & Takada) types of spectral cells in the retina, any one of which would provide the basic mechanism for the discrimination of wavelength. This kind of behavioral experiment will be described which would prove that salticids do indeed use this basic mechanism for wavelength discrimination.

Biological diversity of jumping spiders (Araneae, Salticidae)

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Trinity College
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Peoria Heights, IL 60467

Little is known about spider diversity and species richness patterns in ecosystems or habitats. Over 3,600 Nearctic species are known, and about 2,000 are reported from Mexico. Spider diversity or richness increases from the tropics to the temperate zone in the Northern Hemisphere. The tropics (10%), temperate zone (50%), and the Northwest Territories (13%) species are known. Connecticut has about 475 spider species, while Illinois has almost 550, and Texas has about 650 known species. The jumping spiders of the family Salticidae make up a consistent 5% of the species in the above areas, as they do for the Caribbean Islands of Puerto Rico (175 total species of spiders), St. Vincent (150), and the Virgin Islands (100). In Panama and on Cuba (280) they comprise about 15% and on Hispaniola (225) about 20% of the spider species. Over 200 species of salticids are known from the Caribbean. Species richness patterns will be illustrated for the New World.

American Arachnology

American Arachnology in the newsletter of the American Arachnological Society and is sent only to members of the Society. Submission of items for American Arachnology should be sent to the editor, Dr. James W. Berry, Department of Biological Sciences, Butler University, Indianapolis, Indiana 46208, U.S.A. Deadline for receipt of material for the Fall issue is 24 September and for the Spring issue, 24 March.

The Journal of Arachnology is the official publication of the American Arachnological Society. The subscription price is $25.00 per year in the U.S. and Canada, $30.00 per year in all other countries. Subscriptions, membership, and information about the society are available from the secretary, Dr. Jerry Novotny, Zoological Sciences, Ohio University, 200 Research Loop, Athens, Ohio 45701, U.S.A.
Arachnological Publications and Societies of the World

James C. Cokendolpher
Texas Tech University

While gathering information for an article to be published in the Young Entomologist's Society Journal (Y.E.S. Quarterly), I was impressed with the lack of a general list of arachnological societies from around the world. After discovering several groups not mentioned by C.I.D.A. (see below) publications, and at the encouragement of several colleagues, I now present a review of these societies, as well as other arachnological resources. This group is formed to promote the study of arachnids of the New World, with emphasis on the southwestern U.S.A., northern Mexico, and the adjacent area of the southern United States. Although its primary purpose is to provide the public with information about arachnids, it is also intended as a means of rapid and accurate communication about the biology of these animals. Articles about the society should be addressed to: Dr. Bruce Cutler, 360 Euclid Street, South motorcycle, New York 10013, U.S.A.

CENTRE INTERNATIONAL DE DOCUMENTATION ARACHNOLOGIQUE (C.I.D.A.)

The Centre international de documentation arachnologique (C.I.D.A.) serves the arachnological community of the entire world. The centre serves as a clearinghouse, a book repository, and a communication center. It maintains a directory of arachnologists, Annuaire des Arachnologistes, which lists names and addresses of all professionals and amateurs devoted to the study of arachnids of the southwestern U.S.A. and northern Mexico. A newsletter is issued on an irregular schedule as the center receives new information. This information is not listed below. Such information is available from each group. If you have difficulty finding the information you need, please write me as I will keep a list of current names and addresses. A second publication, the Arachnologist, is issued irregularly and is intended as a means of rapid and accurate communication about the biology of these animals. Articles about the society should be addressed to: Dr. Bruce Cutler, 1666 Euclid Street, South motorcycle, New York 10013, U.S.A.

AMERICAN TARANTULA SOCIETY

This society was founded in 1974 and is composed of professionals and laymen interested in the biology of jumping spiders. The American Tarantula Society was formed to provide the public with information about arachnids, to encourage the study of spiders, and to eliminate misunderstanding concerning the tarantula. A later goal of the society was to have the "pet industry" breed their own supply of tarantulas, eliminating the plunder of natural habitats and populations. As a result, the society is no longer active. The problem of wild tarantula collecting for resale continues.

THE NATIONAL ARACHNID SOCIETY

This society has a regular monthly newsletter. Meetings are generally held once a month at the University of California at Berkeley. Information about the society and newsletter is available from: Chris Beattie, 1505 Albany Terr., Albany, California 94706, U.S.A.

NORTHERN CALIFORNIA SPIDER SOCIETY

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AUSTRALIA

AUSTRALASIAN ARACHNOLOGICAL SOCIETY

This society started in 1979, with the appearance of its first newsletter, Australasian Arachnology. Since that time the newsletter has appeared generally four times a year. The aim of the society is to promote the study of arachnids of the Australasian region, with the particular intention of stimulating communication between amateur and professional arachnologists. Details on membership are available from: Dr. Richard J. Glanville, Agricultural Institute, Yanco NSW, 2703, Australia.

EASTERN ASIA

ARACHNOLOGICAL SOCIETY OF JAPAN

Founded in 1986 as the Arachnological Society of East Asia, this is the oldest arachnological society. The society officially changed its name to the Arachnological Society of Japan on 1 April 1988. Two journals are published by the society, Acta Arachnologica is published twice a year with articles in English, German, French, and Japanese with English summaries. Arachnus is published twice a year and written in Japanese. Annual meetings are held in Japan, and a library is maintained. Correspondence about the society and membership should be sent to: Yoshiaki Mishikawa, Biological laboratory, Ohtemon-Gakuin University, 2-1-15, Nishi-Ai, Ibaraki, Osaka 567, Japan.

In addition to the above society, six smaller regional groups are active in the study of spiders in Japan and their respective areas. They are as follows: Tokyo Group (office in Tokyo), Niigata Group (office in Niigata), Mie Group (office in Mie), Central Japan Group (office in Nagoya), Western Japan Group (office in Osaka), and Kyushu Group (office in Fukuoka). These groups often hold meetings, field studies, and publish their own journals. Correspondence regarding these groups should be directed to the address above. For additional information, contact: President! Prof. Zhu Chuandian, Department of Biology, Nagaoka, Mie Group (office in Mie), Central Japan Group (office in Nagoya), Western Japan Group (office in Osaka), and Kyushu Group (office in Fukuoka).

The China Society of Arachnology

An arachnological society of China was founded during 1986. A newsletter will be published irregularly to help inform members about activities and studies of their colleagues, both in China and abroad. It is to be written in Chinese. Meetings of the society will be held every two years. Further details about the society are available from the society President: Prof. Zhu Chuandian, Department of Biology, Nanshan University of Medical Sciences, Changchun, Jilin Province, People's Republic of China.

KOREAN ARACHNOLOGICAL SOCIETY

In 1985, this journal on arachnology (including Acarina) was started by the Arachnological Institute of Korea. This journal entitled Korean Arachnology is published twice a year. Scientific articles are written in English or Korean, and summaries are primarily with arachnids of Korea. Additional information about this journal can be obtained from: Arachnological Institute of Korea, 42 Dosun-dong, Songdong-gu, Seoul 113, Korea.

SOVIET UNION

ARACHNOLOGICAL SECTION OF THE ENTOMOLOGICAL SOCIETY OF THE USSR

Due to the growing number of arachnologists in the U.S.S.R., a separate group (Section of Arachnology) within the All-Union Entomological Society was established. This section purpose is to unite Soviet specialists in arachnology (excluding scorpions). Meetings of the section are to be held each four years (starting in 1984) and the papers of the first meeting are to be published in the Proceedings of the Zoological Institute, Leningrad (1986). Correspondence about the group should be directed to either the: Section of Arachnology Secretary, Dr. G. V. Shchukina, State Museum of the Moscow State University, K-9 Herzen str., 6 U.S.S.R. 103069 Moscow, or, Section of Arachnology President: Dr. V. I. Ovad, Siberian Branch of the Academy of Sciences of the U.S.S.R., 199164 Leningrad, U.S.S.R.

EUROPE

THE BRITISH ARACHNOLOGICAL SOCIETY

This society was officially named in 1969, but its roots can be traced back to 1958. The Flatford Mill Spider Group (1958-1965) gave rise to the British Spider Study Group (1964-1968) which in turn became the British Arachnological Society. The society now has two publications which deal with arachnology (excluding scorpions) and arachnological discussion groups. They have also initiated regional conferences of arachnologists from neighboring countries. The first conference was organized with Czechoslovakian arachnologists. Colleagues from the German Democratic Republic also participated in the first conference. Members of this group report estimates of the number of arachnologists in Europe, and contain both technical and non-technical information. This group holds an Annual Show for amateur arachnologists. Membership is open to all arachnologists in Europe. Correspondence about membership should be sent to: Secretary: Mrs. Ann Webb, The British Arachnological Society, 36 Phillimore Place, Harefield, Herts, WD7 8WU England.

TARANTULA CLUB NEDERLAND

The Dutch tarantula club is composed primarily by amateur arachnologists interested in captive breeding and care of tarantulas. A newsletter was started in 1987. This is a very new founded group and has little other information currently available. Interested individuals should contact the group for additional information by writing: Mr. Rob. J. Dumont, TARANTULA CLUB NEDERLAND, Waddenstraat 217, 2036 LE Haarlem, The Netherlands.

ARACHNOLOGICAL SECTION OF THE POLISH ZOOLOGICAL SOCIETY

This group is primarily composed of professional arachnologists and students preparing their diploma papers on arachnids. The group was founded in 1978. This main activity of this organization is the annual conference and the promotion of research on arachnids. They have also initiated regional conferences of arachnologists from nearby countries. The Polish group is such a conference was organized with Czechoslovakian arachnologists. Colleagues from the German Democratic Republic also participated in the first conference. Members of this group report estimates of the number of arachnologists in Europe, and contain both technical and non-technical information. This group holds an Annual Show for amateur arachnologists. Membership is open to all arachnologists in Europe. Correspondence about membership should be sent to: Secretary: Prof. dr hab. J. Prieznieki, Arachnological Section of the Polish Zoological Society, Zakład Zoologii, ul. Prusa 12, 08-100 Siedlce, Poland.

ARACHNOLOGICAL SECTION OF THE SLOVAKIAN ACADEMY OF SCIENCES

This group was founded in 1972-1974 in honor of Prof. František Miller (1902-1983). The core of members are graduates of Charles University (Department of Systematic Zoology) and their coworkers. The group is composed of both professional and amateur arachnologists devoted to the study and research of arachnids in Czechoslovakia. Annual meetings are connected with conferences, workshops, and the organization of annual meetings. Correspondence about the group should be directed to either the: Section of Arachnology Secretary, Dr. J. Proszynski, Department of Invertebrate Zoology, Zoological Museum of the Moscow State University, K-9 Herzen str., 6 U.S.S.R. 103069 Moscow, or, Section of Arachnology President: Dr. V. S. Orbat, Katerina Zborilova, Nagy, Katerin, Zoological Institute of the Academy of Sciences of the U.S.S.R., Universitetskiy, nab. 1, 199164 Leningrad, U.S.S.R.

ARACHNOLOGISCHER ARBEITSKREIS IM KULTURBUND DER DDR

This section was founded in 1976. It is dedicated to the study of Araneae, Opiliones, and Pseudoscorpiones. The main goal is to prepare collective works on these topics. The group consists of about 20 members and is a part of the "Zentraler Fachausschub Entomologie im Kulturbund der DDR." The group does not have its own journal but...
members can publish (in German) contributions in the entomological periodical *Entomologische Nachrichten und Berichte*. Meetings with lectures and excursions are held yearly. Interested individuals should contact the group for additional information by writing: Dr. Peter Sacher, DDR-4600 Wittenberg, Zimmermannstraße 12b, German Democratic Republic.

SOCIÉTÉ D'ARACHNOLOGIE

This society was founded in 1980. It is dedicated to the study of Arachnology and promotes meetings and exchanges between professionals and amateurs. The society is open to all arachnologists. Annual meetings are held in Europe, except during years the International Congress of Arachnology (organized by C.I.D.A.) are held. Every third year one of the meetings is held in France. The official language of the meetings is French, but communications in other languages are accepted. For further details about this society write: Laboratoire de Biologie du Comportement, B. P. 235, 54506 VANDOEUVRE les NANCY Cedex, France.

REVUE ARACHNOLOGIQUE

This publication was started in 1977. Since that time seven volumes have been published, each volume being composed generally of four parts which are usually issued separately. *Revue Arachnologique* contains scientific articles on all aspects of arachnology (excluding Acarina). Papers are written in French, English, Italian, or Spanish. Issues and correspondence about the *Revue Arachnologique* are somewhat irregular because the Revue is produced by only two people. Mr. Darchen collects the manuscripts and sends them to the reviewers, whereas Mr. Ledoux takes care of the remainder of the journal production. Correspondence about this journal should be directed to: Mr. Jean-Claude Ledoux, 43 rue Paul-Bert, 54000 F.30390 ARAMBON, France, or, Mr. Roger Darchen, Station Biologique, F.24520 LES EYZIES, France.

ARABEL

The Société arachnologique de Belgique (Belgische Arachnologische Vereniging) was founded in 1986. One bilingual publication (French and Dutch) is issued three times a year: *Feuille de Contact / Nieuwsbrief*.

American Arachnology

DEPARTMENT OF BIOLOGICAL SCIENCES

BUTLER UNIVERSITY

INDIANAPOLIS, INDIANA 46208

U. S. A.

Annual meetings and excursions are held. For further details about this society write the Secretary: Dr. Léon Baert, Koninklijk Belgisch Inst. v. Natuurwetenschappen, Vautierstraat 29, B-1040 BRUSSEL, Belgium.

AFRICA

SERKET

Serket was started in 1987. This bulletin takes its name from the ancient Egyptian name for scorpion. It is planned to be published at least twice a year. Articles thus far written are in English on arachnids of the Middle East, especially Egypt. Further information about this publication can be obtained from: Mr. Hisham K. El-Hennawy, 41, El-Mantega El-Rabia Street, Heliopolis, Cairo 11341, Egypt.

THE SPIDER CLUB OF SOUTHERN AFRICA (DIE SPINNEKOPKLUB VAN SUIDELIKE AFRIKA)

This group is composed of both amateurs and professionals. They have regular field outings; talks are given to the local schools and clubs; and irregular scheduled meetings are held. A library is available to members of the club. Since the society's start in 1976, a quarterly newsletter, *The Spider Club News*, has been published. Further details about the society can be obtained from the Honorable Chairman: Dr. Martin R. Filmer, P.O. Box 81112, Parkhurst, Johannesburg 2120, Republic of South Africa.

RESEARCH GROUP FOR THE STUDY OF AFRICAN ARACHNIDS (RGSAA)

Professional arachnologists from Africa formed this group in August 1986 to help promote closer cooperation in working on the continent's rich arachnid (non-Acari) fauna. Two issues of the RGSAA *Newsletter* have thus far been published (November 1986 and November 1987) in English. Although a formal title for the group has not been adopted, it is to be one of the topics at the next Southern Africa Arachnological Conference to be held 11-15 July 1988 at Swakopmund, South West Africa/Namibia. Correspondence about the group should be directed to: Dr. Ansie S. Dippenaar, Plant Protection Research Institute, Private Bag X134, Pretoria 0001, Republic of South Africa.
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