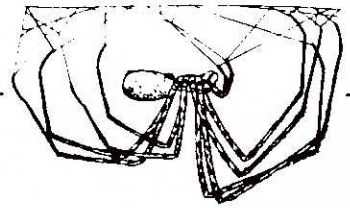
AMERICAN ARACHNOLOGY

THE NEWSLETTER OF THE AMERICAN ARACHNOLOGICAL SOCIETY

No. 30



NOVEMBER 1984

1985 and 1986 MEETING DATES →

All future meetings of the A.A.S. will be national or international -- eastern and western divisional meetings are a thing of the past. The next two national meetings will be held in Los Angeles (1985) and St. Louis (1986), both in late June.

The Los Angeles meeting will be held at the Natural History Museum of Los Angeles County. The Arrangements Committee includes Blaine Hebert, Lowell Herbrandson, and Charles Hogue. Tentative dates are 24-28 June (Monday -Friday) with registration on Monday and a field trip on Friday. A symposium on "Biology of Scorpions" is being considered for this meeting with Gary Polis as organizer.

The St. Louis meetings will be held at nerby Lindenwood College. William Tiejen will be the host. This meeting will occur more than two months prior to the X International Arachnological Congress in Spain.

BRITISH ARACHNOLOGY SOCIETY NEWSLETTERS REPRINTED

Under the editorship of John R. Parker, the British Arachnological Society recently published a 426 page, indexed, facsimile collection of their newsletters numbers 1 - 30 (July 1971 -March 1981). Like recent issues of the newsletter, these back issues contain articles on arachnological history, notes on spider natural history, accounts of members' field experiences, taxonomic commentary, and suggestions for new or improved research and curatorial techniques. Such articles make for useful and interesting browsing. Thanks to the efforts of John Dalingwater, the volume also has a 40 page index that permits it to be effectively used as a reference. The first part of this index lists titles, topics, and key words of articles and the second part consists of a phylogenetic listing of spider families, under which genera are alphabetically listed. The cost of this volume is approximately $25.00. Those interested in purchasing a copy should contact Dr. John E. Dalingwater, Tresurer of the British Arachnological Society, Department of Zoology, The University, Manchester M13 9PL, England, to obtain current information about availability and price.

GUILD OF NATURAL SCIENCE ILLUSTRATORS

The following information sent by James Cokendolpher may be of interest to the many arachnologists who do their own illustrations. The Guild of Natural Science Illustrators, Inc. is a non-profit organization for "those earning a living in part or whole by the rendering of scientific illustrations." Membership dues are currently $23.00 per year and entitle one to 10 issues of the organization's newsletter and attendance at 9 monthly meetings held in the Washington , D.C. area. Further information about the organization may be obtained by writing GNSI, P.O. Box 652, Ben Franlkin Station, Washington, D.C., 20044.

IN THIS ISSUE --

Several "Studio Tips" about pen care that appeared in the organization's September 1984 newsletter may be of interest to readers.

1. After cleaning a pen, or when replacing a worn point section, oil all exposed parts with baby oil. Using a cotton tipped swab, oil the rings of the point section before screwing into the pen sleeve, then put a drop of oil into the back section of the pen and shake gently to lubricate the inner workings of the pen. Place an oily Q-tip into the ink cartridge reservoir and coat the inside thoroughly before filling with ink. This also enables you to always see the ink level in your pen. Ink does not stick to oil and the pen works wonderfully for a much longer period of time as well as being much easier to clean the next time. -- Cheri Ziebart.

2. If your technical pen has clogging problems, try adding one drop of ammonia to your ink bottle. This makes for slightly sudsy ink, but the ammonia will help it flow smoothly and help prevent it from caking inside the pen. -- Laura Dassow.

NOTE FROM THE EDITOR

As I put the final touches on this, my first, issue of American Arachnology, I am encouraged by the willingness of the society's members to provide reports and items of interest. I welcome comments on the newsletter and suggestions for new features. George Uetz has volunteered to write an arachnological gossip column. However, after looking over a sample of his entries, I have decided to table this idea until we really run short of material -- an action that will please the many members whose behavior George has observed during the society's last ten meetings. I am continuing the "Reports on Ongoing Research" feature started by Bill Shear in the past issue. Each of the next several newsletters will profile the research programs of six or seven arachnologists, with an attempt being made to achieve a balance among areas of research. As always, requests for specimens and information and reports of travels and observations are welcome.

For me, this summer has involved more than my usual share of travel. Before the New Orleans meetings, I paid a short visit to Jonathan Coddington at the Smithsonian Institution where I was able to view our nation's nascent spider collection. August began with a return to the familiar library and collections of the Museum of Comparative Zoology and a relaxing visit with Herb and Lorna Levi at their home in Pepperell. It ended with my first visit to the American Museum's Southwestern Research Station near Portal, Arizona. Thanks to the help of Vincent Roth, I was able to locate and study the uloborid Siratoba referena, first described from this region by Gertsch and Muma. As if this weren't exciting enough, I had an opportunity to talk with both Willis Gertsch and Martin Muma who live near Portal. John Cooke was also at the field station photographing and studying tarantulas and tarantula hawks, making this the largest assemblage of arachnologists since the June meetings.

Attending meetings and visiting other arachnologists is always an opportunity to renew friendships, meet new workers, learn about ongoing research, and recharge one's enthusiasm. I hope that this newsletter will continue to achieve these same ends. -- Brent Opell

ERIGONINAE & LINYPHIINAE CATALOGS

A catalog and synonymy of the Erigoninae of America north of Mexico has just been completed in rough form with about 100 genera and 680 species. No plans are being made to publish this, but xeroxed copies will be available at cost when typing is completed.

Tentative plans are being made for a similar catalog of the Linyphiinae. Anyone who has a catalog started, completed, or is interested in cooperating on this project should contact Vincent Roth, Southwestern Research Station, Portal, Arizona 85632.

HANDBOOK FOR SPIDER IDENTIFICATION

Vincent Roth's Handbook for Spider Identification, providing illustrated keys to the families and genera of North American spiders, is available from the American Arachnology Society, Department of Zoology, University of Florida, Gainesville, Florida 32611. The cost if pre-paid is $10.00, if billed, $12.00 per copy.

REPORTS ON ONGOING RESEARCH

Allen R. Brady
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At the present time I am writing the revision of the new spider genus Gladicosa (formerly Glycosa) after completing drawings, measurements, descriptions, and distribution maps. This is the second part of a series of revisions of the many large spiders in North America included in the genus Lycosa. In the next installment of this series (already underway) I plan to illustrate, redescribe, and elucidate the relationships of a number of species in what I have tentatively called the Lycosa helluo group. North American species in this group appear to be related to the European species Lycosa radiata Latreille, which is the type species for the gneus Hogna Simon, 1885. Thus, one of the largest components of the North American species of Lycosa will become Hogna when properly placed.

Nomenclatural matters are complicated by the fact that Lycosa tarentula Latreille of Europe, the type species of Lycosa does not appear to have any close North American relatives (nor European ones either for that matter). Also Roewer (1954, 1958, 1959) established 51 new generic names in the Lycosinae, based in many instances upon trivial characters (e.g. number of posterior cheliceral teeth). These names, of course, must be considered when separating out valid genera from the melting pot of North American Lycosa. For example, Rabidosa Roewer seems to be a legitimate name for the group of species including Lycosa rabida, L. punctulata, L. carrana, L. sanrita, L. hentzi and at least one new species.

In a project related to the study of North American Lycosa, two Hope College students examined statistically certain features of the widespread species Lycosa carolinensis Walckenaer. They found concurrence between color pattern, leg length, and dimensions of eye rows in selected populations (adequate numbers) that distinguished geographically separated populations from one another. More information is needed to determine whether or not these populations simply reflect clinal trends or if reproductive isolation is present.

My continuing interest in the lycosid genus Sosippus led me this summer to return to a collecting site of some 12 years ago, near the northern boundary of the Okefenokee Swamp, where I had found two very distinct specimens. Gary and Pat Miller provided transportation and good company to the locality near Waycross, Georgia. We found another 20 specimens near the Swamp, enought to establish the spider as Sosippus janus. Although not a new species, this finding extends the range of S. janus about 100 miles northward. During the past 10 years scattered specimens of Sosippus (or close relatives) have been collected or sent from Mexico, Costa Rica, Bolivia, Ecuador, and Peru. An up-date of this group is a project for early in 1985.

Students in my research laboratory have also been working with a large collection of lycosids from the Delta

Region of Mississippi. These specimens were collected primarily in pitfall traps by Tim Lockley and cover all seasons of the year. This collection and a collection on loan from the Mississippi State Entomological Museum have provided a view of the lycosid fauna between Florida (well-collected) and east Texas (not-so-well collected). Among the specimens were two dozen males of Gladicosa bellamyi (the first males that I've seen) together with several females (known only from type specimens). I mention this because it underscores the need for adequate regional collections from areas outside of the northeastern United States

Another small project involves an update of the genus Trochosa. I have collected one new species in the avara group from Texas. The new species is represented by 6-8 specimens and needs to be illustrated and described. Another species Lycosa apothetica Wallace also belongs to the avara species group. It too will be illustrated and re-described.

Longer range plans are to continue with systematic revision of the "species-groups" that have been tentatively separated from what is now known as Lycosa. Once these species groups or genera (as they may prove to be) have been established, an overview of their evolutionary relationships will be presented.

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My current research on spiders includes two behavioral investigations. One is a laboratory study of vibrations in spider webs, primarily those of orb-weavers. Using a photodiode to detect light deflected from the web, we are developing methods to record and analyze web vibrations and to investigate the transmission of vibrations by orb-webs. The questions I hope to investigate with this system conern communication via vibrations on the web, especially signalling within a species. The system is designed to record vibration frequencies up to a few kilohertz, and observations so far indicate that low frequency vibrations up to 100 Hz are most significant. Transmission effectiveness appears to change with web tension, web structure, and position of the spider.

In a continuing study of web aggregation and social behavior in spiders, I have been measuring the variability in web building, aggressive behavior, and site tenacity in spiders that build their webs in groups. Orb-weaving spiders that live in groups modify their web structure, while solitary spiders tend to build more individually distinctive webs consistently from day to day. In colonial spiders, individual variability in web construction and activity appears to increase with spider density and higher food levels.

A separate part of my research position involves interdisciplinary work between biology and geophysics. As an outgrowth of this work, I have become interested in biogeography and phenology of spiders, particularly in Texas, Central America, and the Caribbean, as they are related to climatic and geological history.

JAMES E. CARICO
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My principal research interest, as it has been for a number of years, is in the systematic revision of the Pisauridae of the Western Hemisphere. This effort has led to a number of generic revisions, i.e. Dolomedes, Pisaurina, Tinus, Architis, and Staberius.

It became clear to me early in this review of the western pisaurids that a group of genera did not fit our concept of the family and represented a distinct group. This group is comprised of eight named genra (13 names are available) plus about four additional new genera and approximately 67 valid species (32 of which are not described). These are all clearly monophyletic, and limited to the New World, primarily in Central and South America but with a single species, Trechalea gertschi, extending northward into Arizona. Simon published a family name in 1899, Trechaleidae, in which he included only the tyge genus, Trechalea, and immediately abandoned. This name will eventually be redefined and will include the several genera anot previously included by Simon. I am in the process of revising the Trechaleidae, genus by genus.

To work out a definition of the family, it is necessary to develop a cladistic scheme incorporating the behavioral and anatomical character states. The search for sister groups has led to the Lycosidae and to the Pisauridae. Recently, Charles Dondale and I discovered that our pursuits were overlapping, i.e. he is attempting to define the Lycosidae using the Pisauridae as a sister group while I am attempting to define the Pisauridae and Trechaleidae using each as the sister group of the other and considering Lycosidae as well. This has led to a collaborative effort with a pooling of our collected data from our respective families.

The only remaining genus in the traditional Pisauridae in the western hemisphere is Thaumasia. This seems to be a relatively complex group with several species, especially in South America. Its range is from Southern Mexico southward into southern South America.

On a worldwide scope, I maintain a keen interest in studying Dolomedes, which is the only Pisaurid (or Dolomedid) found with such a wide distribution. I am studying Dolomedes from New Zealand and Papua New Guinea now and hope to extend the effort further in the future.

Another project in systematics, is a revision of a group of stridulating orbweavers distributed in New Zealand, Australia, and Papua New Guinea. This is done in collaboration with Ray Forster, and eventually a new family may be named for this very distinctive group.

My other interests are in the behaviour of various spiders fround locally. Serendipity is the main component in this work because casual observations in the field, usually at night, have led to small projects on such topics as prey capture in Eurvopis, orb web removal strategies, and use of the old orb to cover eggsacs by Mecynogea. Presently I am pursuing the mating behavior of Neoscona hentzi (which has an unusual use of the scape), mating in Pisaurina mira (which mates suspended from a dragline with the female wrapped in silk by the male), prey capture by Argyrodes fictilium (which is an ACTIVE predator of other web-building spiders), and others.

I would be very interested in seeing any pisaurids collected from the area of Mexico southward. Identifications will gladly be made with the understanding that any interesting specimens would be borrowed for use in the research project.

JEROME S. ROVNER
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Currently I am investigating how ground-dwelling spiders survive floods resulting from heavy rain or overflow of streams. While some wandering spiders are known to climb vegetation or seek higher ground to escape rising water, what of those spiders inhabiting silken retreats at or beneath ground level? Do they have behavioral or morphological adaptations enabling them to resist drowning when submerged? (I leave possible physiological adaptations to John Anderson or Ken Prestwich.) Although considerable interest has been directed toward coastal (intertidal) species and toward the freshwater Argyroneta aquatica in this regard, inland terrestrial spiders have not been the primary subject of such studies previously.

Two species have received much of my attention: members of Dysdera crocata often build sacs, especially for molting; individuals of Ariadna bicolor build a tubular web. I've been comparing survival times between individuals without vs. within their silken construction after the spiders' submersion in aerated water (20-25°C). Outside the retreat they drown within 18-36 hr, while those in retreats survive for a number of days. The highest figures for D. crocata (10

days) and A. bicolor (7 days) may not be maximal, but may reflect the spiders' "decision" to leave the safety of the retreat. Bouts of activity at intervals, immediacy of response to my tapping the silk wall, and rapid locomotion if forced to leave the retreat--all indicate a non-diapause state during submergence. Initially the nest provides an air store. Subsequently, by preventing the silk-trapped bubble's collapse, which would otherwise result from the Ege effect, the silken structure probably enables the spider to extract oxygen from the water via the gas-water interface--a physical gill.

To test the physical gill hypothesis, I am using an oxygen electrode to measure changes in the dissolved oxygen level of water surrounding empty vs. inhabited retreats placed in a sealed vessel. Oxygen saturation decrease in the tests involving inhabited retreats indicates that oxygen is diffusing into the retreat, which, in turn, could be taken up by the spider. These data, along with those above on survivorship in aerated water, demonstrate that some silk constructions of spiders not associated with an aquatic life-style can function like the web of Argyroneta aquatica, heretofore the only spider examined specifically in regard to the use of silk for maintaining an air store and a physical gill.

I've begun to look at other spiders that occur beneath stones, logs, or debris to see how they react to submergence. These spiders include not only some that build sac or tubular retreats (e.g., Clubiona spp.) but also some that build snares (e.g., Amaurobius spp.) and some not associated with any such use of silk (e.g., Lycosa and Xysticus spp.).

In regard to Lycosa spp. I'm particularly interested in the responses of females and of the young they carry. When I forcibly submerge the mother, the spiderlings remain attached. Tested as separate individuals, as well as when clustered on the mother, spiderlings endure submergence much longer than the female. Thus, they have no difficulty remaining attached for whatever duration the female may survive under water.

Planned work on ground spiders will include studies of "bubble morphology." My preliminary observations show that just after these spiders submerge, the adhering air bubble ranges from a rather voluminous, elongate structure enclosing most of the body (with extensions into the legs) in Amaurobius sp. to a roughly spherical bubble attached to the ventral region and centered near the book lungs in Xysticus. I plan to compare such species with members of their respective families that inhibit higher strata to see if the ground-dwellers have greater capacities for securing air bubbles. If so, a study of the morphology and distribution of setae will follow.

Since we arachnologists prefer not to observe or collect spiders beneath the water in flooded areas, the possibility that inland terrestrial species have evolved various means of resisting drowning has not been explored previously. Yet, those ground-dwelling spiders that have no tendency to climb above rising water during floods must have adaptations that permit survival under water, even if only used for brief periods during their life. This is probably so for many of the primitive spiders--liphistiids and mygalomorphs--whose silk-lined burrows are little changed in basic structure from those of ancestral spiders. Perhaps one of the original functions of the evolutionary precursor to spider silk was to enable the spider's ancestor to maintain an air store and a physical gill during floods.

Presently, I have one M.S. student in my laboratory, Jeffrey Shultz, who brought his thesis research topic and methodology with him from his senior undergraduate work at Michigan State University. Using high-speed cinematography and other techniques, Jeff has been examining locomotion in the semi-aquatic pisaurid Dolomedes triton. He found that during terrestrial locomotion this spider shows the typical "alternating tetrapod" coordination of arachnids (alternating movements of intrasegmental and adjacent ipsilateral legs). However, on water D. triton uses synchronized movements of the leg pairs (rowing), and the phase of adjacent ipsilateral legs approaches synchronization. As a result of this change in the ipsilateral phase, the terrestrial stepping pattern 4231 becomes -321 on water. Leg 4 is not used for aquatic propulsion but functions in yaw correction through lateral kicks. Timing of these kicks suggests that these movements may have evolved from the protractions of terrestrial locomotion. For comparison with a non-aquatic but morphologically similar spider, Jeff examined Lycosa rabida. His preliminary analysis shows that on water L. rabida continues to use basic elements of the terrestrial gait and posture but uses ipsilateral coordination similar to that of D. triton. During turns, L. rabida exhibits synchronization of intrasegmental legs. His observations suggest to Jeff a scenario for the evolution of surface film locomotion in Dolomedes which also may be applied to other secondarily aquatic arthropods.

Deborah Smith
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The most satisfying piece of news I have to report is that I have a new, and relatively permanent address. I have a Michigan Fellows' post-doc which will keep me employed for the next three years.

Since I've just moved to Michigan, a description of my research will be largely in the future tense (not to mention the conditional -- that is funding); but, here goes. I've begun a new project on population genetics of the South American cooperative theridiid, Anelosimus eximius. I'm interested in the influence of inbreeding within colinies on social behavior, and the effect of A. eximius social system on the species' population genetic structure. The questions I want to answer are: Are colonies highly inbred, and thus made up of genetically similar individuals? and, If colonies are inbred, isolated lines, does this lead to division of the species into genetically isolated populations?

I will be carrying out field observations on colony foundation in Suriname this summer, and collecting animals from Suriname, Panama, Trinidad and Ecuador. These animals will be used in protein electrophoretic studies of genetic variation among populations, and (hang on to your hats!) studies of mitochondrial DNA variation within local populations and within colonies.

I did a pilot electrophoretic study this past year, using A. eximius I'd collected form Panama and Suriname. The results of this pilot study will come out in the issue of J. Arachonology containing the papers's presented in George Uetz's symposium on social spiders. The results of this pilot lead me to believe that colonies are highly inbred, and that migration by adult males among colony clusters is rare or non-existant. Also, the Panama and Suriname populations that I sampled did show fixed differences indicative of possible genetic isolation (but see below).

Now, I would like to know if colonies are founded by single female lineages or by several unrelated females; and if the fixed differences I found between Panama and Suriname populations are an indication of sibling species, isolated conspecific populations, or just a result of small sample size. The latter is best approached with further protein electrophoresis studies, in which I will try to examine genetic variation in the species by sampling as much of the species' range as possible over the next few years, and partitioning genetic variation into the components due to subdivision of the population into colonies, colony clusters, local populations and geographic regions. The pilot suggest that most variation can be attributed to subdivision of the population into colony clusters and geographic regions.

But because the species is genetically very uniform at the level of the local populations, I cannot use protein electrophoresis to study colony foundation. I'm going to try to use mitochondrial DNA studies for this. (Here I must thank Dr. David Macauley at Vanderbilt University for suggesting this line of research to me). Animal mtDNA typically evolves 5-10 times faster than nuclear DNA (the stuff that produces the proteins studied in protein electrophoresis), it's maternally inherited (all your mitochondrial DNA comes from your mother), and it doesn't undergo recombination. As a result, it is inherited intact (except for mutations) along maternal lines. I hope to be able to detect more variation within local populations by looking at mtDNA variants, and to be able to determine if colonies are typically made up of individuals descended from a single maternal lineage. This electrophoretic and mtDNA

work will be carried out in collaboration with Dr. Wesley Brown, here at the University of Michigan.

I'm also getting interested in sex rations in cooperative spiders. I will with getting primary sex rations of social species (that is, A. eximius) and related solitary and subsocial species, by karyotyping eggs. I've received much needed help on this from Wayne Maddison (Harvard), Judy Brown (Midwestern State University) and Dr. William L. Brown (Cornell).

I'm also prepared to argue that there are far more Browns than Smiths in the scientific community.

CARLOS E. VALERIO
Escuela de Biologia
Universidad de Costa Rica
Ciudad Universitaria Rodrigo Facio
Costa Rica

I keep my interest in the mygalomorph spiders of Costa Rica and adjacent areas. I have four new species ready to be described, to add to a now long list of 33 species from this area. These new ones are mostly small-sized tarantulas except for one handsome Brachypelma. I also know of the existence of three more species, represented in our collection by females only, which make generic placemnts uncertain and I am waiting for the males to show up (this is almost literally true, working with tropical tarantulas with low population densities).

I have also been interested in a group of five species of diurnal ctenids, small forest-floor dwellers that behave pretty much like lycosids and occur sometimes in high densities. They key out as Cupiennius based on available keys and descriptions, but I found them very different from the typical species of that genus (large nocturnal and arboreal), also common in the forests here. It seems that one would have to solve the confusion at generic level before this interesting group is finally studied.

Bill Eberhard (my next-door neighbor in the Escuela de Biologia) and I are planning to teach a tropical spider course, sometime in 1985. We will let you know details in case somebody wants to join us. I have been accumulating data on the reproductive biology of the curious Sicarius rugosus from the dry Pacific lowlands in Costa Rica (other species in South America are from high altitudes), and I think I have enough for a paper now.

I am planning to dedicate most of my spider time next year to do curatorial work with our growing arachnid collection in the Museo de Zoologia, since we have been accumulating large numbers of ctenids, lycosids, gnaphosids and, the toughest job, forest-litter miniatures. I have to admit that I have been splitting my research time between spiders and pollination ecology during the last two years. I have worked mainly with aroids, published three papers (genera Anthurium and Dieffenbachis) and, presently, am working on the large, showy Monstera. This is an exciting field! I am also working on a couple of orchid species and the pollination strategies in a herbaceous community, involving 200 species of herbs and over 100 insects.

BOARD OF DIRECTORS ELECTION

BOARD OF DIRECTOR'S ELECTION

G. B. Edwards	61
Yael Lubin	47
Al Cady	22
Abstentions	5
George Uetz (write-ins)	11

G. B. Edwards is our new Member of the Board of Directors.

CHANGES IN THE BYLAWS

All changes passed with a maximum of 9 dissenting votes of the 146 total. However, as was correctly pointed out by several persons, the suggested change in article 4, section 6 is redundant with that in article 2, secton 9. The wording had therefore been deleted in 4, 6. REVISIONS ARE UNDERLINED

CONSTITUTION

ARTICLE I Name

Section 1: The name of the organization shall be: The American Arachnological Society Corporation.

Section 2: Similar groups or organizations which are willing to abide by and uphold the Constitution and Bylaws of the Society may be incorporated as branches of the organization.

ARTICLE II Purposes and Objectives

Section 1: To promote the study of the Arachnida.

Section 2: To achieve closer cooperation and understanding between amateur and professional arachnologists.

Section 3: To publish the Journal of Arachnology.

Section 4: The general purposes and powers are to have and exercise all rights and powers conferred on nonprofit corporations under the laws of California, including the power to contract, rent, buy or sell personal or real property, provided, however, that this corporation shall not, except to an insubstantial degree, engage in any activities or exercise any powers that are not in furtherance of the primary purposes of this corporation.*

Section 5: No substantial part of the activities of this corporation shall consist of carrying on propaganda, or otherwise attempting to influence legislation, and the corporation shall not participate or intervene in any political campaign (including the publishing or distribution of statements) on behalf of any candidate for public office.

ARTICLE III Membership

All persons interested in the objectives of the Society shall be eligible for membership.

ARTICLE IV Meetings

there shall be an annual meeting open to all members.

ARTICLE V Officers

Section 1: The elective offices shall consist of President, President-Elect, Secretary, Treasurer and a three member Board of Directors.

Section 2: The officers shall be elected by a majority of votes cast. In case of no majority (a tie), the Executive Committee will choose between (among) the tied nominees.

ARTICLE VI Amending the Constitution

Section 1: The Constitution or any part thereof may be amended, suspended or repealed by a two-thirds majority of those voting in a mail ballot, provided there is a two months notice of the proposed change.

Section 2: Any member in good standing may propose, in writing, an amendment to the Constitution to the Executive Committee. Such a proposal, if approved by a majority of the Executive Committee, shall be submitted with a recommendation to the members. A proposed change to the Constitution not recommended by the Executive Committee must be submitted to the members of the Society if five or more members re-submit it.

ARTICLE VII Non-Profit purposes

This corporation is organized pursuant to the General Non-Profit Corporation Law of the State of California and does not contemplate pecuniary gain or profit to the members thereof and it is organized for non-profit purposes.

ARTICLE VIII Dissolution

The property of this corporation is irrevocably

dedicated to arachnological purposes and no part of the net income or assets of this organization shall ever inure to the benefit of any director, officer or member thereof or to the benefit of any private individual. Upon the dissolution or winding up of the corporation, its assets remaining after payment of, all debts and liabilities of this corporation shall be distributed to a non-profit fund, foundation or corporation which is organized and operated exclusively for arachnological purposes and which has established its tax exempt status under Section 501(c)(3) of the Internal Revenue Code. The non-profit fund, foundation or corporation which is organized and operated exclusively for arachnological purposes shall be named at the time of dissolution by the Executive Committee or vote of membership. If this corporation hlds any assets in trust, or corporation if formed for charitable purposes, such assets shall be disposed of in such manner a may be directed by decree of the superior court of the county in which the corporation has its principal office, upon petition therefore by the Attorney General or by a person concerned in the liquidation, in a preceeding to which the Attorney General is a party. The purposes contained in this paragraph are limited to those meeting the requirements for welfare exemption under Section 214 of the Revenue and Taxation Code.

BY-LAWS

ARTICLE I Membership

Section 1: Membership shall be open toall persons who make formal application and pay the prescribed dues, and who are willing to abide and uphold the Constitution and By-laws of the Society.

Section 2: Institutions may not become members, but may subscribe to publications

Section 3: Dues shall be paid upon receipt of an annual bill.

Section 4: All members i good standing have the right to vote.

Section 5: Any members in good standing is eligible to hold office.

Section 6: A member whose dues have not been paid within a reasonable period of time will forfeit the privileges of membership. Such members may be reinstated upon payment of delinquent dues.

Section 7: The services and privileges of membership shall include the following:

1. Subscriptions to all publications
2. Vote in accordance with the By-laws.
3. Participation in all activities and functions of the Society.

Section 8: A class of Honorary Membership shall be established. An individual may be elected at the annual business meeting by the proposal of the Executive Committee. The number of Honorary Members is not to exceed 5% of the total membership. A list of these Honorary Members is to be published annually in the newsletter of the Society.

ARTICLE II Officers

Section 1: The elective officers shall consist of: President, President-Elect, Secretary, Treasurer, and a three member Board of Directors.

Section 2: The elected officers, Membership Secretary, Editor and Board of Directors shall serve as the Executive Committee. Fifty percent of the Executive Committee represents a quorum.

Section 3: The officers and Board of Directors of the Society shall be elected by a majority of votes cast in a mail ballot.

Section 4: Officers and Directors shall serve for two years, or until their successors are elected. Beginning in 1977 and every other year thereafter, the incumbent President-Elect shall assume the presidency, and the incumbent President shall continue on the Executive Committee as one of the Directors. A new President-Elect, the Treasurer and one Director shall also be elected in these, the odd-numbered years. On the alternate, even-numbered years, beginning in 1978, the Secretary and one Director shall be elected.

Section 5: An Officer or Board of Directors member may be renominated but may not serve for more than two consecutive terms in the same office.

Section 6: The President shall preside at business meetings of the Society and Executive Committee. He shall appoint all committee chairpersons as the need arises. The Executive committee shall appoint all committees.

Section 7: The President-Elect shall assume the duties of the President in his absence at business meetings, and shall become President in the event of death, resignation or disability of the President. In the event of the absence of both President and President-Elect at a business meeting, any member of the Society duly chosen by the members present ought to preside.

Section 8: The Secretary, or his delegate shall keep minutes of the proceedings of all Society business meetings, conduct official correspondence and maintain an on-going record of Society affairs.

Section 9: This Treasurer shall keep the financial records, accept monies, issue bills, pay bills and maintain the bank account. The account shall be subject to annual audit by a committee appointed by the Executive Committee. An annual financial statement shall be published in the newsletter of the Society.

Section 9a: The membership Secretary shall be appointed by the Executive Committee, and shall serve until replaced. The Membership Secretary shall keep membership records, issue dues renewal notices, and accept dues and transmit them to the Treasurer for deposit. Starting in 1985 the complete membership of the Society shall be published int he newsletter of the Society every 5 years.

Section 10: Publication policy shall be the responsibility of the Executive Committee, which shall also appoint the Editor of the Journal. An Editorial Board shall be appointed by the Editor of the Journal under consultation with the Executive Committee. The purpose of the Editorial Board is to assist in the review process.

Section 11: Election of Officers and Board of Directors shall be held as provided for in Art. II, Sec. 4 of these By-laws by a mail-in ballot. The ballots shall be counted by three members appointed by the President. The nominees for each office shall be selected either by a nominating committee or may be nominated by any member in good standing. Write-ins on ballots will be permitted. Nominees must state, in writing, to the Nominating Committee their willingness to serve if elected. Newly elected officers shall take office on the first day of September of the year in which they are elected.

Section 12: Procedural matters shall be passed by a default system. If less than 10% of the membership send negative remarks to the Secretary within a month of mailing, the motion will pass. If 10% or more reply with negative comments, a general mail vote will be taken, with a majority of votes cast determining the issue.

ARTICLE III Meetings

Section 1: There shall be an annual general meeting of the Society open to all members. The date, time and place to be determined by the host(s) and coordinated by the President-Elect.**

Section 2: The membership shall be informed of the date, time and place of the annual general meeting at least three months prior to the meeting.

Section 3: Special meetings of the Executive Committee may be called by the President.

Section 4: An annual business meeting open to all members will be held in conjunction with the general meeting at a time to be designated by the President.

Section 5: Additional meetings may be called by the Executive Committee or by the request of twenty or more members.

ARTICLE IV Dues

Section 1: Annual dues for regular members shall be an amount fixed by the Executive Committee and duly announced to the membership.

Section 2: Institutional subscriptions shall be an amount fixed by the Executive Committee and duly announced to the membership. Journal subscriptions may be exchanged with other professional societies that publish a journal.

Section 3: Student membership shall be an amount fixed by the Executive Committee and duly announced to the membership.