American Arachnology

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Future A.A.S. Annual Meeting Sites

2008 — UC Berkeley, Berkeley, CA
25 June — 30 June
2009 — Arkansas Tech, Russellville, Arkansas
2010 — TBA
2011 — Lewis & Clark College, Portland. Oregon
2012 — U Wisconsin — Green Bay

2008 AAS Annual Meeting

University of California

Berkeley California

Wednesday, 25 June – Monday, 30 June

hosted by

Rosemary Gillespie &

Charles Griswold

Report from the 31st Annual A.A.S. Meeting Susquehanna Univ., Selinsgrove, PA 13-17 July 2007

hosted by

Dr. Matt Persons

The 2007 AAS meeting was meticulously planned and executed by our hard-working host at Susquehanna University in Selinsgrove, PA. All in attendance agreed that it was an informative, relaxed, and entertaining meeting that provided many opportunities for arachnologists to confer, learn, and socialize. Matt and his crew deserve a heartfelt "**Thanks & Well Done!**".

Full report on Page 2...

REMINDER !!!!

REGISTRATION AND ABSTRACT SUBMISSION DEADLINE IS MONDAY 19 MAY

REGISTER FOR THE 2008 MEETING AT:

http://www.americanarachnology.org/AAS_Meetings/index.html

The costs and benefits of freezing in the presence of a predator in a Leiobuninae harvestman (Opiliones, Sclerosomatidae)

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In this study, we aimed to determine the costs and benefits associated with a specific defensive behavior displayed by immature Leiobuninae harvestman from North America (Opiliones, Sclerosomatidae). Preliminary observations showed that immature individuals often become immobile (*i.e.*"freeze") in the presence of the syntopic wolf spider *Schizocosa ocreata* (Araneae, Lycosidae). Harvestmen paired with spiders spent more time motionless than harvestmen alone or harvestmen paired with another harvestman. In order to determine if this immobility could decrease the likelihood of an attack by a spider, we examined the spider's willingness to attack and eat motionless versus moving prey. *Schizocosa ocreata* individuals were paired with either living, and thus moving, crickets versus crickets that had been frozen to death and were thus motionless. Preliminary analyses suggest that the spiders took significantly longer to prey upon the motionless cricket than the live one. Some spiders never preyed upon the dead cricket, but readily ate a live cricket offered immediately after the trial. A third experiment allowed us to assess one potential cost of this defensive behavior. Harvestmen were paired with either a spider, another harvestmen, or nothing in arenas containing pieces of wet bread for 2 hours. Focal individuals were weighed immediately before and after the experiment. Individuals paired with spiders gained significantly less weight than individuals paired with other harvestmen or left alone. Our results suggest that the freezing behavior witnessed here may protect harvestmen from wolf spider attacks, but at the cost of reduced food/water intake.

Spiders in Paint Creek, a local wetland: initial findings in family composition and distribution

Laurie G. Cummins & Cara Shillington
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The presence of spiders in terrestrial ecosystems has been studied extensively. Little is known, however, about the role of spiders in aquatic ecosystems, especially wetlands. The purpose of this study was to obtain a preliminary understanding of the spider community found in a local wetland, Paint Creek. Aerial and ground samples were collected along a 50-meter transect in a dense stand of native *Typha latifolia*. Samples were taken monthly from May to September, and were analyzed for both family composition and plant biomass. Initial findings indicate that spider communities in wetlands are highly variable. Ground samples yielded the largest number of individuals, high plant biomass yielded a diverse composition of spiders, and all variables changed with season. Overall, the family Lycosidae exhibited the highest abundance, followed by Clubionidae. Unexpectedly, the family Tetragnathidae exhibited the least number of individuals collected over the 5 month period. Continued sampling is needed to further understand the complex dynamics of spider communities in wetland habitats.

Global survey and inventory of Solifugae

Paula E. Cushing[1], Lorenzo Prendini[2], Warren E. Savary[3], John O. Brookhart[1], Robert A. Wharton[4], Tharina Bird[1] & Alexander V. Gromov[5]
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Solifugae, the sixth most diverse order of arachnids, are dominant predators in arid ecosystems on all major terrestrial landmasses except Antarctica, Australia, Madagascar and New Zealand. Despite their diversity, worldwide distribution, ecological importance, and remarkable morphology, behavior and life history, research on these fascinating arachnids has advanced little in 50 years. Many aspects of their biology remain unknown, fewer than ten researchers worldwide are presently studying any aspect of their biology, and publications on the group currently average only five per year. Given the paucity of active specialists, the situation will not improve until more are trained. Research is further hindered by a limited application of modern concepts and methods. The Global Survey and Inventory of Solifugae (http://www.solpugid.com), funded by the Biodiversity Surveys and Inventories program of the U.S. National Science Foundation, aims to reverse these negative trends and stimulate research on Solifugae as follows. (1) Fieldwork will be conducted in 13 countries in four regions of greatest known diversity to discover new species, document distributions, and gather fresh material for morphological, anatomical, behavioral and genetic studies. (2) The higher classification will be revised based on phylogenetic analysis. (3) Monographs on large monophyletic groups (three family-scale revisions) will be published. (4) Rigorous standards and modern techniques will be employed in research. (5) Collaborations will be forged among specialists currently working largely in isolation, and resources provided to expand their research. (6) New experts will be trained in traditional techniques as well as modern concepts and methods. (7) Results will be disseminated to the public via the internet. This project to resuscitate solifuge research, coordinated in North America but involving the world's solifuge specialists and arachnologists interested in diverse aspects of solifuge research in 17 countries, will invigorate solifuge research worldwide.

Galvanizing your specimens: unintended consequences of using green neoprene stoppers in alcohol based collections

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During an ongoing investigation of heavy metal occurrence in spider cuticle a few ethanol stored specimens showed anomalous zinc distribution. This was eventually traced to specimens stored in vials with green neoprene stoppers. Ethanol from vials with just a few years exposure to green stoppers contained zinc. Ethanol from vials stoppered with other common closures, including black, red and white rubber stoppers lacked zinc, even over an estimated time of several decades. Zinc salts, especially the oxide, are present in most rubber products since they are used as curing and filling agents, however only green stoppers appear to leach zinc into the ethanol. The overall effect of this zinc deposition on the specimens is uncertain. Zinc does have some antimicrobial properties so perhaps it could inhibit specimen decay. On the other hand, it can interfere with chemical analysis as in this instance, and possibly could interfere with other types of analysis.

Behavioral responses to the threat of predation in a mixed population of brush-legged and non-ornamented wolf spiders

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In a recently discovered population of *Schizocosa* wolf spiders, we find individuals comprised of two adult male forms, each with unique morphology and courtship displays - a non-ornamented form with a seismic only courtship signal and a brush-legged form with unique seismic and elaborate visual signals. Preliminary microsatellite data reveal no genetic distinction between these two male forms and thus the question remains as to what is maintaining the presence of both forms. Though brush-legged males are putatively more conspicuous, previous field studies showed no differences in over-all rates of predation on the two male forms. However, a measure of over-all predation rate can mask potential form-specific differences in predation risk, anti-predator behavior and/or predator-prey interactions. Here we conducted controlled laboratory experiments to investigate the details of anti-predator responses. We first compared the responses of each male form to predator silk and excreta cues. Overall movement time and likelihood of courtship was significantly greater in the absence of predator silk cues for both male forms but we found no form-specific differences. In a second experiment, we used live predator-prey interactions with a larger predatory wolf spider to examine the latency to and number of survived attacks. Again, we found no differences between the brush-legged and non-ornamented males for the latency to the first attack, the number of survived attacks, the latency to capture or capture rate. These experiments, in conjunction with our previous field study, suggest that there are no differential costs associated with predation from larger predatory wolf spiders