



**Newsletter of the
SOUTHWEST ASSOCIATION OF FRESHWATER
INVERTEBRATE TAXONOMISTS**

Greetings SAFIT members,

Have a job opening that you want to announce, or are looking for a job? Let SAFIT know in the Newsletter! Looking for specimens of a certain species or a literature reference? Need material for research or comparative purposes? Let your colleagues know in the SAFIT Newsletter! Want a workshop on a particular group of organisms? Have books or reprints to share, trade, or sell? Looking for a collecting partner? Put it here in the SAFIT Newsletter! All appropriate requests, queries, advertisements and announcements will be considered, and are free to the SAFIT membership.

Pictured above is *Bittacomorpha occidentalis* Aldrich, 1895 (Diptera: Ptychopteridae). The adults are out and about during the summer months, but likely most people will never see them. In flight, members of this family can “disappear” right before your eyes, more than living up to the name “phantom crane flies.” I was lucky to find a small series at Domingo Springs in Plumas County in June 2007, including the one in the photo, which was resting on a spider’s web.

Thanks!
Brady Richards, Editor



23rd Annual Meeting
California Aquatic Bioassessment Workgroup
4th Annual California Chapter Society of Freshwater Science (CalSFS)

October 18 and 19, 2016
9 am – 4 pm

The Ballroom
Activities and Recreation Center Conference Facility
University of California
Davis, CA

REGISTRATION

There is no fee to attend the CABW, but registration is required.

Waterboard Employees – Follow established procedures to register online through the academy registration system. See <http://waternet.waterboards.ca.gov/training/> for instructions.

Non-waterboard Employees – Email your contact information to academy@waterboards.ca.gov to request registration.

Location Information:

Directions: Interstate 80 to Hwy 113 north toward Woodland. Take Russell Boulevard exit and turn right on Russell Boulevard. Turn right on La Rue Road. Turn left on Orchard Road and drive directly into Visitor Parking Lot 25.

Parking: Permits are required and cost \$9.00 per day. Parking permit dispensers accept quarters, one-dollar bills, five-dollar bills, or VISA and MasterCard.

Online campus map: <http://facts.ucdavis.edu/map.lasso>

**For more information,
 registering contact:**

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www.waterboards.ca.gov/swamp

California Department of Fish and Wildlife Bay Delta Region YOLO BYPASS WILDLIFE AREA Yolo County



Wildlife Area	Interstate Highway
Local Road	U.S. Highway
	State Highway

0 5 Miles

Disclaimer: Boundaries are approximate.
Maps are intended for general purposes only.

December 2014 - WLB

SAFIT Annual Meeting

We will be having our annual meeting directly following the CABW Meetings on Thursday, October 20th at 9am at the Yolo Bypass Wildlife Area headquarters. Please see the attached map for directions. Elections will be held at the meeting for the positions of Vice President and Treasurer. John Pfeiffer and Dessie Underwood are both running for the VP position and Bill Isham is running unopposed for the Treasurer position. You may vote at the meeting or if voting via mail or email, please get your ballot to Wendy Willis (wendy@aquaticbioassay.com) no later than **October 19th**.

SAFIT Board of Directors Election Candidates:

Dr. Dessie Underwood (candidate for SAFIT Vice President) I earned a PhD in ecology from UC Davis in 1992. In 1999, I joined the faculty at CSULB where I teach courses in entomology and ecology. I have served CSULB as the Interim Chair for the Department of Biological Sciences and as Interim Associate Dean for Research for the College of Natural Sciences and Mathematics. In 2006, I established the Stream Ecology and Assessment Laboratory (SEAL). SEAL has been conducting bioassessment for Region 8 of the State Water Boards since 2006 providing practical hands-on training for undergraduate and graduate students. Additionally, we have biomonitoring contracts with San Diego State's efforts to restore Alvarado Creek and with Nationwide Agribusiness Insurance as part of a fuel spill in the San Bernardino National Forest. We also maintain one of the largest databased reference collections of benthic macroinvertebrates in Southern California. I have been involved with SAFIT since its inception and my lab attends the CABW every year.

John Pfeiffer (candidate for SAFIT Vice President) I'd like to put my name in for consideration for the position of vice-president on the BOD of SAFIT. I would like to run for the board of SAFIT in order to be more involved in the work of the association. Being involved in bioassessment for many years, I know the importance of good taxonomic identifications. I have used the resources SAFIT provides (workshops, STE, etc.) and would like to assist in the development and continuation of these resources. I've been working as a benthic taxonomist for over twenty years, the last 19 years at EcoAnalysts, Inc. in Moscow, Idaho. Primarily, I work with freshwater benthic invertebrates and to a lesser degree zooplankton, estuarine and marine invertebrates, and terrestrial invertebrates. Although EcoAnalysts is based outside the Southwestern United States, I have identified hundreds of samples from a variety of projects across the SW region over the last 19 years and am familiar with the benthic fauna of the region. Some of the larger projects include the 2007 and 2012 EPA National Lakes Assessment, the 2008-2009 and 2013-2014 National River and Stream Assessments, and the Western Environmental Monitoring and Assessment Program (WEMAP) in the late 1990's and early 2000's.

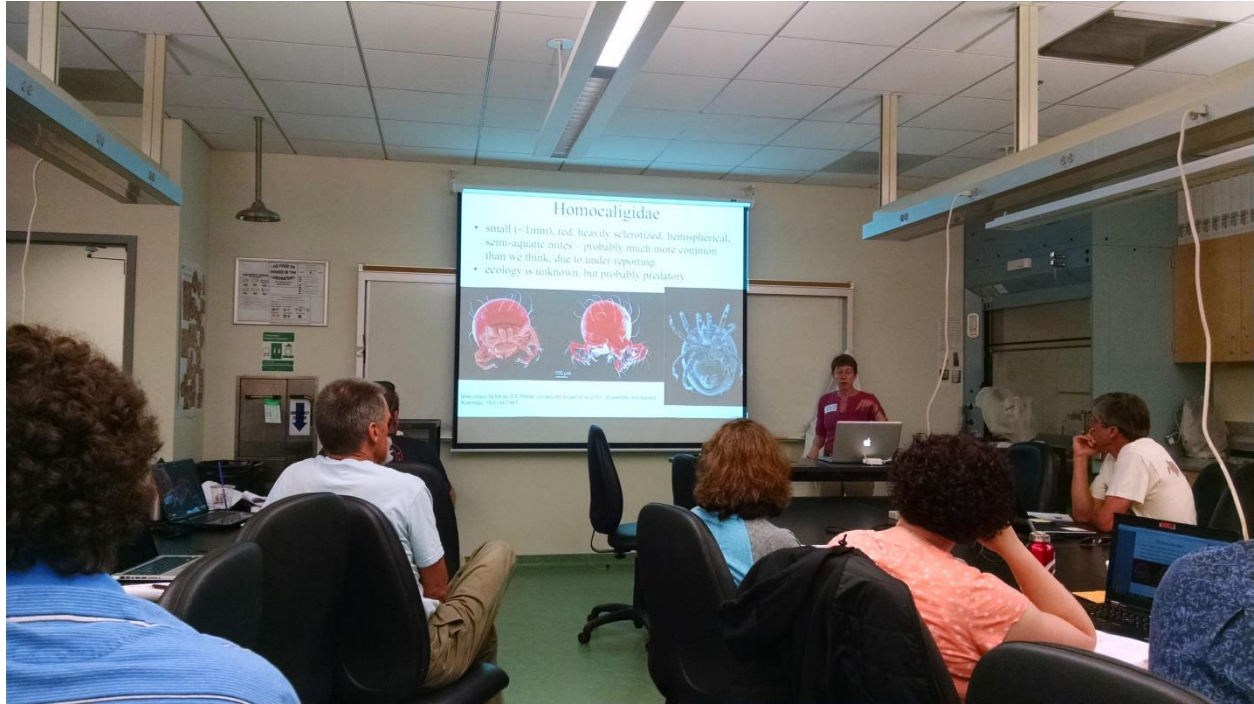
Bill Isham (candidate for SAFIT Treasurer) I began performing what you could call professional production taxonomy on aquatic invertebrates in the early '90s, started getting semi-serious in the late 90's and really got going in 2001 when NPDES permit compliance incorporated stream bioassessments in Southern California. Most of my work is in the South Coast Region of California with the occasional project from other locales. I currently work at Amec-Foster Wheeler, an international consulting firm that mostly has nothing to do with biologists, except my office in San Diego has a heavy focus on terrestrial and aquatic biology as well as stormwater monitoring. Our business is very driven by the regulatory compliance realm, but we get the occasional interesting research project. I have been the Treasurer of SAFIT for four years now, and am quite happy to continue in that role.

SAFIT Mite Workshop, May 18 & 19, 2016

SAFIT held a Workshop on the Taxonomy of Western Aquatic Mites. The workshop was hosted by the California State University-Long Beach Stream Ecology and Assessment Laboratory. The instructor was Dr. Heather Proctor, Professor of Biology, University of Alberta, Edmonton, Canada. Dr. Proctor's main research includes the ecology, evolution, systematics and behavior of mites (Arachnida: Acari). She is obviously quite enthusiastic about her chosen field of endeavor and gave a pretty wonderful lecture and presentation. One of the best aspects of these workshops is getting the experts' insight into the unusual behaviors of the group at hand, and Heather did not disappoint.

The primary focus of the workshop was mite identifications and systematics, using the most recent manuals prepared by Dr. Proctor including new keys and figures. We also applied the procedures for clearing, staining, and mounting mites for optimal microscope viewing. And the workshop also included dinner at a local restaurant where much fun was had by all of us and our new and greater appreciation of the strange world of Acari.





ANNOUNCEMENTS AND NOTICES

The notices, announcements and advertisements in this section do not reflect SAFIT or SAFIT's views, opinions or policy, and do not constitute an endorsement of an advertiser's abilities, skills, or products.

PNW Chapter of the Society of Freshwater Sciences Presents: A SHORT COURSE IN BAETID LARVAL TAXONOMY AND ECOLOGY WITH SPECIAL EMPHASIS ON THE SPECIES OF *BAETIS* (LEACH)

When: Thursday 27 October 2016 9am-12pm

Where:

Portland State University
Science Research and Teaching Center Room 201

What:

Dr. Jeffrey Webb will present and discuss recent advances in mayfly taxonomy and the effects these changes have on bioassessment data and taxonomic resolution. The course will elaborate specifically on a proposed hierarchy for *Baetis* spp. in North America and our current understanding of the Nearctic species of the genus. Time will be given for participants to examine specimens and participate in an 'open lab' session for problematic genera.

How to Attend / Register:

There are two ways to attend this workshop:

1) **In Person:** the Class size is limited to 10 people. Additional participants will be welcome if they can provide their own scope. Fee- \$30.00/ participant

2) On the Web: Thanks to the State of California, SAFIT and the California SFS Chapter , we will also be offering a webinar with remote access into the workshop. Fee-\$10/ login

REGISTER HERE:

<http://www.pdx.edu/environmental-professional-program/epp-course-calendar>

EMPLOYMENT OPPORTUNITIES

Please contact the editor if you would like to post an employment opportunity.

MISCELLANEOUS BUG NOTES

Anecdotal notes, including distributional records in the SAFIT region, which may be interesting or helpful to SAFIT members. To make contributions or comments, contact the editor:

arichards@csuchico.edu.

Odd Tipulidae (Pediinae) larva, from Jon Lee.

Recent collecting in Humboldt and Del Norte counties has yielded an interesting tipulid larva. The head and last abdominal segment resemble *Pedicia* and *Dicranota* but the only discernable abdominal creeping welt occurs ventrally on segment VI (? - segments are difficult to discern). This small welt has rows of tiny spicules discernable at 400X. The head (Figs. 1, 2) is dorsoventrally flattened, the hypostomal bridge armed with strong teeth, the mandibles with an approximate 90° bend and armed with strong basal teeth, the apical portion serrate on mesal margin, and the teeth and maxillary palp more robust than other *Pedicia* and *Dicranota* available for comparison. The last abdominal segment lacks dorsal and lateral lobes, possesses elongate ventral lobes, and four anal gills longer than the ventral lobes. The body of the pictured larva (Fig. 2) from a small creek in Del Norte Co. was apparently desiccated but for some reason the anal gills didn't appear to be. Does anyone know what this is or has anyone seen it before?

Also of note, *Isoperla laucki* Baumann & Lee, 2009 larvae were collected in the same Del Norte County creek (Smith River watershed), the first record I know of outside of Humboldt County and the Klamath/Trinity River watershed.



Figure 1. Mouthparts enlarged, ventral.



Figure 2. Body, lateral; head, ventral; mouthparts, ventral (slightly cleared).

Photo credit: Dave Ruiter

FIELD & LAB

*A feature in each newsletter issue exploring an aspect of aquatic macroinvertebrates beyond sample processing that may be beneficial to members. **Contact the editor to contribute or comment.***

TOUGH CHARACTERS

Got a TOUGH CHARACTER? The more difficult diagnostic characters and key couplets for those taxa that are tricky to separate are elucidated in this column. Plenty of good grudge matches will be presented in photos, figures and descriptions. Think there are tough characters that are being missed? Submit your tough characters and get them compared with other character states right here.

LATEST LITERATURE

If you know of any recent literature or if you yourself have published any papers of interest to the SAFIT membership, please send copies or the citations to Brady Richards (arichards@csuchico.edu) for inclusion in the next issue of the SAFIT Newsletter. Thanks!!

Asterisk (*) indicates author is a SAFIT member.

Gastropoda

Alonso, Á., G. Valle-Torres, and P. Castro-Díez. 2016. Survival of an invasive aquatic snail to overland translocation in non-aquatic media: implications for spreading. *Limnologica* 57:60-65.

Campbell, D. C., S. A. Clark, E. J. Johannes, C. Lydeard, and T. J. Frest. 2016. Molecular phylogenetics of the freshwater gastropod genus *Juga* (Cerithioidea: Semisulcospiridae). *Biochemical Systematics and Ecology* 65:158-170.

Hershler, R. 2016. A new springsnail (Hydrobiidae: *Pyrgulopsis*) from the Lower Colorado River Basin, Northwestern Arizona. *Western North American Naturalist* 76:72-81.

Hershler, R., H.-P. Liu, C. Babbitt, M. G. Kellogg, and J. K. Howard. 2016. Three new species of western California springsnails previously confused with *Pyrgulopsis stearnsiana* (Caenogastropoda, Hydrobiidae). *Zookeys*:1-19.

Vazquez, R., D. M. Ward, and A. Sepulveda. 2016. Does water chemistry limit the distribution of New Zealand mud snails in Redwood National Park? *Biological Invasions* 18:1523-1531.

Crustacea

Esquete, P. and G. D. F. Wilson. 2016. The genus *Uromunna* (Crustacea: Isopoda: Munnidae) in New South Wales, Australia, with a key for all known species. *Marine Biology Research* 12:488-512.

- Mathers, K. L., R. P. Chadd, M. J. Dunbar, C. A. Extence, J. Reeds, S. P. Rice, and P. J. Wood. 2016. The long-term effects of invasive signal crayfish (*Pacifastacus leniusculus*) on instream macroinvertebrate communities. *Science of the Total Environment* 556:207-218.
- Martin, J. W., *D. C. Rogers, and J. Olesen. 2016. Collecting and processing branchiopods. *Journal of Crustacean Biology* 36:396-401.
- *Rogers, D. C., N. Saengphan, W. Thaimuangphol, and L. Sanoamuang. 2016. The lynceid clam shrimps (Branchiopoda: Laevicaudata) of Thailand, with keys to the Eurasian species. *Journal of Crustacean Biology* 36:384-392.
- *Rogers, D. C., P. Dadseepai, and L. Sanoamuang. 2016. The spinicaudatan clam shrimps (Branchiopoda: Diplostraca) of Thailand. *Journal of Crustacean Biology* 36:567-575.
- *Rogers, D. C. and L. Sanoamuang. 2016. A new *Theosbaena* (Thermosbaenacea: Halosbaenidae) from Thailand. *Zootaxa* 4109:471-478.

Ephemeroptera

- Salles, F. F., J.-L. Gattolliat, and M. Sartori. 2016. Phylogenetic analyses of *Cloeodes* Traver and related genera (Ephemeroptera: Baetidae). *Systematic Entomology* 41:93-111.

Plecoptera

- Grubbs, S. A. 2016. Taxonomic notes on the eggs of eastern Nearctic *Isoperla* (Plecoptera: Perlodidae: Isoperlinae). *Illiesia* 12:35-41.
- Jordan, S., J. J. Giersch, C. C. Muhlfeld, S. Hotaling, L. Fanning, T. H. Tappenbeck, and G. Luikart. 2016. Loss of genetic diversity and increased subdivision in an endemic alpine stonefly threatened by climate change. *Plos One* 11: e0157386.
- Stark, B. P. and A. B. Harrison. 2016. The banded-wing *Moselia* (Plecoptera: Leuctridae) revisited. *Illiesia* 12:42-58.

Trichoptera

- Harris, S. C. and O. S. Flint, Jr. 2016. New species of microcaddisflies (Trichoptera: Hydroptilidae) from the western United States, Canada, Mexico and Belize. *Insecta Mundi* 0499:1-22.

Coleoptera

- Barr, C. B. and H. P. Brown. 2016. First report of diurnal flight by North American riffle beetles (Coleoptera: Byrrhoidea: Elmidae). *The Pan-Pacific Entomologist* 92:63-65.
- Miller, K. B. 2016. Revision of the Neotropical diving beetle genus *Hydrodessus* J. Balfour-Browne, 1953 (Coleoptera, Dytiscidae, Hydroporinae, Bidessini). *Zookeys* 580:45-124.
- Shepard, W. D. and C. B. Barr. 2016. *Neoelmis guarani* Shepard & Barr, a sexually dimorphic new species from Paraguay (Insecta: Coleoptera: Elmidae: Elminae). *Zootaxa* 4083:418-430.

Diptera

- Cranston, P. S., J. Martin, M. Mulder, and M. Spies. 2016. Clarification of *Einfeldia* Kieffer, 1922 (Diptera: Chironomidae) with *E. australiensis* (Freeman, 1961), comb. n. based on immature stages. *Zootaxa* 4158:491-506.
- Da Silva, F. L. and T. Ekrem. 2016. Phylogenetic relationships of nonbiting midges in the subfamily Tanypodinae (Diptera: Chironomidae) inferred from morphology. *Systematic Entomology* 41:73-92.
- Herrmann, S. J., J. E. Sublette, L. K. Helland, D. W. R. Nimmo, J. S. Carsella, L. M. Herrmann-Hoesing, and B. D. Vanden Heuvel. 2016. Species richness, diversity, and ecology of Chironomidae (Diptera) in Fountain Creek: a Colorado Front Range sandy-bottom watershed. *Western North American Naturalist* 76:186-252.
- Michailova, P. and L. C. Ferrington. 2016. Larva and karyotype of *Xenochironomus* sp (Diptera, Chironomidae) from North America. *Journal of the Kansas Entomological Society* 89:53-64.
- Morita, S. I., K. M. Bayless, D. K. Yeates, and B. M. Wiegmann. 2016. Molecular phylogeny of the horse flies: a framework for renewing tabanid taxonomy. *Systematic Entomology* 41:56-72.

Miscellaneous

- Astrid, T., E. Margit, and F. Leopold. 2016. Ethanol: a simple and effective RNA-preservation for freshwater insects living in remote habitats. *Limnology and Oceanography-Methods* 14:186-195.
- De Jong, G. D., S. P. Canton, J. S. Lynch, and M. Murphy. 2015. Aquatic invertebrate and vertebrate communities of ephemeral stream ecosystems in the arid southwestern United States. *Southwestern Naturalist* 60:349-359.

- Di Sabatino, A., G. Cristiano, D. Di Sanza, P. Lombardo, C. Giansante, R. Caprioli, P. Vignini et al. 2016. Leaf-Nets (LN): a new quantitative method for sampling macroinvertebrates in non-wadeable streams and rivers. *River Research and Applications* 32:1242-1251.
- Sliney, D. H., D. W. Gilbert, II, and T. Lyon. 2016. Ultraviolet safety assessments of insect light traps. *Journal of Occupational and Environmental Hygiene* 13:413-424.
- Smith, T. C., R. A. Knapp, and C. J. Briggs. 2016. Declines and extinctions of mountain yellow-legged frogs have small effects on benthic macroinvertebrate communities. *Ecosphere* 7:e01327.

THANK YOU FOR YOUR MEMBERSHIP!

Board of Directors:

Dan Pickard, President, 530.898.5573 (DPickard@csuchico.edu)

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SAFIT Newsletter Publication Guidelines

Submissions and questions about submissions should be directed to the SAFIT Newsletter Editor, at: arichards@csuchico.edu, 530.898.4792. Submissions should be Word files, 12 pt., Times New Roman font, and left justified. Please submit an announcement, as you would like it to appear in the newsletter, preferably in Word format. Images should be high quality.

Deadline for SAFIT newsletter announcements: send to editor one week before publication date.

Issue	Submission Deadline	Publication Date
I	24 March	31 March
II	23 June	30 June
III	23 September	30 September
IV	24 December	31 December

Advertisements:

- Employment Opportunity ads should be one page maximum (8.5 x 11), should list the position(s) available, basic qualifications required, and provide contact information.
- Employment Wanted ads may include a brief statement describing the position sought, basic experience, and contact information. For example: “Looking for work as phytoplankton taxonomic. Experience includes M.S. thesis from the University of Malpractice, and working on several long-term bioassessment projects for the state of East Carolina. Resume and references upon request. Please contact Martin E. Serumgaard, mserumgaard@fakeaddress.net, (555) 555-555.” Do not include *curriculum vitae* or resume, photos, or political statements.
- General Advertisements should be limited to one page (8.5 x 11) and may include a high quality logo image, and must not include political statements or other potentially offensive material.

The editor, editorial board and the SAFIT Board of Directors reserve the right to reject any or all submissions to the SAFIT Newsletter for any reason. The notices, announcements and advertisements, other than those submitted by the SAFIT Board of Directors, do not reflect SAFIT or SAFIT’s views, opinions or policy, and do not constitute and endorsement of an advertiser’s abilities, skills or products.