

Bulletin of the
Oregon
Entomological
Society

Dragonfly Pond Watch—coming to a wetland near you! *Celeste Mazzacano¹*

Dragonfly Migration

Dragonfly migration is one of the most fascinating events in the insect world, but also one of the least-known. This is even more surprising when you consider that dragonfly migration occurs on every continent except Antarctica. When people think of insect migration, the Monarch butterfly (*Danaus plexippus*) is a familiar figure, but the Wandering Glider (*Pantala flavescens*), a widely distributed species also known as a regular migrant in North America, can travel 11,000 miles (17,700 km) across the Indian Ocean from Africa to India and back—more than twice the distance of the Monarch's well-known annual journey.

Only about 16 of our 326 dragonfly species in North America are regular migrants, with some making annual seasonal flights while others are more sporadic. The major migratory species in North America are Common Green Darner (*Anax junius*), Wandering Glider (*Pantala flavescens*), Spot-winged Glider (*P. hymenaea*), Black Saddlebags (*Tramea lacerata*), and Variegated Meadowhawk (*Sympetrum corruptum*).

Different species tend to dominate migration flights in different parts of the continent. *Anax junius* is our best-known migrant, moving in mass flights in the thousands to millions each fall from southern Canada and the northeastern US down into the southern US, northern Mexico, and parts of the West Indies. Here in the West we are treated to the sight of thousands of *Sympetrum corruptum* (Variegated Meadowhawks) sweeping south along the coast in autumn, while Midwesterners can follow clouds of migratory dragonflies along the shores of the Great Lakes.

Although dragonfly migration has been documented for over 100 years, there is still much to be learned, as we lack definitive answers to questions surrounding the environmental cues that trigger migration, the adaptive advantages gained by the subset of odonate species that migrate, reproductive activity of



Common Green Darner (*Anax junius*) at North Bend, Coos County, Oregon. Photo by Ron Lyons.

migrants along their routes, southern extent of overwintering grounds, and the relationships between resident and migratory populations within the same species. The Migratory Dragonfly Partnership (MDP <www.migratorydragonflypartnership.org>), a collaborative effort among federal agencies, non-governmental programs, and academic institutions, is working to gain a better understanding of dragonfly migration in North

¹Staff Scientist/Aquatic Program Director, The Xerces Society for Invertebrate Conservation; Project Coordinator, Migratory Dragonfly Partnership; <celeste@xerces.org>

Feel free to distribute this newsletter to others.

Submit content to **Ron Lyons** (pondhawk@uci.net). To be included on the distribution list contact **Jim Johnson** (jt_johnson@comcast.net).

America, and to promote conservation of the vulnerable wetland habitats on which these species rely.

Dragonfly Pond Watch

A major MDP initiative involves working with a network of citizen-scientists in Canada, the US, and Mexico to track the five main migratory species throughout the year. As a part of this initiative we recently launched Dragonfly Pond Watch, a volunteer-based program to investigate the annual movements of two major migratory dragonfly species in North America: Common Green Darner (*Anax junius*) and Black Saddlebags (*Tramea lacerata*). We decided to focus on these two species initially not only because they are regular migrants but also because they are among the easiest to identify even in flight, which is how most people are likely to see them. By visiting the same wetland or pond site on a regular basis, participants will be placed to note the arrival of migrant dragonflies moving south in the fall or north in the spring, and to record when the first resident adults of these species emerge in the spring.

Participants select a local pond (or ponds) and visit regularly throughout the season. The frequency of site visits is up to each volunteer; ideally it will be at least once per month, although more frequent observations will be gladly accepted. There is no prescribed survey method; volunteers simply visit their ponds, record observations of the two target species during the time they have available, and upload their data to the MDP website. Additional data regarding location, observation start and end time, presence or absence of Common Green Darner and Black Saddlebags, and additional notes such as observed behaviors (i.e. mating, oviposition), stages (i.e. teneral or mature), and presence of exuviae can also be recorded. Photo vouchers or videos are encouraged when possible but are not required to submit data. A sample data sheet can be downloaded from the project website at <http://www.xerces.org/wp-content/uploads/2012/03/Pond_Watch_data_sheet_03-07_2012.pdf>.



Black Saddlebags (*Tramea lacerata*) at White City, Jackson County, Oregon. Photo by Jim Johnson

Collecting seasonal information at local ponds across North America will increase our knowledge of the timing and location of dragonfly migration, and expand our understanding of the relationship between migrant and resident populations within the same species. If you would like to know more about this and other initiatives of the MDP, visit our website <<http://www.migratorydragonflypartnership.org>>, Facebook page <<https://www.facebook.com/MigratoryDragonflyPartnership>>, or project site <<http://www.xerces.org/dragonfly-migration/projects/>>.

Odonates of the Storm Ranch Section of the New River ACEC *Ron Lyons*

Administered by the BLM, New River Area of Critical Environmental Concern (ACEC) consists of several parcels of mainly ocean front land, comprising about 1356 acres, in northern Curry and southern Coos Counties. The main areas are Floras Lake in Curry County, and Storm Ranch (240 acres+ river shoreline and foredunes) and Lost Lake (71 acres) in Coos County. New River itself flows north from Floras Creek through the ACEC, separated from the ocean by a thin strip of sand dunes. Lost Lake, the only inland area, is separated from New River and the ocean by a stretch of Bandon State Natural Area. The area surrounding the ACEC lands supports a number of cranberry bogs and several small lakes.

The Storm Ranch section has a wide variety of habitats. On the west side are the foredunes which can be accessed by boat or wading, but are closed throughout the summer months as part of the Western Snowy Plover recovery program. The river is open to the ocean for much of the year, and so has a varying mix of salt and fresh water. Most of Storm Ranch on the east side of the river is stabilized sand dunes, stabilized mainly by Shore Pines and undergrowth such as rhododendrons, huckleberry and manzanita. There are small areas of open dunes and meadow. (Recently, some of the Shore Pines have been removed to increase the area of open dunes.) During the rainy winter months shallow temporary ponds form in some of the low-lying

areas. Storm Ranch includes an old cranberry bog, which is largely overgrown but still has some small open water areas. Muddy Lake, or Mudd Lake on some maps, is a permanent shallow water body—the northern end is part of Storm Ranch, the larger southern portion is private land. Muddy Lake is largely surrounded by Shore Pine, right down to the water's edge. There is a viewing platform/bird blind at the lake's edge. A system of hiking trails allows one easy access to the various habitats found at Storm Ranch. There are picnic tables and washrooms at the main parking area and the boat launch for the river.

Since 2002, I have visited Storm Ranch a number of times looking for odonates and other insects. My visits however have not been evenly distributed, being concentrated in the late spring and early summer (March through June). Over the years, I have found the 24 different species of odonates listed at right. While most of these species have been associated with Muddy Lake, I have found both damselfly and dragonfly larvae in some of the winter ponds. [92 odonate species have been found in Oregon.]

The Common Whitetail (a male, *Plathemis lydia*) and the Widow Skimmer (a male, *Libellula luctuosa*) have each been seen only once, the former along one of the trails and the latter at Muddy Lake. Pacific Clubtails (*Gomphus kurilis*) and Western Pondhawks (*Erythemis collocata*) have each been seen on several occasions but neither appears to be common at Storm Ranch. All of these species are known to breed in the area.

The Flame Skimmer (*Libellula saturata*) is a relatively recent addition to the odonate fauna of Coos County, first reported by Dan Hull who found it on 18 September 2005 at Shore Acres State Park [the point on the coast in Kerst and Gordon (2011)]. Cary Kerst reported finding it at Arizona Beach State Park in Curry County on 23 August 2010 (record at <code>odonataCen-



Muddy Lake, Storm Ranch, New River ACEC. Photo by Ron Lyons.



Looking north along the New River. Photo by Ron Lyons.

Odonata recorded at Storm Ranch, New River ACEC.

Family Lestidae, Spreadwing Damselflies

<i>Lestes disjunctus</i>	Northern Spreadwing
<i>Lestes dryas</i>	Emerald Spreadwing

Family Coenagrionidae, Pond Damsels

<i>Enallagma annexum</i>	Northern Bluet
<i>Ischnura cervula</i>	Pacific Forktail
<i>Ischnura erratica</i>	Swift Forktail

Family Aeshnidae, Darners

<i>Anax junius</i>	Common Green Darner
<i>Rhionaeschna californica</i>	California Darner
<i>Rhionaeschna multicolor</i>	Blue-eyed Darner

Family Gomphidae, Clubtails

<i>Gomphus kurilis</i>	Pacific Clubtail
------------------------	------------------

Family Corduliidae, Emeralds

<i>Cordulia shurtleffii</i>	American Emerald
<i>Epitheca spinigera</i>	Spiny Baskettail

Family Libellulidae, Skimmers

<i>Erythemis collocata</i>	Western Pondhawk
<i>Leucorrhinia intacta</i>	Dot-tailed Whiteface
<i>Libellula forensis</i>	Eight-spotted Skimmer
<i>Libellula luctuosa</i>	Widow Skimmer
<i>Libellula quadrimaculata</i>	Four-spotted Skimmer
<i>Libellula saturata</i>	Flame Skimmer
<i>Pantala hymenaea</i>	Spot-winged Glider
<i>Plathemis lydia</i>	Common Whitetail
<i>Sympetrum corruptum</i>	Variegated Meadowhawk
<i>Sympetrum illotum</i>	Cardinal Meadowhawk
<i>Sympetrum madidum</i>	Red-veined Meadowhawk
<i>Sympetrum pallipes</i>	Striped Meadowhawk
<i>Sympetrum vicinum</i>	Autumn Meadowhawk

tral.org>). At Storm Ranch, I found it along one of the dune ridges on 29 August 2007. The Flame Skimmer is a common pond dragonfly in the valley east of the Coast Range. Since the observations along the coast have all been late in the season, it is not clear if it is actually established in this area.

A male Spot-winged Glider (*Pantala hymenaea*) showed up on 25 July 2005. This is a migrant species from the south and so cannot be expected in any given year.

Several additional species found locally might be present at Storm Ranch including the California Spreadwing (*Archilestes californica*) which is present on the Lost Lake section, and the Shadow Darner (*Aeshna umbrosa*).

If you would like more information, visit the Oregon BLM website, <<http://www.blm.gov/or/index.php>>, and search for New River. The latest management plan, May 2004, is available as a PDF file (Final_New_River_Plan_Update.pdf). The earlier May 1995 plan is not available. Information from the weather station located at Storm Ranch just north of the boat launch on New River can also be accessed. It includes a view facing south along the river from a weather cam. Visit <<http://www.blm.gov/or/districts/coosbay/recreation/webcams.php>> and click on the appropriate link.



A recently emerged Spiny Baskettail (*Epitheca spinigera*) and its exuvia on the side of the bird blind.
Photo by Ron Lyons.

Reference

Kerst, C. and S. Gordon. 2011. Dragonflies and Damselflies of Oregon. Oregon State University Press, Corvallis, Oregon, 304 pp.

Pacific Northwest Lepidopterists Fund in honor of Harold E. Rice Awards

Chris Marshall

Earlier this year, David Maddison, Director of the Oregon State Arthropod Collection unveiled a new, annual fund to support lepidopterists in the Pacific Northwest. Named in honor of Harold E. Rice, this fund was set up to help people in our local community to conduct research projects, surveys and other activities related to butterflies and moths.

A number of excellent proposals were received. From these, two were selected for funding. The first was a proposal submitted by Dana Ross to perform a study entitled: Moths of a pristine oak-bunchgrass site near The Dalles, Oregon. His project will be conducted with the help of Paul Hammond, Terry Stoddard and Dick Stenzl and will inventory the moth fauna of a poorly sampled area near the northeast base of Mount Hood for an entire year. The project is expected to uncover species not yet documented in Wasco County or Oregon—and as such will improve our knowledge of our local moth fauna.

A second proposal, by David Doppers, was also selected for funding. Mr. Doppers, who is a graduate student at Western Washington University, proposed a project that would examine

seasonal changes in butterfly communities at North Cascades National Park. This study will augment ongoing efforts by the Cascade Butterfly Project, and provide information that might help formulate predictions about impacts on butterfly distributions resulting from global-scale climatic changes.

In addition to the general merit of these research projects, the review committee felt that these proposals were particularly appropriate for the inauguration of this annual event. Many of the readers will know that Mr. Rice was a long time participant in the annual Pacific Northwest Lepidopterists' Workshop, <<http://osac.science.oregonstate.edu/2012PNLepWorkshop>>, and was a mentor to many young aspiring lepidopterists here in the northwest. Thus it is fitting that these funds will support some of Harold's fellow Workshop participants as well as a young lepidopterist at the beginning of his career!

To learn more about The Pacific Northwest Lepidopterists Fund in honor of Harold E. Rice please go to <<http://osac.science.oregonstate.edu/Rice-Fund-PNLepidoptera>>.

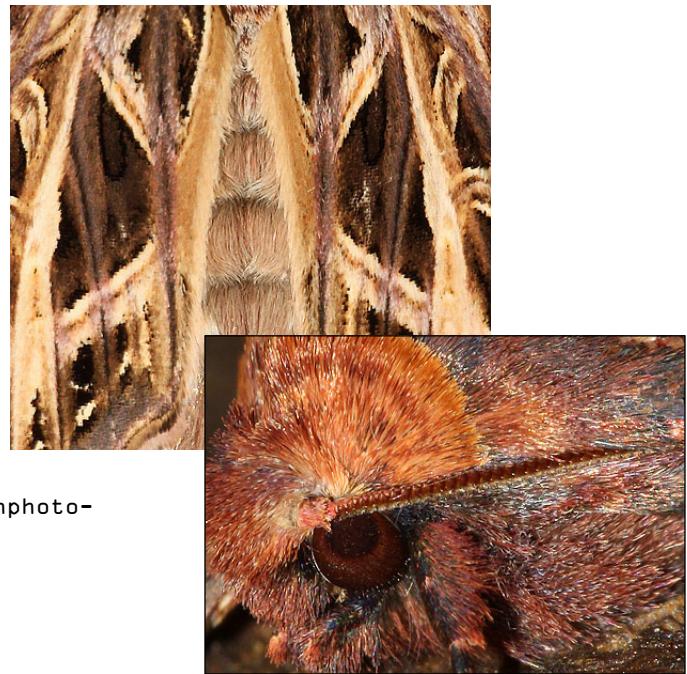
National Moth Week: 23-29 July 2012

If you have an interest in moths, please consider hosting an event. As of late June there were no events registered for Oregon. For information on National Moth Week or to register, please visit <<http://nationalmothweek.org/>>.

Elena Tartaglia (Rutgers University) and the rest of the National Moth Week Team thank you.

Partners in this event include:

BAMONA (Butterflies and Moths of North America),
<<http://www.butterfliesandmoths.org/>>
BugGuide.net, <<http://www.bugguide.net/>>
North American Moth Photographers Group, <<http://mothphotographersgroup.msstate.edu/>>
What's That Bug?, <<http://www.whatsthatbug.com/>>
The Lepidopterist Society, <<http://www.lepsoc.org/>>
Wild New Jersey, <<http://wildnewjersey.tv/>>
Pollinator Partnership, <<http://www.pollinator.org/>>



In search of the American Grass Bug (*Acetropis americana*) *Celeste Mazzacano*¹

The American Grass Bug (*Acetropis americana* Knight, 1927) is a rare endemic species known only from a few sites in the Willamette Valley. This small (7–8 mm), yellowish-brown true bug was found historically only in undisturbed native wet prairies dominated by tufted hairgrass (*Deschampsia cespitosa*). First described in 1927 from specimens collected in Corvallis, there are only 14 documented records for this species, including wet grasslands at Finley Wildlife Refuge and Jackson-Frazier Nature Preserve.

The habitat on which this species relies is extremely vulnerable;

undisturbed native grassland is rare in the Valley, and several of the historic collection localities are devel-

oped, degraded, or invaded by non-native plants such as reed canary grass. The most recent *A. americana* record is from 1985, when a single male specimen was taken by John Lattin in grasslands at Jackson-Frazier in Corvallis, Oregon (OSAC collection). Based on historic collection sites, this species was considered to have a potential distribution in suitable habitat in the Willamette Valley of Oregon and possibly as far north as southwestern Washington (Lattin & Schwartz, 1986). However, extensive collections of this species were never made and specific details of its distribution, life history, and positive host plant association remain unknown.

In 2011, the Xerces Society for Invertebrate Conservation was funded by the Interagency Special Status/Sensitive Species Program (ISSSSP) to conduct surveys for the American Grass Bug in its historic localities and additional potential habitat in the Willamette Valley on lands owned by the US Forest Service or the Bureau of Land Management. There is very little undisturbed, native, *Deschampsia*-dominated wet prairie left in the Willamette Valley, and an even smaller proportion of that is owned by the BLM or USFS, so survey sites were limited. The majority of suitable habitat remaining on public lands was concentrated around the West Eugene Wetlands (WEW).

Unfortunately, we did not find the American Grass Bug at any historic localities or in the WEW sites, raising the possibility that this species has either been extirpated, or is present at such low abundance and/or with such patchy distribution that they are unlikely to be detected with this level of survey effort. Time was limited, and it may be that this species still survives somewhere



Specimens of American Grass Bug (*Acetropis americana*), male (left) and female, at Oregon State Arthropod Collection. Photos by Celeste Mazzacano.

¹Staff Scientist/Aquatic Program Director, The Xerces Society for Invertebrate Conservation; Project Coordinator, Migratory Dragonfly Partnership; <celeste@xerces.org>

in the Willamette Valley. It is also possible that destruction, degradation, and fragmentation of wet prairies in the time since the species was discovered have led to its extirpation from much or all of its previous habitat.

Acknowledgements

Funding for *A. americana* surveys was provided by the Interagency Special Status/Sensitive Species Program (ISSSP). Additional thanks to: Jake Marty, who provided invaluable support and effort as part of the Xerces survey team; Michele Blackburn (Xerces), who generated survey maps; and Sarina Jepsen (Xerces), for reviewing the project completion document.

We greatly appreciate the assistance of Kelli Van Norman (BLM), and the many BLM and USFS staff who provided site information and maps. We also thank Chris Marshall (OSAC) for allowing us access to the *A. americana* specimens housed at Oregon State University.

References

Brenner, G. 2005. Species Fact Sheet: *Acetropis americana*. Prepared for the Bureau of Land Management, Medford, Oregon. Available at <<http://www.fs.fed.us/r6/sfpnw/issssp/documents/planning-docs/20050906-fact-sheet-acetropis-americana.doc>>.



West Eugene Wetlands in the southern Willamette Valley of Oregon, a potential site for the American Grass Bug (*Acetropis americana*). Photo by Celeste Mazzacano.

Knight, H.H. 1927. *Acetropis americana*, a new species of Miridae from Oregon. Entomological News 38: 206–207.

Lattin, J.D. and M.D. Schwartz. 1986. A review of *Acetropis americana* Knight in North America (Hemiptera: Miridae: Stenodemini). Journal of the New York Entomological Society 94(1): 32–38.

Mazzacano, C.A. 2011. Surveys to determine the status of the rare American Grass Bug (*Acetropis americana* Knight) at historic localities and in suitable habitat on BLM and FS lands in the Willamette Valley of Oregon. Project completion report to the Interagency Special Status/Sensitive Species Program (ISSSP), 20 pp.

Portland's Forest Park Animal BioBlitz

Ron Lyons

More than 140 people participated in this event which began at noon on Friday, 18 May, and ended at noon the following day. Volunteers registered beforehand, providing information on their subject(s) of interest, level of knowledge, and preferred 4 hour time slot(s). The organizers formed people into teams under knowledgeable team leaders, and assigned each team one or more areas to explore. With more than 5000 acres to sample, they had plenty of areas to choose from. Volunteers were then emailed the information on their shift(s).

Volunteers checked in at the headquarters tent in Lower Macleay Park (south end of Forest Park) about 30 minutes beforehand and waited for their team to assemble before setting off. There were 7 arthropod teams distributed through the 24 hour time period.

Jim LaBonte from the Oregon Department of Agriculture (ODA) led the 8 PM to midnight Friday night excursion that I was on. We walked up the trail along the creek in Lower Macleay Park, placing Spam, banana slices and some dry food as bait at regular intervals along the trail. The night cooled quickly limiting insect activity but the baits attracted ants, harvestmen and some beetles. The most abundant arthropods I found that evening were spiders and large carabid beetles in the genus *Scaphinotus*, many of which were on the various fence posts



Jim LaBonte of Oregon Department of Agriculture identifying arthropods at the BioBlitz headquarters. Photo by Ron Lyons.

along the trail. The event provided an interesting opportunity to see members of the Park's animal community not normally noticed, including a surprising (for me) number of nocturnal human visitors, besides those conducting the survey.

I returned on Saturday morning to get a daytime feel for the trail we had followed the prior evening and found a number of syrphids and other flies at the sunlit spots along the trail as well as a stonewy on one of the fence posts.

The arthropod sorting and identification area was located in a building/garage beside the headquarters tent. Here, volunteers, many from the ODA and other agencies and institutions, used their microscopes, identification materials, cameras and computers to organize and document the various specimens that came in from the pit fall traps, the light traps and the various field collection teams. It was a busy place.

The results are posted on <www.portlandonline.com/parks/wildlife>. Some arthropod species haven't made it into the summary data yet, so the invertebrate list for the event will continue to grow. Images of some of the arthropods collected are posted on the web. Search "Portland BioBlitz" at BugGuide.Net, or just visit <<http://bugguide.net/index.php?q=search&keys=portland+bioblitz&search=Search>> to see these.

The organizers recognize that the weather and the season influence the results and would like to do this again.



One of the many *Scaphinotus angusticollis* carabid beetles along the trail in Forest Park. Photo by Ron Lyons.

The Earwigs of Oregon (Dermaptera)

There are about 1200 species of Dermaptera world wide, occurring mostly in the tropics (Hoffman, 1987). Based on Chaote (2001), 25 species have been found in the United States (excluding those species known only from interceptions during border inspection.) Of these, 10 species are only reported as established from Florida. (One of the species needs confirmation. If dropped the corresponding numbers would be 24 and 9. The species list from Nearctica.com, based on a Steinmann [1989] world catalogue is slightly different but the total number is similar.)

Earwigs are easily transported in various different cargos. For instance, over half of the species on Chaote's list are not native to the continental United States (Hoffman, 1987). Langston and Powell (1975) listed 10 species as established or taken under field conditions in California, but had an additional list of 11 species that had been documented only from cargo at California ports of entry (one species found on an orchid from Texas is not on Chaote's list or the list from Nearctica.com). Only one of the species is considered native to California.

Four species have specimens collected from Oregon in our local collections—the Oregon State Arthropod Collection (OSAC), the collection at the Oregon Department of Agriculture (ODA), and the collection at Southern Oregon University (SOU). They are:

Euborellia annulipes (Lucas), Ring-legged Earwig; OSAC and SOU specimens (Figure 1)

Ron Lyons

Forficula auricularia L., European Earwig: ODA, OSAC and SOU specimens (Figure 2)

Labia minor (L.), Small Earwig: ODA, OSAC and SOU specimens (Figure 3)

Labidura riparia (Pallas), Shore/Striped Earwig: SOU specimen (Figure 4)

Hatch (1949) reported *Euborellia annulipes* (as *Anisolabis annulipes*) from a greenhouse in JACKSON: Medford area (see also Langston & Powell, 1975). SOU has one of Hatch's greenhouse specimens. In addition to the greenhouse specimens in the OSAC collection, there is one specimen from Portland collected from fertilizer cargo from Buenos Aires and Santos, South America. Arnett (1995) gives a size range of 9–13 mm including the terminal appendages. Of the four species above this is the only one which lacks wings.

Based on published records and specimens in our local collections, *Forficula auricularia* is by far the most common and widespread species in the state. Fulton (1924) indicated that this species has been present in Oregon since 1909, based on a specimen received from Albany in 1910 and an accompanying letter which referred to its presence the previous summer. Fulton also reported it from BENTON: Corvallis, Blodgett, CLACKAMAS: Colton, CLATSOP: Astoria, DOUGLAS: Roseburg, LANE: Eugene, LINN: Albany, LINN-MARION: Mill City, MARION: Salem, MULTNOMAH: Portland, Gresham, WASHINGTON: Forest Grove, YAMHILL: Dayton, Crumb et



Figure 1. Male *Euborellia annulipes* specimen at OSAC. Photo by Ron Lyons.

al. (1941) reported additional localities at HOOD RIVER: Hood River, KLAMATH: Klamath Falls, SHERMAN: Moro, WASCO: The Dalles, UMATILLA: Hermiston, Pendleton, Weston, and UNION: La Grande, Union. At the time, its distribution was concentrated in Oregon and Washington, with scattered localities in other parts of the country. The first known report is from Seattle in 1907. Hatch (1949) reported this species from JACKSON: Medford, JOSEPHINE: Grants Pass, KLAMATH: Klamath Falls, and MARION: Woodburn. ODA has specimens from LINN, MULTNOMAH, POLK, WASCO, and YAMHILL. OSAC has specimens from BENTON, CLATSOP, COLUMBIA, COOS, DOUGLAS, JACKSON, KLAMATH, LAKE, LANE, LINCOLN, LINN, MARION, MULTNOMAH, HOOD RIVER, POLK, UMATILLA, WALLAWA, WASHINGTON and YAMHILL. SOU has specimens from JACKSON, JOSEPHINE, KLAMATH and LINN. This species is found throughout California (Langston & Powell, 1975). Arnett (1995) indicated that the species is now widely distributed and gives the size range as 11–18 mm including the terminal appendages. The terminal pincers show a considerable variation in length (Langston & Powell, 1975).

A small number of specimens of *Labia minor* are deposited from BENTON: Corvallis, Forest Grove, 3 mi SE Summit, COLUMBIA: Scappoose, St. Helens, DOUGLAS: Roseburg, WASHINGTON: Cornelius, YAMHILL: McMinnville at OSAC and LINCOLN: Waldport, MARION: Aumsville, Mt. Angel and Brooks at ODA. SOU has one specimen collected in BENTON: Forest Grove. This species was reported from California's central valley by Langston and Powell (1975) but had not then been reported from Oregon. Of the four species, this is the smallest with a size range of 4–7 mm including the terminal appendages (Arnett, 1995). This insect is potentially overlooked by collectors due to its small size, nocturnal habits and the fact that it seems to be associated with manure. Specimens are sometimes found in collections mixed in with the unsorted beetles (Langston & Powell, 1975).

SOU has one specimen of *Labidura riparia*, a female collected in JACKSON: Ashland on 4/27/66 by Terry Gleason. Finding this was somewhat of a surprise. I have only seen this species



Figure 2. *Forficula auricularia*, male specimen at OSAC on left, and female in Portland. Photos by Ron Lyons.

reported, in the west, from southern California and Arizona (Langston & Powell, 1975; Choate, 2001). The earliest specimens from Arizona and California were collected in the early 50s. It would be interesting to see whether this species is established in Oregon or whether it was, perhaps, brought back by someone who had visited southern California or Arizona. Schlinger et al. (1959) say it "feeds ravenously on nearly every type of living insect offered in the laboratory" and is an effective predator in field situations in other countries.

There are at least three other species that are probably present in Oregon based on comments in publications but seem otherwise undocumented in the state. These are:

Anisolabis maritima (Bonelli), Maritime Earwig: Langston and Powell (1975) wrote "Several interceptions in quarantine in Los Angeles and San Diego counties have been recorded (known origins from San Francisco and Oregon)". Hoffman (1987) wrote that it "occurs locally along the Pacific Coast from British Columbia south to California".

Chelisoches morio (Fabricius), Black Earwig: According to Choate (2001) this has been introduced into the Pacific Northwest.

Marava arachidis Yersin, Chief Earwig: From a specimen identified as *Prolabia arachidis* (Yersin), Hebard (1922) listed the following data, "Kaimuki, Oahu, I, 8, 1917, (O.H. Swezey; in case of candied tomatoes from Oregon)".



Figure 3. *Labia minor*, male on left, and female—both OSAC specimens. Photos by Ron Lyons.



Figure 4. *Labidura riparia*, male specimen (from Arizona) at OSAC on left, and female specimen at SOU. Photos by Ron Lyons.

Interestingly, while earwigs, particularly *Forficula auricularia* (partly because of its high numbers), are generally considered pests/nuisance species by the public, they are generally regarded as beneficial in the sense that they help to control herbivorous insects and other nuisance species. *F. auricularia*, however, can on occasion cause substantial damage to some crops and flowers.

None of the species mentioned are native to our area. Due to the ease with which earwigs are moved about, it is entirely possible that other species might be present in the state. One handling note: the larger males can inflict a painful pinch with their forceps.

On the lighter side, a female of *Forficula auricularia* has the distinction of being on the design on a postage stamp from Senegal (Figure 5). There is a male on a stamp from Scotland that also appears to be this species. *Labidura riparia* is featured on a stamp from Qatar and a stamp from St. Helena illustrates *Labidura herculeana*, a species not found in North America.

Acknowledgements

Thanks to Chris Marshall (OSAC), Jim LaBonte (ODA) and Peter Schroeder (SOU) for access to, and help with, their institution's collections.

References

Arnett, R. 1995. American Insects: A Handbook of the Insects of America North of Mexico. The Sandhill

Crane Press, 850 pp.
 Choate, P.M. 2001 (modified from Hoffman [1987]). The Order Dermaptera (Earwigs) in Florida and the United States. Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, Florida, 8 pp. Online at <<http://entnemdept.ufl.edu/choate/dermaptera.pdf>> (2001 is creation date of PDF file)

Crumb, S.E., P.M. Eide, & A.E. Bonn. 1941. The European Earwig. United States Department of Agriculture Technical Bulletin No. 766, 76 pp.

Fulton, B.B. 1924. The European Earwig. Oregon Agricultural



Figure 5. A female *Forficula auricularia* featured on a Senegal postage stamp.

- College, Experiment Station Bulletin 207, 29 pp.
- Hatch, M. 1949. Studies on the fauna of Pacific Northwest greenhouses (Isopoda, Coleoptera, Dermaptera, Orthoptera, Gastropoda). Journal of the New York Entomological Society 57: 141–165.
- Hebard, M. 1922. The Dermaptera and Orthoptera of Hawaii. Occasional Papers of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History 7(14): 305–379. Online at <http://www.archive.org/stream/occasionalpapers07bern/occasionalpapers07bern_djvu.txt>.
- Hoffman, K.M. 1987. Earwigs (Dermaptera) of South Carolina, with a key to the eastern North American species and a checklist of the North American fauna. Proceedings of the Entomological Society of Washington 89(1): 1–14. Online at <http://www.archive.org/stream/proceedingsofent891987ento/Proceedingsofent891987ento_djvu.txt>.
- Langston R.L. and J.A. Powell. 1975. The Earwigs of California (Order Dermaptera). Bulletin of the California Insect Survey 20, 25 pp. Online at <<http://essig.berkeley.edu/documents/cis/cis20.pdf>>.
- Schlänger, E.I., R. van den Bosch, and E.J. Dietrick. 1959. Biological notes on the predaceous earwig *Labidura riparia* (Pallas), a recent immigrant to California (Dermaptera: Labiduridae). Journal of Economic Entomology 52(2): 247–249.
- Steinmann, H. 1989. World Catalogue of Dermaptera. Series Entomologica, 43. Kluwer Academic Publishers. Dordrecht. 934 pp.

2012 Aeshna Blitz

An annual gathering of those who are insane for Oregon's Odonata—scheduled for the weekend of 27 July at Three Forks on the Owyhee River, Malheur County. All are welcome. Yes, even if you only look for the “lesser” insects.

Be prepared for primitive camping (there are pit toilets, but nothing else). Three Forks is accessed from US Hwy 95 via 35 miles of dirt/gravel road. The nearest towns are Rome (about 15 miles west of Three Forks Road; not much there besides a gas station/restaurant) and Jordan Valley (about 15 miles east of Three Forks Road; many more amenities here). Vehicles with low clearance are not recommended—particularly for the last stretch that drops down to the river, and the road may be impassible when wet.

Contact Jim Johnson at <jt_johnson@comcast.net> or Steve Valley if you plan to attend. Find more information about Three Forks at <<http://publiclands.org/explore/site.php?plcstate=0R&id=3525>> and view Three Forks at Google Maps with directions from Jordan Valley at <<http://goo.gl/maps/b0iY>>.



34th Pacific Northwest Lepidopterists' Workshop

This year's Pacific Northwest Lepidopterists' Workshop is scheduled to take place at Oregon State University on Saturday, 27 October to Sunday, 28 October 2012.

The groups of emphasis will be:

- Butterflies: Hairstreaks and Coppers, Anglewings
- Moths: Arctiidae

In addition, a special session is scheduled on public education/out-reach.

The latest information available can be found at <<http://osac.science.oregonstate.edu/2012PNWLepWorkshop>>. The full schedule will also be included in the Fall Bulletin.

