

Bulletin of the Oregon Entomological Society

Helder's Dune Grasshopper, *Microtes helferi* Ron Lyons

Microtes helferi (Strohecker, 1960) is a grasshopper that appears to be restricted to the coastal dunes of the west coast. (This insect, formerly *Trimerotropis helferi* Strohecker, was reclassified by Otte [1984].) *M. helferi* is one of the band-winged grasshoppers (Orthoptera: Acrididae: Oedipodinae) although, unlike most other members of the subfamily, it does not have a prominent band on its hind wings (Figure 1).

Strohecker, Middlekauff and Rentz (1968) list specimens as far south as Cleone in Mendocino County just north of Fort Bragg, but only listed northern California as the distribution. Subsequently, Westcott (1969) reported that *helferi* was present in Oregon. He had collected specimens from sand dunes five miles northwest of North Bend in Coos County and the Tahkenitch Lake area of Douglas County. Other specimens had also been collected one mile north of Waldport in Lincoln County and at Sand Lake in Tillamook County. According to Otte (1984) this insect is found on the coastal dunes from northern California to Oregon. In looking through the specimens at the Oregon State Arthropod Collection (OSAC) recently, I came across a specimen collected even farther north at Ocean Shores in Washington near the northern limit of the coastal dune system associated with the Columbia River.

Otte (1984) indicates that adults are found from late June to late August. Late June seems about right for the start based on my few records, but I have also found nymphs well into July. As for the late date, at least one of the specimens reported by Westcott was recorded 2 October. The latest specimen I came across at OSAC was collected at Fogerty Creek in Lincoln County on 11 October (1931). Nymphs probably first appear in late May to mid-June depending on the weather conditions.

I have come across *helferi* on several occasions in the Storm Ranch and Lost Lake sections of the New River Area of Critical Environmental Concern south of Bandon in Coos County. I have also

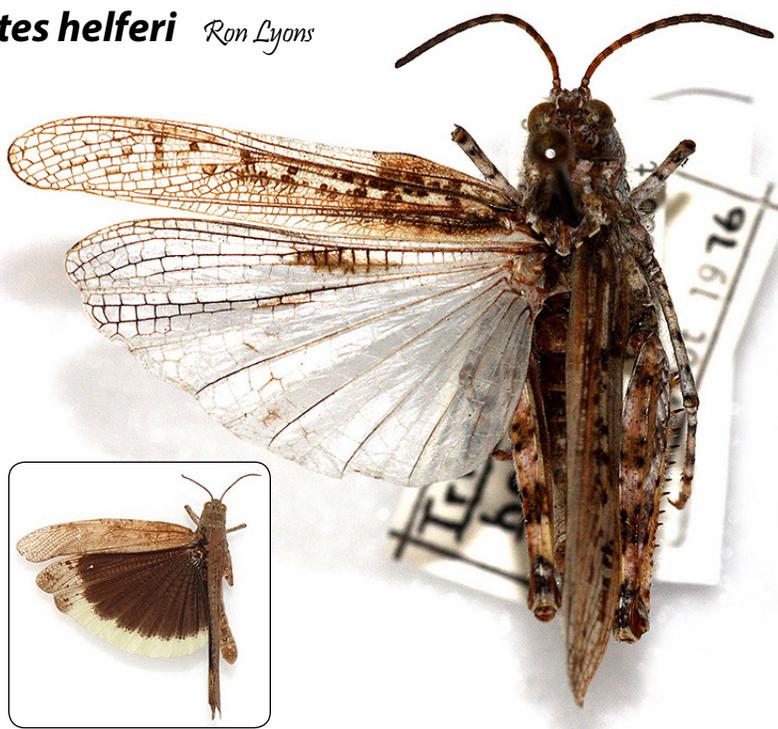


Figure 1. *Microtes helferi* (from the OSAC Display Collection of Oregon Grasshoppers). Inset: *Dissosteira carolina* (Linnaeus) with prominent dark banded hind wings.

found it in the Bandon State Natural Area along the trail through the dunes from Lost Lake to the coast and at the confluence of New River and 2 Mile Creek.

The adult grasshopper (Figure 2) is rather pubescent and its speckled brown coloration makes it easy to overlook on the open sand. The nymphs are similarly speckled but their smaller size makes them very difficult to see even when they are right in front of your eyes. In his original description Strohecker (1960) wrote that *helferi* is an "occupant of the first line of dunes". The ones I found at Lost Lake were on the open sand, but about 0.5 miles from the ocean, in an area where many of the dunes are stabilized with Shore Pines and other vegetation, so they can be found a bit further inland in some areas. In his notes Strohecker indicates

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Figure 2. Left, *Microtes helferi*, adult, USA: Oregon: Coos: Bandon State Park: open dune area along trail from Lost Lake, 18 July 2007; right, *Microtes helferi*, young nymph, USA: Oregon: Coos: Lost Lake: open dune along trail, 12 June 2006. Photos by Ron Lyons.

that the insect is associated with *Convolvulus soldanella* L. (Beech Morning Glory), *Franseria chamissonis* Less. (Silver Beach-weed) and *Artemisia pycnocephala* DC. (Beach Sagewort). According to Wiedemann et al. (1969; also source of the common names for the plants), *Artemisia pycnocephala* is on beaches from southern Oregon to California, but is replaced by a similar species to the north. Both other species are found on beaches, dunes and areas of moving sand throughout the distribution range. I cannot attest to this association.

Dunes are found along 140 miles of Oregon's 310 mile ocean coast (Wiedemann et al., 1969: pg 3). While the status of this insect is probably secure, the widespread use of beach grass to stabilize dunes, coastal development and recreational use of the dunes may be having an impact on the populations in some dune areas.

This grasshopper has several common names. Helfer (1987) referred to it as Helfer's Dune Grasshopper. I have also seen it referred to as Helfer's Grasshopper and Speckled Sand Grasshopper in various web pages.

Note: In the original description, Strohecker (1960) made reference, under additional specimens, to a series of four males and a female collected much farther south at Grover City in San Luis Obispo County. In a later paper Strohecker (1963) used this series to describe a different species, *Trimerotropis pogonata*. This species was renamed *Microtes pogonata* by Otte (1984).

References

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- Westcott, R.L. 1969. Cooperative Economic Insect Report. Plant Pest Control Division, Agricultural Research Service, United States Department of Agriculture volume 19(1): 1-16. (online at <http://www.archive.org/stream/cooperativecon191969unit/cooperativecon191969unit_djvu.txt>)
- Wiedemann, A.M., L.R.J. Dennis, and F.H. Smith. 1969. Plants of the Oregon Coastal Dunes. OSU Book Stores, Inc., Corvallis, Oregon. 117 pp.

NPPNW Spring 2013 Meeting

The Spring 2013 biannual meeting of the Nature Photographers of the Pacific Northwest will be at University of Oregon, Eugene, Saturday, 6 April 2013.

The invited speaker is Frans Lanting. Attendees are encouraged to enter their photos in projected and print competitions. For complete details, including registration form, visit <<http://www.nppnw.org/meetings.html>>.

2013 ESA Pacific Branch Annual Meeting

The 97th Annual Meeting of the Pacific Branch of the Entomological Society of America will be held at Harrah's Hotel at Lake Tahoe 7-10 April 2013. The theme for the meeting is: "Entomology in the Pacific Branch: A Sustainable Science for a Sustainable Future!"

For full conference details visit <<http://entsoc.org/Pacific/2013-esa-pacific-branch-annual-meeting>>.

Information Wanted on *Pterostichus (Orsonjohnsonus) johnsoni* Ulke

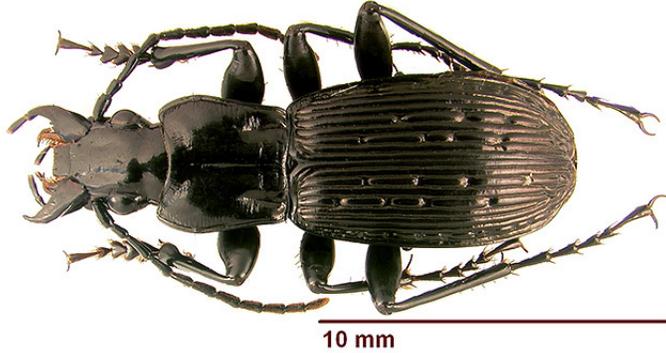
WANTED, REWARD: The Conservation Biology Center is offering a \$100 reward for any verifiable record of the large (~17 mm) flightless carabid beetle *Pterostichus (Orsonjohnsonus) johnsoni* Ulke, 1889, north of the main stem of the Skagit River in northwest Washington State, USA. Any records from British Columbia (Canada) will receive a \$100 bonus. The winning record must be proven in the field by James Bergdahl, and will be evaluated on a first-come-first-serve basis. The beetle is only found along small, forested creeks descending hillsides, and therefore its habitat is fairly easy to locate on the landscape. Hundreds of stream surveys on either side of the Skagit River over many years indicate this large river is an abrupt, terminal barrier to the species' dispersal northward out of an archipelago of Pleistocene refugia south of there. The Skagit River, the third largest river on the west coast of the United States, has had a extremely turbulent history draining a large and

dynamic landscape that includes the densely glaciated North Cascade Mountains and the large volcanoes Mt. Baker and Glacier Peak.

We are also interested in any records of the beetle south of Highway 20 (South Fork Santiam River, Linn County) in the Oregon Cascades. Any records from the McKenzie River basin, anywhere else south of there, or east of the Cascade Crest would be especially noteworthy. The species' known range is the west slope of the Cascade Mountains from approximately Washington Highway 20 to Oregon Highway 20.

For information contact:

James Bergdahl
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Spokane, WA, 99204
phone: 509-835-5233
email: <jcbergdah1@gmail.com>



You can view a larger image of this specimen of *P. johnsoni* from Clackamas Co., Oregon, on the Carabidae of the World website at <http://carabidae.org/carabidae/johnsoni-ulke-1889/cid_148.html>. Image by Igor Sokolov © Louisiana State Arthropod Museum 2009

Meloe franciscanus Van Dyke in Oregon (Coleoptera: Meloidae)

As adults, the dark blue to black colored beetles of the genus *Meloe* have short elytra and lack hind wings. Since they “often exude an oily substance from the joints of the legs when disturbed” (Borror et al., 1992), they are sometimes referred to as oil beetles. Their larvae live in bee nests and feed on the larvae of the bees as well as the resources they have gathered. These beetles are members of the Family Meloidae, the blister beetles.

Recently, Pinto and Westcott (2011) reported a small population of *Meloe franciscanus* Van Dyke in the stabilized dunes just north of Waldport, Oregon, well outside the previously known localities (Pinto & Selander, 1970), and the first record of this species from the Pacific Northwest. (A small number of other *Meloe* species have been recorded in Oregon [Pinto & Selander, 1970].) Saul-Gershenz and Millar (2006) discuss the interesting means the triungulins (first instar larvae) of *franciscanus* use to gain access to their food source in the desert southwest.

References

- Borror, D.J., C.A. Triplehorn and N.F. Johnson. 1992. An Introduction to the Study of Insects (Sixth Edition). Saunders College Publishing (Philadelphia). 875 pp.
- Pinto, J.D. and R.L. Westcott. 2011. *Meloe franciscanus* Van Dyke, 1928, from the central coast of Oregon: A significant range extension (Coleoptera: Meloidae). The Pan-Pacific Entomologist 87(3): 204–206.
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- Saul-Gershenz, L.S. and J.G. Millar. 2006. Phoretic nest parasites use sexual deception to obtain transport to their host's nest. Proceedings of the National Academy of Sciences of the United States 103(38): 14039–14044 (online at <<http://www.pnas.org/content/103/38/14039.full>>).



Male (top) and female *Meloe franciscanus* near Waldport, Oregon. Photos by Rick Westcott.

The Odonata (Dragonflies and Damselflies) of Crater Lake National Park

Ron Lyons

Crater Lake National Park is situated primarily in Klamath County, but a small area extends into Douglas County. The Park is about 183,224 acres; the surface area of the Lake itself is about 13,199 acres. The Park lies between ~4400 feet in elevation at its southern entrance and 8929 feet in elevation at its highest point, Mount Scott, near the crater rim, with the lake surface at about 6170 feet.

While the lake itself is the most significant aquatic feature (in terms of size and general interest), the large area surrounding the lake contains a variety of other interesting aquatic features. There are wet meadows, seeps, springs, creeks, falls, ponds, another lake and even an extensive sphagnum bog (see Figures 1 and 2). Some of the ponds are quite transient since they are formed in shallow depressions from melting snow; others like Quillwort Pond and the Whitehorse Ponds are more permanent, obtaining water from melting snow and seasonal rains. In response to the record low snowfall during the winter of 1991–1992, Roger Brandt (1992) surveyed 10 areas in the Park known to have ponds (he also visited Lake West which lies just outside the NW corner of the Park). Some of these areas including Spruce Lake (and Lake West) were dry. In addition to the many natural wetlands, there are also a couple of areas with sewage ponds associated with the residential areas.

The location of the park is close to other significant wetland areas such as Diamond Lake northwest of the Park and the Klamath Marsh complex to the south and east.

As part of my effort to consolidate the arthropod information for the Park (Lyons, 2012), I documented the odonate specimens present in the Park Collection (CLNP*) and in the Oregon State Arthropod Collection (OSAC). Nineteen specimens (19) are deposited in the Park and six (6) at OSAC. In addition, I found several Park references in Joe Schuh's (1936) thesis; some of the records reported by Schuh are not represented by specimens in either collection. I searched the records for Klamath County deposited at OdonataCentral.org (Abbott 2007–2013) and found no records from the Park. Dragonflies and damselflies are mentioned in some of the documents I have examined, e.g. some of the articles in the Crater Lake Nature Notes, Mark Bultenica's (1988) thesis work on salmon and trout in the Lake, and Brandt's 1992 survey, but individual species are not identified. Ten (10) species have been documented from this part of the project.

The second part of my project was to supplement the information I found with photographs, taken in the Park, of the insects and other arthropods I came across while visiting and exploring the Park. Some of these images could also be used for interpretive purposes. I have spent a number of hours along the roads and on (and off) the trails in this task. I have visited Quillwort Pond several times; I have only made it to the Whitehorse Ponds and the



Figure 1: Quillwort Pond: This clear, relatively shallow pond is fed solely by snow melt and rainwater.

Sphagnum Bog once. My photographic efforts can in no way be called systematic.

Including the species identified from the photographs, there are now 27 species known from the Park (see Table 1). However, I have not confirmed that all the species recorded so far actually breed in the Park. Only one species, *Tanypteryx hageni*, Black Petaltail, is not on the list for Klamath County as generated from the records at OdonataCentral.org (Abbott, 2007–2013). This species has been found twice, the first time as a flattened corpse on the road between the Visitor Center and Rim Village, the second flying along the maintenance road beside Pole Bridge Creek near its intersection with Highway 62.

Based on the elevation limits quoted in Johnson and Valley (2005), over 25 additional species could be present in the Park. There is a lot of work left to do and a lot of area to cover to fully document the odonate species present in Crater Lake National Park.

If you do decide to look for species new to the Park, I offer these words of advice. In many areas of the Park, you don't need to go very far away from the road to be, essentially, in the wilderness. Some of the wetland areas can be reached from the roads or trails; others, such as Quillwort Pond or the Whitehorse Ponds, can only be reached by forging a path through the bush. Allow more time than you think you will need, dress appropriately, carry extra water, watch the weather and the time, and above all be mindful of your own limitations. Be safe.

* The designation of this collection from the list of collection abbreviations is CLNP (see Evenhuis, N.L. 2007. Abbreviations for Insect and Spider Collections of the World, online at <http://hbs> .



Figure 2: Sphagnum Bog: This complex wetland area is divided by Crater Creek. Brandt (1992) documented seven ponds between ~5000' and ~5300' elevation.

bishopmuseum.org/codens/codens-inst.html> [accessed March 2012]). The Park Service creates its abbreviations differently; its designation for the Park is CRLA (for Crater Lake). All of the specimens in the Park Collection are databased; each specimen number begins CRLA.

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- Lyons, R.W. 2012. The Arthropods of Crater Lake National Park. Bulletin of the Oregon Entomological Society, Fall: 7.
- Schuh, J. 1936. A Contribution to the Knowledge of the Odonata of Oregon. Oregon State Agricultural College, Corvallis Oregon, MSc. Thesis. 214 pp.

Table 1: List of Odonata found in Crater Lake National Park. Species documented from Schuh's thesis or specimens are indicated and may or may not have additional photographic evidence. (There are some specimens in the Park Collection that have not yet been fully identified.) All other species are on the list solely on the basis of the photographic records.

Suborder Zygoptera, damselflies (10 species)

Family LESTIDAE, spread-winged damselflies, spreadwings

- Lestes congener*, Spotted Spreadwing; Schuh (1936), OSAC specimen
Lestes disjunctus, Northern Spreadwing
Lestes dryas, Emerald Spreadwing; Schuh (1936), CLNP specimen
Lestes unguiculatus, Lyre-tipped Spreadwing

Family COENAGRIONIDAE, narrow-winged damselflies, pond damsels

- Amphiagrion abbreviatum*, Western Red Damsel
Argia vivida, Vivid Dancer
Enallagma carunculatum, Tule Bluet
Ischnura cervula, Pacific Forktail
Ischnura perparva, Western Forktail
Nehalennia irene, Sedge Sprite

Suborder Anisoptera, dragonflies (17 species)

Family AESHNIDAE, darners

- Aeshna interrupta*, Variable Darner; Schuh (1936), OSAC and CLNP specimens
Aeshna palmata, Paddle-tailed Darner
Anax junius, Common Green Darner
Rhionaeschna californica, California Darner
Rhionaeschna multicolor, Blue-eyed Darner; CLNP specimen

Family PETALURIDAE, petaltails

- Tanypteryx hageni*, Black Petaltail

Family CORDULIIDAE, emeralds and baskettails

- Cordulia shurtleffi*, American Emerald
Epithea spinigera, Spiny Baskettail
Somatochlora semicircularis, Mountain Emerald; CLNP specimens

Family LIBELLULIDAE, skimmers

- Leucorrhinia glacialis*, Crimson-ringed Whiteface
Libellula forensis, Eight-spotted Skimmer; CLNP specimens
Libellula pulchella, Twelve-spotted Skimmer
Sympetrum corruptum, Variegated Meadowhawk; Schuh (1936)
Sympetrum danae, Black Meadowhawk
Sympetrum madidum, Red-veined Meadowhawk; CLNP specimen
Sympetrum obtrusum, White-faced Meadowhawk; Schuh (1936), CLNP specimen, OSAC specimens
Sympetrum pallipes, Striped Meadowhawk; OSAC specimen

2013 Aeshna Blitz

This year's annual gathering of those who are insane for Oregon's Odonata is scheduled for the weekend of 16 August in the Duck/Twin Lakes area of the eastern Willowa Mountains (north of Halfway, <<http://goo.gl/maps/BvzBi>>). Be prepared for primitive camping far from civilization.

All are welcome. Yes, even if you only look for the "lesser" insects. Contact Jim Johnson at <jt_johnson@comcast.net> or Steve Valley if you plan to attend.

Pond Watch, the Migratory Dragonfly Partnership's most popular citizen science project, gears up for spring!

The Migratory Dragonfly Partnership (MDP), <<http://www.migratorydragonflypartnership.org>>, invites you to help us learn about the seasonal movements of migratory dragonflies, their life histories, and relationships between migrants and residents of the same species by participating in Pond Watch <<http://www.migratorydragonflypartnership.org/index/dragonflyPondWatch>>.

You might think of migration as a fall event, but in springtime, migratory dragonflies that spent the winter in warmer climates return to the north. Because these flights are more diffuse and widespread than the large fall migrations, it's easy to miss the first returning migrants. Migrant adults are on the wing in spring before the nymphs of resident members of the species have exited winter diapause and completed their development. In Pond Watch, observers visit a local wetland or pond on a regular basis and continually note the presence (or absence) of the five main migratory species in North America: Common Green Darner (*Anax junius*), Black Saddlebags (*Tramea lacerata*), Wandering Glider (*Pantala flavescens*), Spot-winged Glider (*Pantala hymenaea*), and Variegated Meadowhawk (*Sympetrum corruptum*).

By making observations throughout the year, Pond Watch observers can note the first mature adult migrants arriving from the south, and also note when resident adults of these species emerge locally. Pond Watch data also helps us learn more about local relationships between migratory members and resident members of the same species. MDP is currently developing a new field guide to help participants identify the nymphs and exuviae of migratory species at their ponds, to collect data that will reveal more about migratory species' life history, development, and relationships with resident dragonflies. Observers can also submit physical specimens of adults, nymphs, or exuviae for analysis in the MDP's Stable Isotope Project <<http://www.xerces.org/dragonfly-migration/projects/>>.

Celeste A. Mazzacano, Aquatic Program Director, The Xerces Society for Invertebrate Conservation; Project Coordinator, Migratory Dragonfly Partnership; <celeste@xerces.org>

OSAC Cabinet Campaign Update

The campaign to raise funds for new cabinets to house the Lepidoptera and Hymenoptera Collections at the Oregon State Arthropod Collection (OSAC) has reached its goal. The Campaign officially ends on April 15. Funds above those needed for the purchase and installation of the cabinets will be used to improve the collection. More information is available on the Campaign web page, <http://osac.science.oregonstate.edu/Campaign_2013>.

Odonata of Idaho and Wyoming

For people interested in the Odonata of Idaho and/or Wyoming George Sims has put together a couple of PDF documents bringing together all the observations from OdonataCentral.org (Abbott, 2007–2013; hereafter OC) in one place. (The OC material includes the data from the North American Dot Map Project of Nick Donnelly [county records rather than specific locality records] and the specific location reports submitted to OC by individuals, identified mainly from specimens or photographs.) For each species found in the state there is a distribution map and a listing of all the counties from which the species is known. In addition species listings by county are provided.

For Idaho, the listings do not quite agree with the material from OC. Sims has included the results from Paulson (2011) for Idaho. While locations are not indicated for most of the species in Paulson's listing, they are indicated for two species—one of which has no records at OC. I'm sure that will be remedied soon but for the moment, Sims's document is more complete.

For the Wyoming species, Sims has also indicated some of the other sources for the records. These additional references will be helpful to anyone searching for these species.

Sims's work will save you time and effort and make it easy to see what is known and what needs to be done:

Idaho: <<http://bugsofpopoagie.wordpress.com/2013/03/19/a-distribution-of-idaho-odonates/>>.

Wyoming: <<http://bugsofpopoagie.wordpress.com/2013/03/19/a-distribution-of-wyoming-odonates/>>.

References

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- Paulson, D.R. 2011. The Dragonflies of Idaho. Available at <<http://www.pugetsound.edu/academics/academic-resources/slater-museum/biodiversity-resources/dragonflies/idaho-odonata/>> (accessed 19 March 2013).

News For Lepidopterists

www.ebutterfly.us—A Citizen Science Site

The citizen science butterfly site discussed by Katy Prudic at the Northwest Lepidopterists' Meeting last fall (see write-up in the Winter 2012–2013 issue of the Bulletin) is now open for business. The following news announcement was posted on the website, <<http://www.ebutterfly.us>>, early this year:

“Come one, come all butterfly enthusiasts. eButterfly is now available to organize and store your observations and virtual collections of North American butterflies. Having trouble remembering where you took that picture of the two-tailed swallowtail in your garden? Want to know what you caught last year at your favorite field site? Need to find out where you can look for butterflies locally? Enter your observations and photos in eButterfly and you can have this information at your fingertips whenever you access your account on the website. Also your data can be combined with observations from other members of eButterfly to understand the impacts of global change on butterfly distributions and abundance.”



North American Butterfly Association (NABA), Eugene–Springfield Chapter

For information about upcoming meetings and events check out the Chapter's website, <<http://www.naba.org/chapters/nabae/index.html>>. The group will again be conducting a 4th of July Butterfly Count in the Cascade–Siskiyou National Monument. The result of last year's count is posted on their website.

Lepidopterists' Society Pacific Slope Meeting

Work is progressing on the meeting of the Pacific Slope Division of the Lepidopterists' Society to occur this summer in Oregon. Visit <http://osac.science.oregonstate.edu/pacificslope_2013> for updates as they become available.

Northwest Lepidopterists' Workshop Dates Announced

The 2013 Northwest Lepidopterists' Workshop will be held this fall on the weekend of 19–20 October 2013. The event, hosted annually by Drs. David McCorkle and Paul Hammond, provides the opportunity for people of all levels who are interested in butterflies and moths to meet informally, show and exchange specimens, talk about their exploits and their discoveries, see friends and make new ones.

The groups of emphasis this year will be:

- ▶ Butterflies: Blues and Swallowtails
- ▶ Moths: general moths, especially Geometridae of the Macarias Group

Full details will appear in the Fall Bulletin.

Xerces Society Seeking Milkweeds and Monarch Breeding Locations

Western Monarchs are in decline, and the loss of milkweed plants (*Asclepias* spp.) across their breeding range is believed to be a significant contributing factor. The protection and restoration of native milkweeds is critical to reversing monarch population declines, but to our knowledge there is no single resource with comprehensive information about monarch breeding locations.

As part of our efforts to conserve Monarch butterflies, the Xerces Society is creating a GIS map of known and potential Monarch breeding areas in the western US. We are collecting information on the location of milkweed stands and any Monarch breeding activity observed from knowledgeable citizen scientists, lepidopterists, botanists, and land managers, as well as the published literature, unpublished reports, and herbaria.

If you know where milkweed grows, we would very much appreciate you completing this short web-based survey: <<http://www.xerces.org/milkweedsurvey/>>. It is helpful, but not necessary, to distinguish one milkweed species from another in this survey. A guide to Oregon's native milkweeds is available for download from the site.

Initially, this information will be used to aid Karen Oberhauser (University of Minnesota Monarch Lab) in her plans to evaluate the quality of Monarch breeding habitat in the western US. In the future, we hope that this information can be used to prioritize key breeding sites for protection and/or enhancement.

The survey will be available online through 2013. You can revisit the survey as many times as you like this year to report additional observations. Thanks for helping us further understand and conserve western Monarchs!

The Xerces Society is a nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat.



John Anderson, Hedgerow Farms

5th Annual OSU Student Research in Entomology Symposium

This symposium gives students conducting entomology-related projects in different departments a chance to present their research and solicit feedback in an informal setting. In some cases they can practice the talks that they will give at the upcoming ESA Pacific Division meeting. The Symposium was held on Saturday, 23 February. The following papers were presented:

Observations and trends in the trapping of spotted wing *Drosophila* with fermentation product odors

Joe Kleiber (presenter), Jana Lee and Denny Bruck

The subtlety of speciation: observations on the flower-visiting longhorn beetles of the Pacific Northwest

Phil Schapker

Effects of humidity on developmental parameters and field catches of *Drosophila suzukii*

Sam Tochen (presenter) and Vaughn Walton

Preferences of *Drosophila suzukii*: trap design, food and fruit

Monica Marcus (presenter), Amy Dreves and Joe DeFrancesco

Feeding damage of *Halyomorpha halys*, brown marmorated stink bug, on commercial hazelnuts

Chris Hedstrom (presenter), Peter Shearer, Jeff Miller, Jeff Olson and Vaughn Walton

Identifying a compatible marker for studying movement of spotted wing *Drosophila* (*Drosophila suzukii*)

Jimmy Klick (presenter), Wei Yang, James Hagler and Denny Bruck

Assessing the effects of Pine Butterfly population outbreak in the Blue Mountains of Oregon

Ari DeMarco

By way of clarification *Drosophila suzukii* is also called the spotted wing *Drosophila* (SWD). Both it and the brown marmorated stink bug (BMSB) are non-native insects recently introduced into Oregon. Both species are expanding their ranges in Oregon and have the potential to have a major impact on many food crops produced in the state. More information on both of these insects can be found in the Insect Pest Prevention and Management (IPPM) Section of the Oregon Department of Agriculture's website <<http://www.oregon.gov/ODA/plant/ippm/pages/index.aspx>>.

If you are interested in learning more about some of the graduate research being carried out at OSU, look through the theses on the library website, <<http://oasis.oregonstate.edu/>>. Theses are available as PDF files which can be downloaded from the website.



Three photos of a dance fly, *Empis* sp. (Diptera: Empididae) in Vancouver, Washington, 8 April 2011. Left, a male; middle, male with prey; right, a copulating pair with the female grasping a "nuptial gift" of prey provided by the male (note that the trio are all hanging from the branch by the male's front legs). Photos by Jim Johnson. From a distance these little flies don't look like anything special, but a close look reveals their very long proboscis. I typically notice *Empis* in this area around late March and early April when they seem to be fairly common around small trees and shrubby vegetation in the vicinity of wetlands (where I am mostly looking for dragonflies and damselflies). Though largely predatory, *Empis* also visit flowers (presumably for nectar) and I did see several visiting the blooms of Tall Oregon-Grape (*Berberis* [or *Mahonia*] *aquifolium*) the day I took these photos—the female in the right photo sports a dusting of yellow Oregon-Grape pollen.