

BUTTERFLY HABITAT IN WEST EUGENE WETLANDS  
 BASED ON POTENTIAL HOST PLANTS AVAILABLE

These comments are an examination of the nine most common butterflies surveyed by the NABA team in Spring/Summer of 09 with respect to:

1. The reported use of host plants by this species in Andy Warren's review **Butterflies of Oregon**
2. The potential host plants available at Dragonfly Bend or Briggs Farm
3. What is the normal pattern of emergence of Willamette Valley Butterflies. Does our survey demonstrate peaks of emergence as reported in the literature.?
4. What questions for future investigation are suggested by this review?

**ORANGE SULPHUR**-*Colias eurytheme*. In Lane Co Eugene area is reported to occur from February (Warren) to late fall. Gary Pearson saw a Orange Sulphur in March at Jasper Cliffs. Warren reports fresh Spring-form adults indicating that they survive the winter. One person has reported that larvae do not diapause and continue to feed throughout the winter (Ae 1958). Pyle notes that larva winter over in 3-4 instar stage in warm winter areas. Pyle suggested our Orange sulphurs were likely to be from CA. Our survey with June captured Orange Sulphurs who were fresh, that seems to indicate that they enclosed here in Willamette valley. They did not look like tattered travelers. **Potential research area**

In addition to local Orange Sulphurs, CA immigrants repopulate the Northwest each year in great numbers. Orange sulphurs use a wide variety of native and introduced plants of the Pea Family. These include the following genus who are represented by the following species in DRF Bend and Brigg's Farm:

Genus	Native	Introduced
Lotus	Lotus formosissimus L. seaside Lotus micranthus small-flo. Deervetch	L. corniculatus

1.

	*Lotus unifoliolatus Spanish clover
Lupines*	*Lupinus polyphyllus Large leafed Lupinus affinis fleshy lupine Lupinus bicolor field lupine Lupinus rivularis stream lupine

Glyceria                    \*Glyceria occidentalis W. Mannagrass

Reported introduced species used as host plants: Introduced species of Trifolium are present including T. repens, white clover, T. pretense red clover, T, arvense called rabbit foot clover and T, dubum least burr clover.

Introduced species of Vicia are present including V. cracca—bird vetch, V. hirsuta—Hairy, V. sativa – common vetch, and V, tetrasperma –slender vetch.

Introduced Melilotus alba white sweet clover is also present

Orange sulphurs are known to use all of these genera but not every species has been recorded.\* indicates recorded native species. Warren indicates that 3-4 broods may be produced. Our data shows three peaks June 12 (27 individuals), July 24 (47 individuals) and September 11 (59 individuals).

Follow up questions: **Do our early forms of Orange Sulphurs have the coloration indicating Spring Form? What native or introduced plant (s) are being used by Orange Sulphurs in the wetlands.?** Pyle reports Asters, red clover and rubus (among those plants listed in our sites) are **nectar plants for the Orange sulphur. Can we add to this list??**

**Do any of these Orange sulphurs remain in our territory ? Mark and release strategy?** They might be easy abundant butterflies to study. **How frequent are white(alba) females? Are all females white in early spring?**

#### **EASTERN TAILED BLUE- Cupido comyntas**

Warren notes that Eastern Tailed Blues fly in two annual broods from mid-April to Mid June and then from July through September. Our tallies do show two peaks the first (smaller) on May 22 ( 34 individuals) and the second on July 10<sup>th</sup> ( 155 individuals). We had a somewhat cold spring Do they fly in mid-April??

Larva Host plants in Oregon (Warren) are a variety of Pea Family plants including native species Lotus unifoliolatus var. unifoliolatus, and introduced Lotus corniculatus. Both found in our wetland locations. Also species of Trifolium (see above under Orange sulphur). Other legumes are listed but not for Oregon. Because we are surrounded by hay fields this butterfly is certain to be common and not necessarily resident on our sites.

#### **SACHEM SKIPPER Atalopedes campestris**

The Sachem is known to have expanded its range. It appeared first in the Willamette valley in mid 1960's and has continued its expansion in the counties along the Columbia. Experts expect it to appear in every county of Oregon in time. Since our agriculture thrives on fine grass production the Sachem is likely to find host plants here. Its hosts are "numerous grasses"(Pyle) Warren lists Poa species like pratensis (not on our lists). Several introduced grasses in this genus available here but in our specific plots Dragonfly Bend has Poa annua (annual bluegrass). Numerous other grass species occur here which MIGHT be host plants for this species.

Apparently **the caterpillar rolls up in the grass with its head sticking out. Can it be found??** We should consult the book of David James and Dave Nunnallee? For their procedures of rearing and on what plant species?

The Sachem has three peaks of annual broods: Mid-May and June with a form darkened below, Mid July through August with a form pale above and below, and Mid-September through early November a form variably darkened. Our counts indicate three peaks (the first is small) on count dates of June 26 (7 individuals) , August 14<sup>th</sup> (24 individuals), and finally September 25 (19 individuals). There were still 9 individuals on October 9<sup>th</sup> so they may continue into November as indicated above.

Questions: **Can we determine these color variations for the three broods.Can we find host grass plants for this species??**

**OCHRE RINGLET** Coenonympha tullia. Ochre Ringlets are wide spread butterflies with color variations in various part of Oregon but are believed to be the same species everywhere. Where our Ringlets are dark in CA they almost white. This is a hardy butterfly flying in colder weather than most others. Abundant in grassy open area and hence the third most abundant butterfly recorded in our

survey.

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“No details of the larval foodplant used by population in Oregon have yet been presented” says Andy Warren. We have recorded food plants elsewhere (CO and B.C.). Species recorded and available here are :

	Native	Introduced
POA	Poa scabrella	Poa annual annual bluegrass
FESTUCA	Festuca idahoensis Idaho fescue	
Bunch grasses	Festuca californica CA fescue	
FESTUCA	Festuca roemerii Romer's fescue	F. arundinacea Tall fescue
CAREX	Carex densa Dense sedge	
	Carex feta	
	Carex obnupta Slough sedge	
	Carex tumulicola Foothill sedge	
	Carex unilateralis One-sided sedge	Carex ovalis hare sedge

There is more information (no doubt easier to obtain) on nectar sources for Ringlets. They include:

Pyle lists the following natives which are recorded on our sites: Brodiaea (B. elegans), Achillea millefolium (Yarrow), Aster ( Pyle lists only occidentalis) Our sites include Asters Curtus, and Hall's.

Questions? **What host plants are used by Ringlet caterpillars? Can we add to nectar sources for this butterfly?**

**COMMON WOOD NYMPH**—Cercyonis pegala. Andy Warren notes that there is a single annual brood in Oregon usually beginning in late June to mid September. Our survey showed one annual brood.(one graphed peak). Our dates may not have caught the first Wood Nymphs as already on July 10<sup>th</sup> there were 18 wood nymphs. Perhaps the emergence began in the two week interval before this count date.(This would have been late June). Our Wood Nymphs disappear before September ending August 30<sup>th</sup> with one individual. Again we may not have caught the exact end, but close enough.

Food plants for Common Wood Nymph caterpillars are difficult to determine as often the females drop their eggs in flight known as “**haphazard**”**ovipositing** In CO known host plants are Poa and Fescue species. See above for those locally available. Checking again with the expected book of David James and David Nunnallee may assist us in host plant identification. Warren notes that male Wood nymphs often patrol tree and shrub edges. I believe we discovered them in such sites along the pond areas and tree edges. Males are known to use willow sap and scat. Both sexes nectar at flowers. Pyle does not list any native flowers on our list. He does list and we do have non-native thistles which might be a nectar source.

**So what nectar sources do Wood Nymphs use in the West Eugene Wetlands?**

**PAINTED LADY** Vanessa cardui. The most cosmopolitan of all butterflies which uses many host plants , does have two favorites: Thistles and Mallow family plants. These are represented in our sites by:

	Native	Introduced
SIDALCEA	Sidalcea virgata Dwarf Checkermallow	

SidalceaCusickii' ssp. Purpurea Cusick's checker mallow

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Cirsium

Cirsium arvense Canada thistle

Cirsium vulgare Bull thistle

Lupinus Local Lupines available here are indicated under Orange Sulphur

According to Andy Warren: Painted Ladies do not survive the winter in Oregon, or anywhere with frost or freezing temperature. It is believed all are immigrants from CA. These days many early butterflies may be released from the projects of rearing in our school districts. Painted ladies can produce two broods when they arrive early to Oregon. Our graph MIGHT suggest an early brood which we just caught on our first count. **It might be interesting to see if the butterflies caught in that early date (5/8) were worn or fresh butterflies. If worn they are probably CA immigrants and then we have one brood recorded with a peak of 6 individuals on June 26.**

**COMMON CHECKERED SKIPPER**—Pyrgus communis. This butterfly uses members of the Mallow family as host plants. It has been observed by Paul Severns in the Willamette Valley(2004)as a larva associated with Sidalcea malviflora virgata( also known as S. virgata) , Sidalcea cusickii and Sidalcea campestris. The skipper overwinters as a full grown larva, it wraps itself into a text made of host plant leaves. In Spring it pupates in the litter beneath the plants.

The flight time for this skipper indicates 2 broods :early: late April to late June and second: late July to early October. Surprisingly despite few numbers our study suggests two broods : May22 (2 individuals then a gap of 6 weeks . The second brood is recorded on July 24(4 individuals) continuing in the next two survey dates with 1 individual each period(8/14 and 8/30).

Nectar plants: among our plant list,Pyle records only thistles and probably the Mallow host plants as nectar. **Can we record any other nectar sources for this butterfly?**

**Can we locate the larva wrapped in it leaves?**

Interesting both the Checkered Skipper and the Painted Lady reply on Mallow and Thistles. I wonder if there are some important chemicals shared by those two plants that might be of value to butterflies.?

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Plebejus acmonii **Acmon's Blue** . Our survey recorded the presence of Acmons from July 24 to survey end on October 9<sup>th</sup> (still no frost). Warren notes at lower elevations an early brood might be expected from mid-April to June. If so then our Acmons are the second brood commonly emerging from late July through September.

Although Acmon's Blue most commonly uses buckwheats Eriogonum (not present in our locale) they are have Lotus as an alternative host plant.

Native present

Introduced plant present

Acmon's Blue Lotus unifoliatus var. unifoliatus

Lotus corniculatus Bird foot trefoil

Other Polygonums like P. persicaria

Lotus corniculatus has been recorded before as a host plant in Lane Co. (no author given). Lotus unifoliatus has been recorded as a host in N. CA by Shapiro. Pyle also indicates that Lupines can be host plants for this species.(See complete Lupine list available under Orange Sulphur). Observers have indicated that Acmons Blue are ant tended. **Questions: Are Acmon's using one or both of these Lotus plants. Lupines?? Are they ant tended??**

**Silvery Blue**—*Glaucopsyche lygdamus*: occurs in vernal conditions on a variety of legumes.

Native hosts present

Introduced possible hosts

*Lotus unifoliatius*

*Lotus corniculatus*

Lupines many .See complete list under Orange Sulphur

Our survey records Silvery Blues from May 8 to June 12<sup>th</sup> in the end of our Spring period. They are reported to overwinter as chrysalids.

**Questions : What host plants and nectar plants are Silvery blues using in our locale? Can ant tending be documented as has been reported elsewhere?**

**Field Crescent *Phyciodes pulchella***—Warren notes that in the Willamette Valley Field Crescents are **local colonies associated with prairie environments**. There is one flight as recorded here from mid May to early July. Our survey recorded 5 individuals on May 12 only. Composites particularly Asters (Now called *Symphiotrichum*) are listed as host plants elsewhere as **NO record of larval foodplants for Oregon has been presented**. Potential composites on our two sites include:

Native potential Composite hosts

Introduced possibilities

**Hall's aster** *Symphiotrichum hallii*

Oxeye daisy *Leucanthemum vulgare*

*Wythia augustifolia* Mules ear's (rumored to be a host are present on our sites. They are more common at Willow Creek site.)

Other composites include Oregon sunshine *Eriophyllum lanatum* and

Gumweed --*Grindelia intergrifolia*

Nectar plants are reported to include asters, and other composites, pearly everlasting ,and scat used. **Questions: What are the host plants for Field Crescent caterpillars?**

So far we have only reviewed 9 of the 19 species recorded. The **survey has picked some patterns of flight time and brood numbers** that I am pleased to observe **follow peak time and emergence patterns noted elsewhere in the Willamette Valley**. I think this indicates an established butterfly community many using these two sites. . The **survey was well done!** David deserves great credit in extending the survey time. Without that extension we would not have recorded the expected peak times for many species.

. I am entranced with the exceptional list of the **almost 100 native plants now growing** or beginning to grow on our two sites. Many butterfly plants are available for which we have not found the corresponding butterfly:for example, there are **Mustard family plants for possible Sara's Orange Tip** and **Lomatiums that are wonderful for Anise Swallowtails**. We still may see other butterflies in addition to Fender's Blue and Great Coppers which we hope to see soon on these two sites.

My intent here is to produce some questions that we may consider next season in our butterfly observations or for use as Citizen Scientist studies. Other questions we might consider??

Warmly--Ellie