SCHUH’S HOMOPLECTRAN CADDISFLY (HOMOPLECTRA SCHUHI) SURVEYS IN SOUTHWESTERN OREGON

FINAL REPORT FROM THE XERCES SOCIETY TO THE INTERAGENCY SPECIAL STATUS SENSITIVE SPECIES PROGRAM (ISSSSP)
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Huntley Springs. Photo by Rich Hatfield / The Xerces Society.

BY RICH HATFIELD, CANDACE FALLON AND MICHELE BLACKBURN
THE XERCES SOCIETY FOR INVERTEBRATE CONSERVATION

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SUMMARY

Rich Hatfield (Xerces Society) conducted surveys for Schuh’s homoplectran caddisfly (*Homoplectra schuhi*) in early June 2016 on the Rogue River – Siskiyou National Forest and the Coos Bay BLM District in Curry County, OR. The primary purpose of these surveys was to determine whether this caddisfly occurred on United States Forest Service (USFS) or Bureau of Land Management (BLM) land in southern Oregon beyond a recently documented location at Flycatcher Springs (Hatfield et al. 2015). The Surveyor visited two locations with spring/seep habitat and successfully collected two adult *H. schuhi* (one male and one female) at the location near Huntley Springs on the Rogue River-Siskiyou National Forest.

Several other species of caddisflies were collected at both locations. A summary of those findings is included in Appendix II.

INTRODUCTION

Schuh’s homoplectran caddisfly (*Homoplectra schuhi*) adults are small (5-10 mm) dark brown or black moth-like insects thought to be associated with springs and seeps. Larvae for this species are unknown but other species in this genus are classified as clingers that spin nets or create fixed retreats (Merritt et al 2008).

Until recently, this species was known from only two records in southern Oregon. However, recent work by area Trichoptera experts has determined additional collections to be *H. schuhi*, expanding the known range for this species up into the Oregon coast range and the Willamette Valley (Ruiter 2014, pers. comm.). The species is now known from at least ten different sites in Oregon and is suspected to be more widespread in southwest Oregon and northern California (Ruiter 2014, pers. comm.). This species is now documented in the Lakeview BLM District, the Siuslaw National Forest, and the Rogue River – Siskiyou National Forest, and is suspected on the Fremont-Winema National Forest.

Schuh’s homoplectran caddisfly adults have been collected in the spring and early summer, from late March through July. Larvae are potentially present year-round as some *Homoplectra* species require more than one year for complete development.

SURVEY PROTOCOL

SITE SELECTION

The surveyor selected survey sites based on the 2015 observation of *Homoplectra schuhi* at Flycatcher Springs on the Rogue River – Siskiyou National Forest. Since 2016 surveys were combined with a visit to Windy Valley (RRS) for *Polites mardon* surveys, we used maps and aerial photography to select suitable habitat to survey on the Coos Bay BLM and the RRS near Windy Valley and the 2015 documented site at Flycatcher Springs.
SURVEY PERIOD

The flight period of *H. schuhi* in Oregon is suspected to occur from March through July, depending on location and elevation. However, this caddisfly has been identified from a wide range of elevations (from nearly sea level to potentially 6000 ft.) across its range. The surveys documented below occurred within the known flight period for this species, and within the elevational gradient known to contain suitable habitat.

SAMPLING METHODOLOGY

The surveyor followed the general Trichoptera and species specific survey protocols for *H. schuhi* developed by Foltz (2008b) and Fallon (2014). Surveys took place between the hours of 9 a.m. and 5 p.m. on a still day with minimum air temperatures above 15.5 °C (60 °F). The surveyor spent more than two hours carefully surveying each site and sweep netting vegetation adjacent to seeps and riparian areas. Individual adult caddisflies were collected by sweep netting, or by collecting them straight into a vial via aspirator. Overall, the surveyor found that sweep netting used in conjunction with visual surveys was the most successful method for collecting caddisflies. Caddisflies observed in flight could be caught midair with a net. Although recommended as a potential survey technique, I did not use beat sheets for these surveys, as I thought that this technique may damage the delicate seep vegetation. Since adult males are needed for positive species confirmation, the search effort was focused on adults. Representatives of all adult caddisfly species observed were collected for identification by a Trichoptera expert.

SURVEY RESULTS

A map of all known localities is provided in Appendix I. See Appendix II for a summary of findings. Below, we provide photos, maps, and a brief description of the survey site.

JUNE 1, 2016: HUNTER CREEK BOG

On June 1, 2016, R. Hatfield surveyed the Hunter Creek Bog ACEC – 10.6 miles from US 101 on Hunter Creek Rd (NF3680) – on the Coos Bay BLM in Curry County, OR. SURVEY TIME: 12:15 p.m. – 16:30 p.m. (255 minutes).

Habitat description: This habitat is a mix of dry chaparral type vegetation mixed with dense coniferous forests and riparian corridors. There are also several ephemeral wetland/pond areas throughout the area. Dominant vegetation included *Azalea, Salix sp.*, *Gaultheria shallon, Lithocarpus densiflorus*, and *Prunus virginiana*. R. Hatfield walked through approximately 13 hectares of habitat, and surveyed (using the protocol described above) two separate locations within the survey area (see Map 1). All adult caddisflies were collected at the more northwesterly of the survey sites (green dot).

Collections: The target species was not identified at this site, but adult caddisflies were collected and identified; three male *Wormaldia anilla*, two female *Farula* sp., and three male, and one female *Rhyacophila blarina*. All specimens were determined by Bob Wisseman.
Map 1: Map of area surveyed at Hunter Creek Bog ACEC. White polygon represents the area walked, the dots represent survey locations. All adult caddisflies identified by B. Wiseman were collected at the green dot.

Figure 1: Dried up pond in Hunter Creek Bog ACEC - site can be seen in the far North of the polygon in Map 1. Photo by R. Hatfield 6/1/16.
On June 2, 2016, R. Hatfield surveyed the area surrounding Huntley Spring – 24.9 miles from US 101 on Hunter Creek Rd (NF3680) and NF 400 – on the Rogue River-Siskiyou National Forest in Curry County, OR. SURVEY TIME: 15:00 p.m. – 17:00 p.m. (120 minutes).

Habitat description: This habitat is on a sloped hillside downslope from a mixed conifer stand intermixed with areas that were burned in the Biscuit fire in 2002. There are numerous draws, seeps, and springs in the area. Dominant vegetation in these riparian areas included several grasses, Azalea sp., Salix sp., Gaultheria shallon, Lithocarpus densiflorus, Darlingtonia californica, and Prunus virginiana. R. Hatfield walked through approximately 8.4 hectares of habitat, and surveyed (using the protocol described above) two separate locations within the survey area (see Map 2). All adult caddisflies were collected in the small draw/spring to the west of Huntley Spring.

Collections: Two individuals (1 adult male, 1 adult female) of the target species were collected at this site; in addition to the target species there was 1 male Wormaldia occidea, and 1 adult male Dolophilodes dorcus. All specimens were determined by Bob Wiseman.
Figure 3: *Darlingtonia californica* population near collection site of *Homoplecra schuhi*. Photo by R. Hatfield, taken 6/2/16.

Map 2: Map of survey area near Huntley Spring, Rogue River - Siskiyou National Forest.
RECOMMENDATIONS FOR FUTURE WORK

In his determination notes for this species from the specimens for this survey effort B. Wisseman (pers. comm. 2016) states: “current descriptions and illustrations are inadequate to distinguish between *Homoplectra alsea* and *H. schuhi*. Identifying as *H. schuhi* until the types can be compared”. From this, and other similar notes, it is clear that there are taxonomy issues surrounding this genus that need to be clarified. Please see Fallon (2014) for more details on taxonomy.

This rare species appears to be patchily distributed throughout its range, and additional surveys are recommended in similar habitat at or near known record locations throughout southwest Oregon, the Coast Range, and the Willamette Valley. Any additional seep/spring sites identified in the region should also be surveyed during the appropriate adult flight period (April through July) to determine presence or absence of this species.

The immature stages of *H. schuhi* are still unknown and have not been described. Future surveys at known sites should target not only adults for positive species identification, but also larvae and pupae. Collection of larvae and pupae would help to clarify the poorly documented natural history for this species. Care should be taken to not negatively impact the delicate seep habitat that these animals depend upon, nor to impact populations through overcollecting. Research is needed to identify diagnostic characters useful in separating the larvae of all described *Homoplectra*. DNA analysis of fresh material within the genus may be particularly useful given the relatively subtle differences in morphological characteristics of this genus. Specimens collected during 2016 surveys were all preserved in 95% ethanol to facilitate future DNA analysis. At present, minor variations in male genitalia are the basis for species designations; taxonomic review may ultimately lead to synonymization with older described species (Wisseman 2003).

ACKNOWLEDGEMENTS

We are thankful to Bob Wisseman, who provided expert advice on how to survey for this species and identified the specimens collected during our surveys.

REFERENCES


Ruieter, David E. 2014. Personal communication with Candace Fallon.


Wisseman, R.W. 2016. Personal communication with Candace Fallon.
Map 3: Known Oregon locations of *Homoplectra schuhi*. 2016 record is circled in yellow.
APPENDIX II: TABLE OF ALL SITES SURVEYED IN 2016

* Target species are listed in **bold**.

<table>
<thead>
<tr>
<th>Survey Date</th>
<th>Forest or District</th>
<th>Survey site</th>
<th>UTME (NAD83, Zone 10)</th>
<th>UTMN (NAD83, Zone 10)</th>
<th>Survey area (acre)</th>
<th>Elev. (ft.)</th>
<th>Species collected</th>
</tr>
</thead>
<tbody>
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<td>6/1/2016</td>
<td>Coos Bay BLM</td>
<td>Hunter Creek Bog ACEC</td>
<td>392312.05</td>
<td>4691900.94</td>
<td>32.1</td>
<td>1,758</td>
<td>Wormaldia anilla, Farula sp., Rhyacophila blarina</td>
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<tr>
<td>6/2/2016</td>
<td>Rogue River – Siskiyou</td>
<td>Huntley Spring</td>
<td>405032.64</td>
<td>4690025.38</td>
<td>20.8</td>
<td>3,590</td>
<td>Homoplecta schuhi, Wormaldia occidea, Dolophilodes dorcus</td>
</tr>
</tbody>
</table>