

SCHUH'S HOMOPLECTRAN CADDISFLY (*HOMOPLECTRA SCHUHI*) SURVEYS AT FLYCATCHER SPRINGS IN SOUTHWESTERN OREGON

FINAL REPORT FROM THE XERCES SOCIETY TO THE INTERAGENCY SPECIAL STATUS SENSITIVE SPECIES PROGRAM (ISSSSP) Assistance agreement L13AC00102, Modification 3



Flycatcher Springs. Photo by Rich Hatfield / The Xerces Society.

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SUMMARY

Rich Hatfield (Xerces Society) conducted surveys for Schuh's homoplectran caddisfly (*Homoplectra schuhi*) in late May 2015 on the Rogue River – Siskiyou National Forest in Curry County, OR. The primary purpose of these surveys was to determine whether this caddisfly occurred on United States Forest Service (USFS) land in southern Oregon. The Surveyor visited one historic location with spring/seep habitat and successfully collected one adult *H. schuhi*.

Two additional specimens (juveniles) of *Namamyia plutonis* were also collected. *N. plutonis* (OR-STR) was previously documented on the Rogue River – Siskiyou NF (Foltz 2008a). This is the first record of this species that we know of since 1999. Foltz (2008a) species fact sheet for this species suggests that a re-evaluation of this species' status known sites is critical in identifying both its current distribution and its conservation needs. Small, cool, densely forested streams in old-growth or mature forest watersheds are good candidates for new population sites (Foltz 2008a and references therein). However, since this location does not meet the description of those forests, it is possible that the search area would need to be expanded to include seeps and springs in what might otherwise be considered unsuitable habitat. Foltz (2008a) recommends that this species should be conserved by protecting and conserving all new and known sites and their associated watersheds from practices that would adversely affect any aspect of this species' life cycle. Riparian habitat protection, including maintenance of water quality, substrate conditions, and canopy cover, would likely benefit and help maintain this species.

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, 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

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.

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 9am and 4pm on a still day with minimum air temperatures above 15.5 °C (60 °F). I spent more than three hours carefully surveying the site, sweep netting vegetation adjacent to the seep and examining the substrate. Individual adult caddisflies were collected by sweep netting, or by collecting them straight into a vial. Overall, the surveyor found that sweep netting used in conjunction with visual surveys was the most successful method for collecting caddisflies at this site. 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. The Surveyor also searched through the substrate for larvae and pupae of the target genus. I searched for larvae by collecting handfuls of sediment from the stream bottom, and hand filtering through the debris and rocks for caddisflies. 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 table of the locality of Flycatcher Springs and Appendix III for a map of the area surveyed in 2015 at Flycatcher Springs. Below, we provide photos and a brief description of the survey site.

MAY 27, 2015: FLYCATCHER SPRINGS

On May 27, 2015 R. Hatfield surveyed Flycatcher Springs – 13.1 miles from US 101 on Hunter Creek Rd (NF3680 - NF1703) – on the Rogue River-Siskiyou National Forest in Curry County, OR. SURVEY TIME: 13:00 PM – 16:30 AM (210 minutes)

Habitat description: This hillside seep/spring occurs on the upslope and downslope sides of a gravel road. It is heavily vegetated and hosts a noticeably different and denser plant community than the surrounding hillside. The spring itself is approximately 70 feet above (west of) the road. Dominant seep vegetation included *Azalea*, grasses, and *Darlingtonia californica*. The tree overstory includes *Chamaecyparis lawsoniana*, mixed pine (*Pinus attenuata* and *Pinus lambertiana*), *Arbutus menziesii*, *Pseudotsuga menziesii* and *Calocedrus decurrens*. The water flowing from the spring was cool and slow-flowing. Runoff collects in a small ditch running parallel to the road and is directed under the gravel surface via a culvert. Both sides of the road were searched. Seep substrate includes loosely packed rocks ¼" to 2" diameter in addition to duff, downed wood, mosses, and forbs. Water flow is a low trickle through the substrate, including both surface and subsurface flows.

Human impact: This site is directly adjacent to a gravel road, and seep runoff is directed through a culvert to the other side of the road. Traffic appeared minimal during our surveys but passing vehicles could contribute to dust deposition on roadside seep habitat.

Collections: One *H. schuhi* adult (one male) was collected above the road from spring source via sweep net midair. Two larvae (5th instar) of another sensitive species (OR-STR, RRS Documented), *Namamyia plutonis*, were collected

in the substrate below the road). An additional adult male caddisly (*Dolophilodes novusamericanus*) was collected below the spring. All specimens collected were determined by Bob Wisseman.

SITE 1 – FLYCATCHER SPRINGS



Figure 1: Open area approximately 50 feet below Flycatcher Springs, directly above road.



Figure 2: *Darlingtonia californica* near Flycatcher Springs.



Figure 3: Roadside ditch above, and parallel to road; below spring.



Figure 4: Vegetation below road (SE side) on the other side of the culvert.

RECOMMENDATIONS FOR FUTURE WORK

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 should target not only adults for positive species identification but also larvae and pupae, where possible. Collection of larvae and pupae would help to understand 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. 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 2015 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).

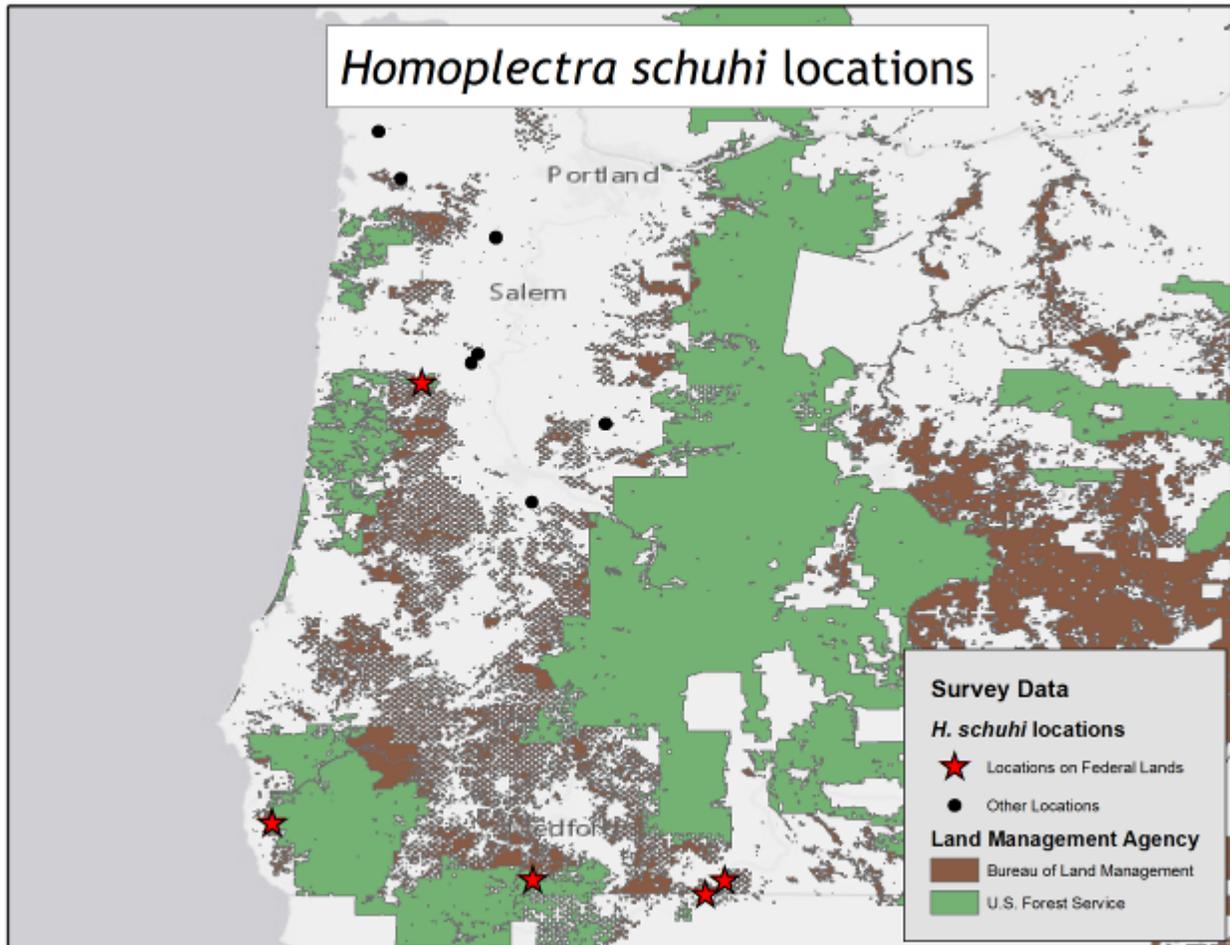
ACKNOWLEDGEMENTS

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. We thank Sarina Jepsen for final review of this report.

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APPENDIX I: MAP OF KNOWN *H. SCHUHI* RECORDS IN OREGON



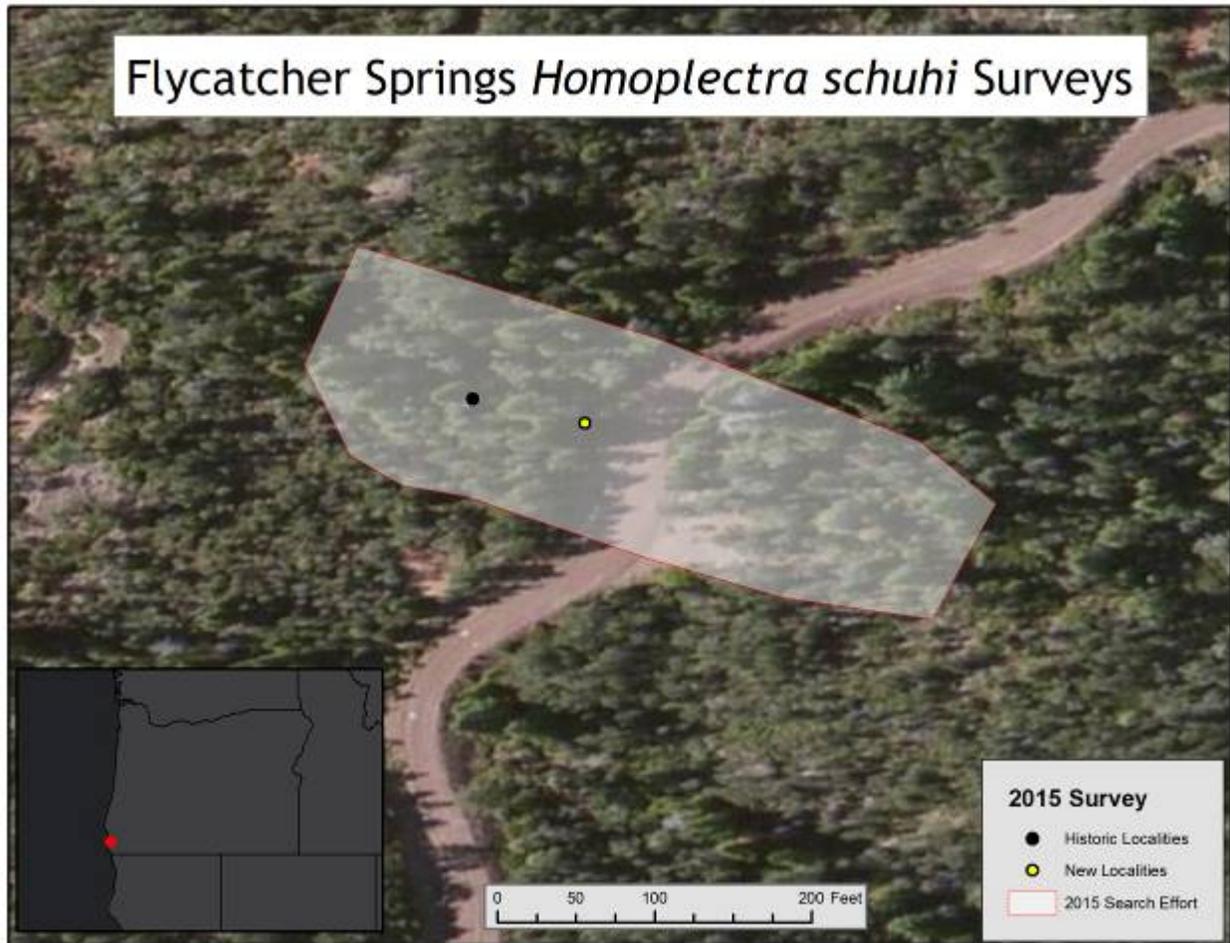
Map 1: Known Oregon locations of *Homoplectra schuhi*

APPENDIX II: TABLE OF ALL SITES SURVEYED IN 2015

* Target species are listed in **bold**. Other ISSSSP sensitive species are underlined.

Survey Date	Forest or District	Survey site	UTME (NAD83, Zone 10)	UTMN (NAD83, Zone 10)	Survey area (acre)	Elev. (ft.)	Species collected
5/27/2015	Rogue River – Siskiyou	Flycatcher Spring	393609.7	4690101.0	1.68	2,465	<i>Homoptera schuhi</i> , <i>Dolophilodes novusamericanus</i> , <u><i>Namamyia plutonis</i></u>

APPENDIX III: MAPS OF 2015 SURVEY SITES



Map 2: Map of 2015 Survey Site.