

SCIENTIFIC NAME: *Goeracea oregona*
COMMON NAME: Sagehen Creek goeracean caddisfly
CLASS, FAMILY: Insecta, Goeridae (some authors place in Limnephilidae)

ORIGINAL DESCRIPTION: Denning, D.G. 1968. New and interesting North American Trichoptera. Pan-Pacific Entomologist 44:25-26, fig. 14, 14A-C (lateral view of male genitalia, dorsal view of tenth tergum and clasper, ventral view of clasper, ventral view of aedeagus), fig. 15, 15A-B (female genitalia, dorsal view of tenth tergum, bursa copulatrix).

TYPE MATERIAL: *Holotype:* Adult male - Oregon: Jackson Co.; 16 miles SE Ruch, French Gulch Rd., 22 May 1961, collected by Joe Schuh; deposited in California Academy of Sciences, type #16177. *Allotype:* Adult female - same data as holotype. *Paratypes:* 9 males, 1 female - same data as holotype. Allotype and paratypes presumed deposited in California Academy of Sciences.

RANKING/STATUS: G2S1S2 (NatureServe-CNDDDB).

DESCRIPTION: There are only two species in the genus; the second, *G. genota*, does not occur in California. Males of *G. oregona* are about 7 mm in length, brown overall with the head and thorax darker brown. In both species, the dorsal warts on the head are similar to those of *Lepania cascada* (Wiggins 1973, fig. 22). Maxillary palpal segments are all similar in thickness, and the middle and terminal segments are about the same length. Females are similar in size and general appearance to males. Wiggins (1973) gives detailed descriptions of both the genus and the species in all stages.

DIAGNOSTIC CHARACTERS: Larvae of the genus are small, up to 5.4 mm in length, and unusual; the dorsal surface of the pronotum of the thorax is rounded, flattened, and thickened laterally. When the larva withdraws into its case with its head tucked ventrally, these thoracic modifications serve to tightly seal off the anterior end of the case. Gills are single. Larval cases are curved, tapered, and constructed of rock fragments with rows of larger rock pieces laterally. The posterior opening of the case is nearly closed by a silken membrane. Besides collection locality, the larvae of *G. oregona* can be separated from those of *G. genota* by the presence of a small sclerite at the base of *sa* 1 (setal area 1) on the metanotum of the thorax; larvae of *G. genota* lack this sclerite (illustrated in Wiggins 1973 fig. 11a).

OTHER ILLUSTRATIONS:

Merritt and Cummins (1996) illustrate the dorsum of the thorax of *Goeracea* poss. *oregona* (p. 366 fig. 18.124) and the larval case (p. 367 fig. 18.129).

Wiggins 1996, pl. 16.2A-G, illustrates *G. genota*, showing generic characters of the larva and case. (Several of these illustrations are also shown in Wiggins 2004, fig. 61D-G.)

Wiggins 1973 (figs. 13-16) illustrates the pupa of *G. genota*; the male and female genitalia of *G. oregona* are shown in fig. 28A-D and fig. 32A-C, respectively.

DISTRIBUTION: Originally described from Jackson Co., Oregon, but now known from several localities in Oregon and California. Almost all California specimens are from Nevada and Sierra Counties, but a penultimate larva from Mount Tampalpias in Marin County may possibly be this species (Wiggins 1973). Contrary to the common name, the species is not present in Sagehen Creek.

HABITAT: Relatively warm (9-11° C) spring sources.

LIFE HISTORY/BEHAVIOR: *Goeracea oregona* has a lengthy emergence period, with adults collected at one location from June to October. The collection of several different life stages in July suggests that this species takes two years to complete its development. The larvae are usually found on rocks, and feed on fine particles and vascular plant parts that they scrape with their toothless mandibles. Erman (1998) observed near-flightless mating behavior for this species and noted that while locally common in benthic samples, it was not abundant in emergence traps.

SELECTED REFERENCES:

- Erman, N.A. 1998. Invertebrate richness and Trichoptera phenology in Sierra Nevada (California, USA) cold springs: sources of variation. Pp. 95-108. *In: Studies in crenobiology: The biology of springs and springbrooks* (Botosaneanu, L., ed.). Backhuys Publishers, Leiden, The Netherlands.
- Erman, N.A. and C.D. Nagano. 1992. A review of the California caddisflies (Trichoptera) listed as candidate species on the 1989 federal "Endangered and threatened wildlife and plants; Animal notice of review." *California Fish and Game* 78(2):45-56.
- Merritt, R.W. and K.W. Cummins. 1996. *An Introduction to the Aquatic Insects of North America*. Kendall/Hunt Publishing Co., Dubuque. 862 pp.
- Wiggins, G.B. 1973. New systematic data for the North American caddisfly genera *Lepania*, *Goeracea*, and *Goerita* (Trichoptera: Limnephilidae). *Contributions of the Royal Ontario Museum of Life Sciences* 91:1-33.
- Wiggins, G.B. 1996. *Larvae of the North American caddisfly genera*. 2nd Edition. University of Toronto Press, Toronto. 457 pp.
- Wiggins, G.B. 2004. *Caddisflies: The Underwater Architects*. University of Toronto Press, Toronto, Buffalo, London. 292 pp.

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