April 2003

Host Range Extension for *Chlorochlamys Chloroleucaria* (Geometrinae, Geometridae) to Include *Eriogonum Alatum* (Polygonaceae)

Kathleen H. Keeler  
*University of Nebraska*

George J. Balogh

Follow this and additional works at: https://scholar.valpo.edu/tgle

Part of the Entomology Commons

**Recommended Citation**

Keeler, Kathleen H. and Balogh, George J. 2003. "Host Range Extension for *Chlorochlamys Chloroleucaria* (Geometrinae, Geometridae) to Include *Eriogonum Alatum* (Polygonaceae)," *The Great Lakes Entomologist*, vol 36 (1)  
DOI: https://doi.org/10.22543/0090-0222.2072  
Available at: https://scholar.valpo.edu/tgle/vol36/iss1/3

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.
HOST RANGE EXTENSION FOR CHLOROCHLAMYS
CHLOROLEUCARIA (GEOMETRINAE, GEOMETRIDAE) TO INCLUDE
ERIOGONUM ALATUM (POLYGONACEAE)

Kathleen H. Keeler* and George J. Balogh

Chlorochlamys chloroleucaria (Guenée) is a common moth of eastern North America, recorded from Nova Scotia south to Cuba and Mexico and as far west as Manitoba, the Black Hills of South Dakota, Wyoming and central Colorado (Boulder and El Paso counties) (Ferguson 1985). Hosts recorded include members of the Apocynaceae, Caryophyllaceae, Myricaceae, Rhamnaceae, Rosaceae, and especially Asteraceae (Achillea, Aster, Chrysanthemum, Eupatorium, Gutierrezia, Helianthem, Helianthus, Parthenium, Rudbeckia, Solidago, Veroncia, Zinnia) (Ferguson 1969; 1985). The Pacific Coast species, Chlorochlamys triangularis Prout has Eriogonum fasciculatum (Polygonaceae) as its reported host plant and C. appellaria Pearsall of the southwestern United States has been reared from E. fasciculatum, E. tenellum and Baccharis (Asteraceae) (Ferguson 1985). This is the first report of Chlorochlamys chloroleucaria using a member of the Polygonaceae as a host.

In 2001 and 2002 we collected specimens of Chlorochlamys chloroleucaria from Eriogonum alatum Torr., winged false buckwheat. Eriogonum alatum occurs at elevations of 5000-10,000 feet on both sides of the Rocky Mountains, from Utah (Welsh et al. 1987) to western Nebraska, southeastern Wyoming (Dorn 1977) to western Oklahoma and the Texas panhandle to Arizona (Great Plains Flora Association 1986).

On 1-2 Aug. 2001, 50 plants of E. alatum were collected into paper bags in City of Boulder Open Space, Boulder, CO. No larvae were observed at the time. In midwinter, three pupae were discovered in the paper bags as the plants were measured. The three pupae were placed in plastic freezer boxes with one gram of dry E. alatum tissue and about 1 ml water. Freezer boxes were refrigerated at 18°C for up to 3 months. In March 2002 closed boxes were placed on the lab bench at 25°C in natural light. The three moths that emerged were identified as two males and a female of Chlorochlamys chloroleucaria (Guenée) by the second author. Genitalic preparations were compared with the figures and descriptions of Chlorochlamys species in Ferguson (1985). Voucher specimens were deposited at Colorado State University, Fort Collins.

Seven additional C. chloroleucaria adults were found while dissecting E. alatum, having apparently successfully pupated in paper bags stored at 22-25°C in the lab. The total was 10 C. chloroleucaria adults collected from 50 Eriogonum alatum.

A survey for Chlorochlamys in August 2002 found a mean of 0.12 larvae (SD. 0.71) for 253 plants on City of Boulder Open Space land. One plant had 8 Chlorochlamys chloroleucaria and in one spot, there were 3.23 larvae per plant (SD. 5.86) for 12 plants. All sites were on the gravelly soils within 2 km of the intersection of Route 93 and Route 128, Boulder Co, CO. Eriogonum alatum is common at these sites.

Eriogonum alatum is gynodioecious. Larvae were equally distributed between female and hermaphrodite plants (χ² = 0.04, not significant, df =117).

Ferguson (1985) describes the larvae as green (pictured in Wagner et al. 2001 p. 165). Some larvae were green, but most were yellow (14 of 14 in a count in Aug. 2002). Larvae freeze into a stem-like position when disturbed which provides excellent concealment in the open canopy of this plant. Twice, small pupae of C. chloroleucaria were observed hanging by one end in the plant canopy. During 1-5 September 2002, instars ranged from 0.5 to 1.5 cm in length.

* School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118.
1 School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118.
2 6275 Liteolier St., Portage, MI 49024.
ACKNOWLEDGMENTS

We thank the City of Boulder Open Space and Mountain Parks for their support and assistance.

LITERATURE CITED


