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## HOST RANGE EXTENSION FOR *CHLOROCHLAMYS CHLOROLEUCARIA* (GEOMETRINAE, GEOMETRIDAE) TO INCLUDE *ERIOGONUM ALATUM* (POLYGONACEAE)

Kathleen H. Keeler<sup>1</sup> and George J. Balogh<sup>2</sup>

*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*, *Helenium*, *Helianthus*, *Parthenium*, *Rudbeckia*, *Solidago*, *Vernonia*, *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 ( $\chi^2 = 0.04$ , 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.

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