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BIOLOGY OF THE MYRMECOMORPHIC PLANT BUG *COQUILLETTIA INSIGNIS* UHLER (HETEROPTERA: MIRIDAE: PHYLINAE)

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Abstract.—The basic biology of *Coquillettia insignis* Uhler (Heteroptera: Miridae: Phylinae) is described, including details of its growth, morphology, phenology, behavior and ecology. The distribution and abundance of this species over 20 sites in an eastern Oregon valley was studied, as well as its temporal and spatial relation to its host plant *Lupinus caudatus* Kell. Twelve species of ants were collected on *L. caudatus* of which six species were common; temporal, behavioral and morphological correspondence of these six species to various stadia of *C. insignis* are described. We identify several species of vertebrate and visual arthropod predators that could potentially serve as operators in the Batesian mimicry system to which *C. insignis* probably belongs.

Coquillettia insignis Uhler (Miridae: Phylinae) is a highly myrmecomorphic (ant-like) plant bug traditionally recognized as belonging to the tribe Hallodapini. This predominantly Old World tribe is comprised entirely of ant-like species and contains some of the most convincing morphological and behavioral 'mimics' of ants. With the exception of *Cyrtopeltocoris* Reuter, the New World genera of the tribe (*Coquillettia* Uhler, *Orectoderus* Uhler, *Teleorhinus* Uhler) and the Palearctic genus *Ethelastia* Reuter are now considered to form a monophyletic group distinct from other hallodapines (R. T. Schuh, pers. comm.). The less ant-like genus *Pronotocrepis* Knight also seems to belong to this group, although its current placement is in the tribe Phylini (Carvalho, 1958).

Coquillettia is a North American genus comprising 22 species, all of which have females with remarkably ant-like appearance. Many species are very similar in external morphology and general coloration, making species recognition difficult. The lack of a comprehensive comparative study of the genus compounds the difficulty in obtaining accurate species identifications. Our determination of *C. insignis* for the present study was based on an examination of type specimens at the National Museum of Natural History, Washington, D.C. Although our study material was most representative of the type of *insignis*, we recognize that this species is highly variable as currently known, and that a careful comparative study of *insignis* and related species may alter the existing classification and nomenclature of the group. From our study of museum specimens and literature records (Carvalho, 1958 and included references; Kelton, 1980), it is evident that *insignis* is widely distributed in western North America (Fig. 1). It is typically associated with plants of the genus *Lupinus* L., but also has been reported (by label data) feeding on *Astragalus* L. and *Oxytropis* DC.