

Observations on the Biology of *Plagiognathus chrysanthemi* (Hemiptera: Miridae), a Pest of Birdsfoot Trefoil in Ontario¹

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ABSTRACT

In eastern Ontario, in 1959 and 1960, a small mirid, *Plagiognathus chrysanthemi* (Wolff), caused severe damage to Viking birdsfoot trefoil. Feeding injury killed many of the newly formed buds and one or more florets on the larger buds; only about 20% of the buds reached the bloom stage and most of these were partly damaged. The insect had not previously been reported as a pest of economic importance in North America. Other important host plants were: the true clovers, *Trifolium* spp.; *Medicago sativa* L.; *Vicia cracca* L.; *Chrysanthemum leucanthemum* L.; *Potentilla argentea* L.; and *Verbascum thapsus* L. After wintering in the field most of the eggs hatched within a 10-day period in late May.

The nymphs underwent five instars in about 34 days and were most abundant from May 26 to June 26. The adults appeared in late June and fed on buds and blooms for 10 to 14 days before laying eggs. The females lived 20 to 66 days and laid 12 to 179 eggs, averaging 80. The eggs were laid in July and August and entered a diapause until the following spring. In birdsfoot trefoil, most of the eggs were laid in the top 2 to 5 inches of the green stems and in the peduncles; these parts measured 0.64 to 1.60 mm. in diameter, averaging 1.04 mm. General descriptions of the eggs, nymphs, and adults are given.

During the past few years a small mirid, *Plagiognathus chrysanthemi* (Wolff), has proved in eastern Ontario to be an important pest of birdsfoot trefoil and of potential economic importance in other forage crop legumes, especially alfalfa. The insect feeds on the developing buds and appears to be important only in crops grown for seed production; the single generation of nymphs is most abundant in June and

therefore only the first annual growth is seriously affected.

The writer first recorded *P. chrysanthemi* in abundance in clovers, alfalfa, and birdsfoot trefoil during insect surveys in eastern Ontario in 1951 (Guppy 1958), and later in the same crops in southwestern Ontario and in the Kapuskasing area. Occasional observations up to 1958 associated the injury caused by this insect with poor yields of seed of Viking birdsfoot trefoil. Hence, critical studies on the biology of this mirid were begun in 1959. This paper

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