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## CHRYSOPHANUS DORCAS KIRBY, AND RELATED SPECIES IN THE UPPER PENINSULA OF MICHIGAN.

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The principal object of this paper is to present some observations upon three species of *Chrysophanus*, *dorcas*, *epixanthe* and *helooides*, which were found in Dickinson County during the summer of 1909, while the author was collecting insects for the Michigan Geological and Natural History Survey. Through the courtesy of Dr. Alexander G. Ruthven, Chief Field Naturalist of the Survey, I am enabled to give these notes in advance of the full report.

Up to the time these observations were made, I could obtain no authentic records of any of these butterflies from Michigan, except of *dorcas* from the Lower Peninsula. But on this expedition definite data were secured of the occurrence of all three in Dickinson County, in the Upper Peninsula. From the time of arrival of the party in the field diligent search was made for both *dorcas* and *epixanthe* and their food-plants, as it was particularly desired to add to the knowledge of the distribution of these species in Michigan.

The food-plant of *dorcas*, the shrubby cinquefoil (*Dasiphora fruticosa*), which I discovered in the summer of 1908, while making investigations upon this insect in the southern part of the State, was not found by us in Dickinson County until the second of August. On this date a member of the party brought in a spray of the plant from Waucedah, a small town some sixteen miles south of Brown Lake. On the fourth of August I was able to visit the locality, and found, just east of the railroad station at Waucedah, many acres of the shrubby cinquefoil (locally called "nine-bark"), (pl. IV, fig. 1). It was very thrifty, the bushes being fine large ones, and few having the dwarfed appearance of those often seen in Oakland County, in the southern part of the State. In fact, in spots it fairly crowded out all other vegetation. Notwithstanding the late date, the imagoes of *dorcas* were abundant; some of the males were worn and some in good shape, while all of the females observed, with one exception,