

were in fine condition. No pairs in copulation were seen, and no eggs were found upon examination of a large bunch of the cinquefoil. The bright condition of the butterflies, absence of eggs, etc., indicated one of two things—either *dorcas* appears much later in the northern part of the State than in the southern, or the season of 1909 was unusually late. The latter was undoubtedly the case, for the species was taken in good condition in both sexes in Oakland County the same summer on July 25th, a date at least two, perhaps three, weeks later. Further observations, however, are needed on the exact time of appearance in a normal year, since the past two summers (1908 and 1909) in which this species has been studied, have been unusually backward in Southern Michigan. While the difference in latitude might account for a slight difference in the dates of appearance, it should be noted that the conditions which the bogs present to the butterflies, at least in the vegetation and low temperature, are probably little different north or south in the State, for the bogs in Southern Michigan preserve their boreal character, although set in more southern surroundings.

Until we found them at Waucedah, our search for the *fruticosa* and *dorcas* had been confined to the country about Brown Lake, practically entirely away from the inroads of civilization. Apparently very favourable localities existed for the plant about the margins of the bogs and lakes in that region, but it could not be found. I mention this, as it would seem that *Dasiphora fruticosa* and its tenant *dorcas* can enter such regions only after the latter have been altered by man, or that considerable open areas (natural or artificial) about the borders of bogs, etc., are necessary for the successful establishment of this shrub.

I was able to make only one other short trip to the Waucedah habitat on the ninth of August. The condition of the females, still bright and fresh and more numerous than five days before, two pairs in copulation and only slight evidence of oviposition (only two eggs having been found on a large lot of *fruticosa*), emphasized the late flight of the species.

Sixty females were collected, and I find that the most noticeable difference between this series of females and those taken in Southern Michigan lies in the predominant amount of yellow in the northern ones (form *florus*). There is not a specimen in the lot that does not show an indication of yellow, while in about one-fourth of them it is conspicuous in a nearly complete band adjacent to the outer side of the transverse row of black spots. In the others there are various gradations in the amount of yellow down to an almost entire absence of that colour. This is in