

mile 1416, within about 100 miles of Fairbanks. They were always flying high and fast across the road, as if bound for some place. Near Dawson Creek on August 4 we saw our first *Speyeria* in Canada, apparently *S. atlantis lais* Edw. This was the last significant collecting we did on the trip, for our time was running out, and we were due back in St. Louis.

My impressions of the trip, from the standpoint of butterfly collecting, are largely disappointment at the relative scarcity of specimens and also one of wanting to go back and try again. If one could travel along the Alaska Highway as slowly as he pleased, searching thoroly, and take a whole summer to do it, he might turn up important things. Surely the weather could not be so bad again! At one place we stopped, at Lesser Slave Lake, a man told us they had not had so much rain in 16 years. At any rate, it was a marvellous trip, and one to add to our store of pleasant memories.

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NOTES ON *ANTHOCHARIS SARA* AND *REAKIRTII*

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When a series of *Anthocharis reakirtii* Edw., which were the offspring of a female *A. reakirtii*, emerged in February and March, 1942, I was puzzled about the relation of this form to *A. sara* Bdv. Within the next eight years I reared several more broods of *A. reakirtii* obtaining the same results as with the first lot. Most of them emerged after ten or eleven months in the pupal stage; a few remained in this stage twenty-two months, and two as long as thirty-four months.

In May, 1950, two confined *A. sara* oviposited. One of these was collected in La Tuna Canyon, Verdugo Mountains; the other, in the Santa Monica Mountains: both localities in Los Angeles County, California. These ova hatched in four or five days, and the larvae pupated in late June. From these chrysalids, seven male and nine female *A. reakirtii* emerged in February, March, and April, 1952. The majority are slightly larger and have more yellow on the under side between the orange patch and the apex of the primary than any of the offspring of *A. reakirtii*.

The results of these rearings seem to indicate that there are two types of *A. reakirtii*: one, the offspring of *A. reakirtii*; the other, the offspring of *A. sara*. I presume that a mating of a pair of the *A. reakirtii* which were offspring of *A. sara* would have produced a brood of *A. sara* that might have emerged this May when *A. sara* was unusually abundant in this canyon. The only *A. sara* I have reared emerged May 9, 1941, only sixteen days after pupation of the larva which was collected on *Descurainia pinnata* at Dume Point, Los Angeles County. Is it possible that the majority of the *A. sara* spend only a few weeks in the pupal stage?

Since the male parent was unknown in every brood of *Anthocharis* with which I worked, no definite conclusions can be drawn. Only extensive breeding experiments can solve the problems involving *A. sara* and *reakirtii*.

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