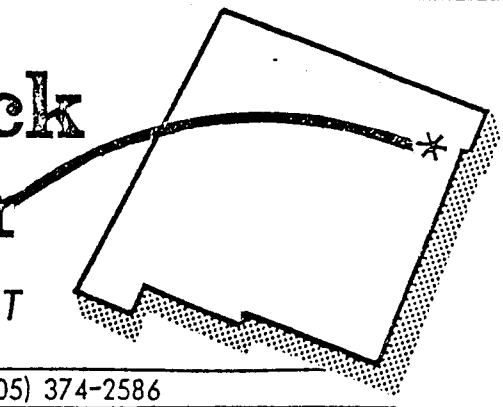
Agricultural Experiment Station U.S. Department of Agriculture

Clayton Livestock Research Center



PROGRESS REPORT

Route 1 Box 109 Clayton, New Mexico 88415 Tel. (505) 374-2586

Progress Report 6 (December, 1978)

THE RATE OF EGG PARASITISM OF THE RANGE CATERPILLAR BY ANASTATUS SEMIFLAVIDUS FROM SELECT AREAS OF UNION COUNTY

The previous progress report discussed the distribution of the eupelmid wasp, Anastatus semiflavidus Gahan, an egg parasite of the range caterpillar, Hemileuca oliviae Cockerell (Lepidoptera: Saturniidae). This report briefly examines the rate of egg parasitism.

Range caterpillar egg masses were collected between February and April 1978, from 40 study sites in Union Co. The number of egg masses per study site was from 13 to 185, and totaled 2733 for the entire study. The number of eggs in an egg mass was estimated by multiplying the length by the diameter of the egg mass. This method has been used successfully for the last few years to estimate the amount of eggs. Average number of eggs per egg mass was 123 (± 18). Egg masses were reared together according to location, and parasitism was determined by counting the number of emergence holes.

Table 1 shows the maximum data obtained. The highest percent of egg masses parasitized, the highest percent of parasitism within an egg mass and the second highest average percent of parasitism were all from the same location, 13 mi NE of Grenville. The sample from 7 mi SSE had high parasitism, too. Other samples also had 10% or more parasitism. This demonstrates that in some areas egg parasites initially reduce the range caterpillar population by 10% before the eggs even hatch. At low caterpillar densities, this may mean the difference between spraying or not.

Table 1. Maximum data summary of egg parasitism study.

Item	%	Sample Size	Location
Highest % of parasitized egg masses	85	13	13 mi NE Grenville
	48	27	07 mi SSE Clayton
	44	50	07 mi S Clayton
	43	91	12 mi NE Clayton
Highest % parasitism per egg mass	55	--	13 mi NE Grenville
	41	--	07 mi S Clayton
	34	--	07 mi SSE Clayton
	25	--	12 mi NE Clayton
	22	--	10 mi N Clayton
	22	--	11 mi NE Des Moines
Average % parasitism per egg mass	15	27	07 mi SSE Clayton
	12	13	13 mi NE Grenville
	11	69	11 mi NE Des Moines
	10	50	07 mi S Clayton
	10	46	17 mi NNW Clayton

reas where no egg parasites were found, even n large samples, are in Table 2. Parasites ay be present in these locations, but below conomically significant levels. Many factors egulate parasite populations, and key ones re often difficult to identify.

--James D. Hansen
Research Associate
Range Caterpillar Project

Table 2. Areas where no egg parasitism was found during egg parasitism studies.

Location	Sample Size
11 mi SW Mt. Dora	13
09 mi SW Grenville	17
07 mi SW Mt. Dora	17
20 mi N Clayton	17
06 mi SSE Des Moines	19
11 mi SW Clayton	28
09 mi N Gladestone	35
11 mi S Capulin	36
15 mi W Clayton	43
08 mi S Capulin	114

onstruction of the feed mill at the Clayton Livestock Research Center is nearly complete. The ill was designed to meet research needs. Equipment includes steam processing for grains, dry oller, pre-mix mixer, batch mixer and scales, molasses tank, tallow tank, grain and other eed ingredient storage and roughage wagons and conveyors. This equipment will allow process-ng and mixing of the many different experimental cattle diets which are planned. We expect a onsiderable improvement in efficiency of operation as a result of milling our own custom iets. This new mill is open for your inspection and we encourage visits to the center.

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