that were collected in the 4th instar and examined only at that stage of their development. We categorized all these larvae as males, but later examination of the pupae showed four males and a female. These results agree with our findings for colonized *H. cecropia* larvae (Table 1).

The findings from this study should be of interest, and perhaps of applied value, to lepidopterists, dealers, and researchers who colonize or study giant silkworm moths.

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## A METHOD FOR HANDLING EGGS AND FIRST INSTAR LARVAE OF *CALLOSAMIA PROMETHEA* (SATURNIIDAE)

In an earlier paper (Miller & Cooper, 1976, J. Lepid. Soc. 30: 95–104) we reported the use of portable outdoor cages to effect the mating of various giant silkworm moths, including *Callosamia promethea* (Drury). Since that time we have conducted studies to evaluate methods for the collection of eggs and the transfer of newly-hatched larvae to food plants.

We routinely collect eggs from giant silkworm moths by placing fertile females in paper bags where they can oviposit on the inner surfaces. For larvae reared outdoors, we turn the paper bags inside out and place them in sleeve cages already attached to branches. For larvae reared indoors, we cut the bags into small pieces of paper containing the eggs masses, and these are variously attached to food plant cuttings. These methods are not novel and have long been used, with variations, by lepidopterists who colonize giant silkworm moths (Crotch, 1956, A silkmoth rearer's handbook, The Amateur Entomologist's Society, London; Taschenberg & Roelofs, 1970, Ann. Ent. Soc. Amer. 63: 107–111; Waldbauer & Sternburg, 1973, Biol. Bull. 145: 627–641; Dirig, 1975, Growing moths, N.Y. State College of Agriculture & Life Sciences). For large-scale indoor colonization of giant silkworm moths we found that the time required to cut around the egg masses and then attach them to the food plants was unacceptable. Therefore, we developed a modified procedure for collecting the eggs and transferring the larvae to food plants. This paper reports our results with *C. promethea*.

We used 12 *C. promethea* females, each placed in a brown paper bag (lunch size) on the first night after mating. The following morning the female moths were removed and the bags, containing the eggs, were folded to their original flattened configuration and held for 8 days. On the 9th day 3 fresh wild cherry (*Prunus*) cuttings, each 15–20 cm long and containing 4–5 large leaves, were inserted into each bag. The tops of the bags were folded over about 1.5 cm and a small hole was made at the crease to allow the stems to protrude about 5.0 cm. The bags were inverted and the stems were placed in water containers. Observations of hatching and migration of larvae to the food plants were made by carefully opening the creased end of the bags and looking inside.

The eggs hatched on the 10th day and the larvae crawled about on the inner surfaces of the bags; a few transferred to the wild cherry leaves, but none of these were observed feeding. By the end of the 11th day most of the larvae had transferred to the food plants and were feeding. Observations were continued through the 13th day after oviposition, but no additional larvae transferred to the food plants after day 11. On the 14th day the bags were removed and cut open to record rele-

TABLE 1. Results of oviposition and larval transfer studies with *Callosamia promethea* (Drury).

| Female Number | Number Eggs Deposited | Number Eggs Hatched | Percent Hatch | Number Larvae[1] Transferring to Food Plant | Percent[2] Transferring |
|---|---|---|---|---|---|
| 1 | 73 | 69 | 94.5 | 68 | 98.5 |
| 2 | 71 | 65 | 91.5 | 55 | 84.6 |
| 3 | 87 | 82 | 94.2 | 45 | 54.8 |
| 4 | 77 | 69 | 86.6 | 66 | 95.6 |
| 5 | 57 | 57 | 100.0 | 49 | 85.9 |
| 6 | 92 | 91 | 98.9 | 46 | 50.5 |
| 7 | 57 | 54 | 94.7 | 50 | 92.5 |
| 8 | 16 | 15 | 93.7 | 15 | 100.0 |
| 9 | 34 | 32 | 94.1 | 28 | 87.5 |
| 10 | 52 | 52 | 100.0 | 42 | 80.7 |
| 11 | 40 | 39 | 97.5 | 37 | 94.8 |
| 12 | 48 | 44 | 91.6 | 41 | 93.1 |
| | 704 | 669 | 95.0 | 542 | 81.0 |

[1] By second day after hatching.
[2] Number on food plant/number hatched.

vant data. The wild cherry cuttings, containing the 1st-instar larvae, were placed in rearing cages along with other colonized *C. promethea* larvae and no further records of this group of experimental larvae were kept.

We have concluded from the results obtained with this modified procedure (Table 1) that it is an effective and efficient method for handling eggs and 1st-instar larvae of *C. promethea*. Of the eggs that hatched (95%), 81.0% of the larvae migrated to the food plants within two days. We consider this percent transfer to be very acceptable, in view of the fact that we were able to obtain 542 1st-instar larvae on food plants in rearing containers with only a minimum of effort on our part.

We have also found that this procedure gives acceptable results in obtaining eggs and 1st-instar larvae for the indoor colonization of *Antheraea polyphemus* (Cramer) and *Eupackardia calleta* (Westwood), but we have not collected any detailed experimental data for the transfer of these species to food plants.

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## *HYPOSOTER FUGITIVUS* (ICHNEUMONIDAE) PARASITIC WITHIN *MEGALOPYGE OPERCULARIS* LARVAE (MEGALOPYGIDAE)

The puss caterpillar, *Megalopyge opercularis* (J. E. Smith), is quite important from the medical standpoint since it is highly poisonous.

On collecting larvae of this species from oak trees (*Quercus*) in New Orleans at the end of June 1976, some were noticed to be distinctly underdeveloped and quiescent. The latter were attached to leaves and measured only 7–8 mm. Most