larvae and pupae along Poso Creek into January, after they could no longer be found on the valley floor, may indicate that milder temperatures in the foothill belt favored their survival.

Field observations at Poso Creek were extended to determine whether this persisting population of older larvae and pupae was culminating in successful emergence of adults. Three metal cylinders (12 inches in diameter) were set perpendicularly in the creek in about a foot of water and adapted to serve as emergence cages. Pupae were collected and placed in the cylinders and inspected each day from January 12 to 23 for adult emergence. The entire procedure was repeated from January 25 to February 5. A total of 74 adult *C. tarsalis* (37 males, 37 females) emerged during the two periods. Adults of other species that emerged were: *Culiseta inornata* (Williston) (155 males, 82 females), *Culex erythrothorax* Dyar (2 males, 1 female), and *Anopheles franciscanus* McCracken (1 female).

Bellamy and Reeves (1963) believed that overwintering of *C. tarsalis* in Kern County depended upon an autumn generation of adults and that the mated females persisted through early winter, took blood in January and February, and subsequently deposited eggs in the early spring. The present observations are consistent with these interpretations; however, they also indicate that occasionally an overlapping of autumn and spring brood populations of the aquatic stages may occur under favorable conditions.

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OBSERVATIONS ON THE LIFE CYCLE OF *Culex quinquefasciatus*

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With many species of mosquitoes showing resistance to insecticides, there is a growing emphasis on screening of insecticides using both adult and immature mosquitoes. To give information of this type, the life cycle of the Isla Verde strain of *Culex quinquefasciatus* was studied. Larvae were collected from a cistern near the International Airport, Isla Verde, Puerto Rico, and brought to the School of Medicine, University of Puerto Rico, San Juan, Puerto Rico for rearing. The adults were allowed to feed three nights a week on month-old chicks which were restrained and placed in the cage with the mosquitoes. Sugar water was available to the mosquitoes at all times. Glass finger bowls filled with distilled water were put into the cage as oviposition sites. The egg rafts were placed in individual containers and the numbers of eggs per raft were counted. The larvae were fed on guinea pig food. After the first three days of growth, the food and water were changed daily until pupation ceased. The pupae were placed in pint fruit jars with screen covers, where the adults were allowed to emerge. The rearing area was in a well ventilated room, in which the temperature and humidity fluctuated with the outdoor environment.

Over a period of a month, 50 egg rafts were selected at random from the finger bowls. Larvae appeared during the first day after collection, pupae appeared from the 6th to 20th day, and adults appeared from the 7th to the 20th day. The average time needed to reach the adult stage was 10 days. Ten percent of the egg rafts did not produce larvae. The egg rafts contained from 55 to 236 eggs with an average of 129. Forty-seven percent of the mosquitoes reached the adult stage from the egg, 66.2 percent reached adulthood from the 4th stage larvae and 88.9 percent of the pupae became adults.

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LABORATORY NOTES ON SNIPE FLY LARVAE (RHAGIONIDAE: *Symphoromyia*)

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FEEDING. To determine the nature of the feeding habits of *Symphoromyia* larvae some medium-sized to almost mature larvae of species A and/or B, and species C of Sommerman (1962) were kept in soil in small shell vials, each accompanied by another soil-inhabiting larva. All of the *Symphoromyia* larvae that fed pierced the integument of the prey with their mouth parts. They pushed their heads in far enough to leave a gaping hole in the integument, and then apparently predigested the soft internal tissues. Examination of the remains of the prey indicated that generally one feeding hole sufficed for draining the prey, but if the carcass were sharply bent there were two feeding holes, one on either side of the bend; otherwise the tissues beyond the bend were still intact.

Larvae of *Symphoromyia,* species C, ate other dipterous larvae, (some of which were themselves predacious) and new pupae, coleopterous larvae, larvae of *Symphoromyia* sp. A–B, and smaller larvae of sp. C. Hence species C is cannibalistic.