for males and 3.0% to 69.1% for females) (Nayar 1978). Fewer blood-seeking females (4.6% to 12.6%) showed the presence of fructose than resting females (35.7% to 69.1%). Similarly fewer blood-fed females contained fructose, whether resting (3.0% to 26.0%) or blood-seeking (0.0% to 15.4%). During the 11 days of collection, there were fluctuations in the relative quantities of glucose and fructose (Nayar 1978). The presence of these free sugars in the recaptured adults showed that they had imbibed a nectar meal, since unfed mosquitoes do not contain free sugars, and did not show fructose or glucose in the chromatographic tests. Twelve hours after their release, 100% of the resting females contained both glucose and fructose (1.9 units of glucose and 1.1 units of fructose), as compared to having neither at emergence. As the resting females aged, the number which contained fructose declined. Whereas most of the recaptured resting females (98.4%) contained glucose, and only 65.3% contained fructose (Nayar 1978).

Metabolism of Carbohydrates

Mosquitoes emerge with varying levels of energy reserve (stored glycogen and triglyceride), the amount of which is species specific (Nayar 1968b, Nayar & Sauerman 1970b). If newly emerged mosquitoes are starved for 2 to 4 days, their energy reserves become depleted and they begin to die. However, if mosquitoes are fed a meal of simple sugar prior to death, it is rapidly absorbed (Nayar & Sauerman 1975a, Van Handel 1965, Van Handel & Lum 1961). When sugar is imbibed, its rate of utilization follows an exponential curve of decline in which the rate of its disappearance is proportional to the amount of sugar present. This sugar is converted into energy reserves (glycogen and triglyceride), and as the amount of free sugar declines, the female becomes increasingly dependent on these reserves. When *Cx. nigripalpus* females (average weight 2.0 mg per female) were fed a meal of 1.6 μL of 50% glucose, they utilized the glucose at a rate of 34 hours per cal (4.19 joules) per mg (Nayar & Sauerman 1975a). An analysis of these females at 24-hour intervals, indicated that the exponential rate of decline was followed up to 72 hours, but afterwards a slower rate of decline occurred. As the free sugar was absorbed, glycogen and triglyceride were synthesized and accumulated as energy reserves (Fig. 5). Both glycogen and triglyceride began accumulating within 24 hours after the sugar meal. Glycogen reserves reached a maximum by 24 hours and thereafter gradually declined, however, triglyceride required 144 hours to peak before decreasing. Therefore, glycogen accumulation is not dependent upon the amount of free sugar present, although the accumulation of triglyceride is so dependent.

When newly emerged *Cx. nigripalpus* females were given either a 5%, 10%, or 25% solution of sucrose in a potometer, made from a glass tube 20 cm long and 0.4 cm o.d., bent into a J-shape, one arm 4 cm long and the other arm 13 cm long (Nayar & Sauerman 1974b), the volume imbibed per female per day, was greatest with 5% sucrose solution and least with 25% sucrose solution during the first 5 days (Nayar & Pierce 1980). However, when these volumes were converted to calories per female per day, the caloric intake was much higher on