imagos included the time of molt and the time of death. Physical factors pertinent to subimaginal duration and imaginal longevity were recorded.

We conducted tests for dissolved oxygen, free carbon dioxide, and calcium carbonate to determine possible factors important in nymphal life cycle and distribution. We measured water temperatures 3 inches below the water surface with a pocket thermometer and determined water velocity by the cork flotation method. Water chemistry, pH, and water velocity were recorded at monthly intervals and water temperature at weekly intervals.

Description of the Study Areas

Field studies were conducted at Rocky Comfort Creek and Bear Creek in Gadsden County, Florida. Both streams are tributaries of the Ochlockonee River. The sites for all collections and field studies were: (1) TIN, R3W, S32, a small riffle portion of Rocky Comfort Creek, at bridge on a dirt road 6 miles south of State Highway 268; and (2) TIS, R3W, S30, a short sandy stretch of Bear Creek, at bridge on a dirt road 8 miles south of State Highway 268 and 1 mile north of State Highway 65C (Fig. 6 B).

Rocky Comfort Creek

Rocky Comfort Creek is a small spring-fed stream. It flows approximately 13.2 miles and averages about 33 feet wide. The substratum is mainly of a mixture of sand and clay except in the upper reaches where eroding limestones and riffles prevail. Much of the substratum supports no vegetation.

Along the banks of the creek are thick stands of trees and shrubs whose leaves are the stream's principal source of organic detritus. Among the higher plants are: *Sambucus canadensis* (common elder), *Itea virginica* (sweet spire), *Salix nigra* (black willow), *Carpinus caroliniana* (American hornbeam), *Fagus grandifolia* (American beech), *Pinus glabra* (spruce pine), *P. clausa* (sand pine), and *Quercus nigra* (water oak).

One permanent sampling station was in a riffle area 3.9 miles from the mouth of the stream (Fig. 5); it averaged 15 feet wide by 30 feet long. The basic substratum was rubble and gravel integrated with coarse sand in quieter water. Current velocity ranged from 0.9–1.3 feet per second. Maximuim depth was 2 feet, which dropped as low as 0.5 foot in summer. One-half of the sampling area received direct sunlight. Figure 7 gives seasonal variations in air and water temperatures.