

TABLE 3.—SEASONAL DISTRIBUTION, EXPRESSED BY NUMBER OF NYMPHAL INSTARS COLLECTED PER MONTH, OF *Baetisca rogersi* IN ROCKY COMFORT CREEK, 1967-68.

Instar	1 9 6 7					1 9 6 8						
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
I									142 ¹	76 ¹	10 ¹	
II									19 ¹	3 ¹		
III										1 ¹		
IV												
V				1								
VI				4	2							
VII			2	13	1	1	1					
VIII				8	10	4	7	1	1			
IX					5	12	13	9	3	1		
X					1	4	5	10	1			
XI					1	4	1	9	5	1		
XII						1	41	43	2	1		

¹Laboratory reared specimens only which may not reflect field conditions.

surmise that most eggs did not hatch until temperatures cooled in the fall, and the hatching continued for more than 17 days. The variability and fluctuation of natural stream conditions should prolong hatching beyond those times recorded in the laboratory. Ide (1935a), noting that eggs of *Stenonema canadense* hatched over a period of 6 weeks, assumed that different incubation times for the eggs are genetically based.

Nymphs that did hatch in April were probably killed by the high temperatures and low oxygen content of the water (Figs. 7, 8). Newly hatched nymphs reared in the laboratory at 22.2°-23.9° C died after one molt. When water temperatures were lowered to 18.9°-21.1° C and other variables remained the same, the nymphs lived longer, an indication that temperature is important in survival of early instar nymphs. Ide (1935a) believed that eggs of certain mayfly species remain dormant during summer and those that hatch early are killed by high temperature. Also the low oxygen content of the stream water in summer (Fig. 8) is probably detrimental to the early instar nymphs.

Size measurements of nymphs included total body length, exclusive of caudal filaments, and head width. From these measurements total range of nymphal body length was 0.40 mm for the first instar to 8.80 mm (male) and 9.90 mm (female) for the twelfth instar. Head width ranged from 0.09 mm for the first instar to 2.50 (male) and 2.60 (female) for the twelfth instar.

Figures 17 and 18 give size-frequency distributions of *B. rogersi*