

TABLE 5.—SEASONAL VARIATION IN SIZE OF LAST INSTAR NYMPHS OF *Baetisca rogersi* COLLECTED IN ROCKY COMFORT CREEK.

| Date Collected | Males | | | | Females | | | |
|-------------------|----------------|------|---------------|------|----------------|------|---------------|------|
| | Body length mm | | Head width mm | | Body length mm | | Head width mm | |
| | Range | Mean | Range | Mean | Range | Mean | Range | Mean |
| 1968 | | | | | | | | |
| March | 7.30-8.90 | 8.07 | 2.10-2.40 | 2.26 | 7.60-9.90 | 9.05 | 2.20-2.60 | 2.42 |
| April | 7.20-8.40 | 7.68 | 2.10-2.40 | 2.17 | 7.40-9.60 | 8.63 | 2.10-2.50 | 2.32 |
| May | 6.70-8.00 | 7.36 | 1.90-2.30 | 2.13 | 7.40-8.90 | 8.00 | 2.10-2.30 | 2.10 |
| June ¹ | 7.20 | 7.20 | 2.10 | 2.10 | | | | |
| 1969 | | | | | | | | |
| March | 7.90-8.60 | 8.31 | 2.20-2.40 | 2.30 | 8.50-9.30 | 8.90 | 2.30-2.50 | 2.40 |
| April | 6.90-8.60 | 8.00 | 2.00-2.40 | 2.26 | 8.20-9.60 | 8.81 | 2.10-2.40 | 2.35 |
| May | 6.40-8.00 | 7.37 | 2.00-2.20 | 2.12 | 7.40-9.00 | 8.34 | 2.10-2.50 | 2.47 |
| June ¹ | 7.30 | 7.30 | 2.00 | 2.00 | | | | |

¹Only one specimen.

recognized phenomena, which Landa (1968) classifies as A1 (reduced growth) and A3 (no growth) in his characterization of developmental cycles of European Ephemeroptera.

We classified nymphs from the monthly field collections to instar by comparing them morphologically to those known nymphal instars reared in the laboratory (Tables 3 and 4). The size range of instars from the field varied more than those from the laboratory. Nymphs from the field were generally larger in body size, reaching a maximum body length of 8.9 mm (males) and 9.9 mm (females) compared to 8.0 mm (males) and 8.6 mm (females) for those reared in the laboratory. Also, the range of body size of the different instars from the monthly collections overlapped. For example the body length of eleventh instar males ranged from 6.6-8.1 mm compared to 6.8-8.9 mm for twelfth instar males; the same phenomenon occurred in females. A possible explanation for size overlap is that larger nymphs may be physiologically younger than smaller nymphs (Clifford 1970), or nymphs of the same stage may exhibit different growth rates as Hunt (1953) found in *Hexagenia limbata* (Guerin).

The average size of last instar nymphs collected in May and June was smaller than that of last instars collected in March and April (Table 5). Similar findings were reported by Gledhill (1959) for *Ameletus inopinatus* Eaton, Minshall (1967) for *Epeorus pleuralis* (Banks), and Clifford (1970) for *Leptophlebia cupida* (Say). Following these authors, the larger *B. rogersi* nymphs collected in March would be those that overwintered half-grown; last instar nymphs in May and June would