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Effect of Temperature on the Biology of the Emma Cricket, *Teleogryllus emma* (Orthoptera: Gryllidae)

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The objective of this study was to investigate the development and reproduction of the emma cricket at under various temperature regimes. The influence of temperature on developmental periods of emma cricket was investigated under the eight temperatures of 15, 18, 21, 25, 27, 29, 31 and 35℃, the humidity of 60±5%R.H., and the 16L·8D photoperiod. The developmental periods of *T. emma* nymphs had a range of 124.8 days to 44.4 days at the temperature of 21 and 35℃, respectively. At 15 and 18℃, however, all tested individuals died before emergence. The highest emergence rate was 86.7% at 27℃, but there were no statistically significant differences among the temperatures. The adult weight increased with increasing temperatures although the weight at 35℃ was decreased. In addition, the influence of temperature on reproduction of emma cricket was investigated under three temperatures 22, 25 and 28℃, the humidity of 60±5%R.H., and the 16L·8D photoperiod. The longevity of female/male adults were 65.8/79.2, 68.5/67.8, 46.8/57.4 days at the temperature 22, 25 and 28℃, respectively. The pre-oviposition and oviposition periods were 32.5 and 26.9 days at 22℃, 22.9 and 34.1 days at 25℃ and 22.1 and 21.8 days at 28℃. The highest average fecundity per female was 737.3 at 25℃. As a result, the optimum of temperature for the development and reproduction of *T. emma* were 27~31℃ and 25℃, respectively.