

as in Table I, have been calculated, and are given, together with the temperatures computed from Dolbear's and Bessey's formulas, in Table II.

Table II.—Showing averages of the rates of ten to fifteen individuals of *Ecanthus niveus* at different temperatures :

Date.	Average number of chirps per minute of 10 to 15 individuals of <i>Ecanthus niveus</i> .	Temperature in degrees Fahrenheit.		
		Computed from Dolbear's formula	Observed, taken at 6 ft. elevation, in middle of series.	Computed from Bessey's formula.
Aug. 22...	147.20	76.80	75.8	71.74
Aug. 23.	148.75	77.19	74.9	72.07
Aug. 24.	168.60	82.15	78.8	76.30
Aug. 27...	85.71	61.43	60.4	58.66
Aug. 28.	84.20	61.05	61.5	58.34
Aug. 29.	119.16	69.79	68.2	65.78
Sept. 1....	104.40	66.10	67.0	62.64
Sept. 7...	102.30	65.58	69.9	62.19
Sept. 8....	104.68	66.17	70.9	62.70

Here it appears again that, even when averages are taken, approximately equal rates may accompany widely-differing temperatures (cf. Sept. 1 and Sept. 8), and that the higher rate may occur with the lower temperature (cf. Aug. 27 and 28), though in both cases the discrepancy is less marked than in Table I.

It seems that while there is a general agreement between temperature and rate of chirping, yet it is not possible to express this agreement by any formula. Any temperature calculated from the rate by Dolbear's formula may be over six degrees in error, and over nine degrees when Bessey's formula is used. It follows also from these observations that there can be no accurate synchronism.

b.—EFFECT OF WING LENGTH ON RATE.

In attempting to explain the discrepancies noted above, wing length suggested itself as a possible factor. The effect of wing length was determined as follows: The rates of a number of individuals, say ten or fifteen, were determined, usually within a period of 40 minutes, and the average was computed. One member of the series, whose rate was of course known, was captured, and its wings were measured. Measurement was made by laying the wing, after removal from the body, on a scale