

Wing length, body weight, and geography.—Rand (1961, *Wilson Bull.*, 73:46–56) has questioned the use of length as a reflection of body size in birds, and suggests that weights are more reliable. But unless a very large sample of weights is available misleading results will be obtained.

Baldwin and Kendeigh (1938, *Auk*, 55:416–467) analyzed a large series of weights of many passerine species and found striking variations which could be correlated with air temperature, time of day, and season. In addition, much individual variation was found. Recently, several authors have made similar analyses of various passerine species and genera and the same trends have been found. For instance, Kluijver (1952, *Ardea*, 40: 123–141) weighed 26 Great Tits (*Parus major*) in the evening preceding a cold winter night; the birds were kept until the following morning and during the night they lost nearly 10 per cent of their total body weight. A single Greater Redpoll (*Acanthis linaria*) showed diurnal variation of up to 15 per cent of its total body weight (Shaub, 1950, *Bird-Banding*, 21:105–111). Many other examples could be cited (see general summaries of the problem in Baldwin & Kendeigh, *op. cit.*; and Owen, 1954, *Ibis*, 96: 299–309). Variations in the weight of small birds are much greater than would be expected simply by the filling and emptying of the digestive tract. Hence, the use of body weight as an indicator of geographical trends in size is likely to give misleading results unless a large sample is available, and allowance is made for variation caused by season, time of day, and air temperature. Many of the differences presented by Rand (*op. cit.*) as being indicative of geographical variation in size are smaller than one might expect in a single bird in a restricted area.

Rand (*ibid.*) has rightly criticized the indiscriminant use of wing length as an indicator of size. But he omits discussion of the great variation among individuals of a population. Many of the wing lengths he gives are said to be from “standard taxonomic sources,” and no mention is made of the size of the sample. Almost all the mean weights he gives are based upon very small samples. He does not give the standard deviations, and no estimate of the dispersion about the mean can be made. The standard deviation is a useful calculation to make. From it the variance and coefficient of variability can be found, and differences between populations can be more readily detected. It is not possible, for instance, to judge whether the differences in mean weight of various population of Downy Woodpeckers (*Dendrocopos pubescens*) given in Table 3 of Rand’s papers are real or simply the effect of small samples. It would be nice to know this, since much of his criticism of the works of others depends upon these differences.—D. F. OWEN, *Museum of Zoology, University of Michigan, Ann Arbor, Michigan, 31 March 1961.*