

those incident to wide distribution, with its concomitant differences in environment, we have presented an amount of difficulty before which the most experienced systematist may reasonably pause. Notwithstanding, it is a most interesting assemblage—containing many graceful, grotesque, dainty, bizarre, and beautiful forms, as a glance at the pages of Bolivar's monograph will show—and offers to the student of variation, of evolution of form, a field where he will be put upon his mettle.

A point has been reached, in some genera at least, where the methods of study and publication hitherto in vogue must give way to something better, more thorough and scientific: material must be secured in sufficient series and from particular localities; descriptions, however minute and carefully worded, must be accompanied by drawings of details known or likely to be of diagnostic value, in order to convey a sufficiently definite knowledge of the form described. This plan, which I had hoped to follow in the present treatise, I have reluctantly been compelled to abandon. Nor can I hope to have been more uniformly successful in the discrimination of species than my predecessors.

The sequence of groups and genera is that adopted by Bolivar in his scholarly 'Essai'\*, a work that is a necessity to the student of the subfamily. The keys to genera and species are based upon this, though I have discarded certain characters which experience has shown to be misleading or of little importance—notably that of difference in extent of pronotum and wings, a kind of dimorphism of very common occurrence in the entire family.

The most useful characters of practical value are those drawn from the form and proportions of the eyes, vertex, and facial costa; the form of the pronotum and its parts (exclusive of mere length); of the femora, especially the intermediate; and, to some extent, the proportionate length of the joints of the posterior tarsi. I have also made some use (*e. g.* in *Tettigidea*) of a character not hitherto reported which should be explained here. If a sufficient number of Tettiginæ be examined, it will be noticed that opposite the distal end of the tegmina the lateral carinæ run obliquely downward and backward from the dorsal edge of the disk of the pronotum to the ventral edge of the hind process. Behind this point the dorsal edge of the process is usually formed by a carina which generally is continued forward a greater or less distance nearly parallel to the lateral carina, sometimes not disappearing until after it has crossed the shoulder, and separating in such cases a narrow triangular or linear area from the rest of the disk. This carina I have called the humero-apical carina, and the area cut off by it the scapular area (see figures of *Otumba* and *Tettigidea*). Under measurements, "total length" refers to the distance from the vertex to the end of the pronotum or wings as the case may be.

Besides Bolivar's 'Essai,' the only work worthy of note in connection with the region

\* Bolivar, Ign., "Essai sur les Acridiens de la Tribu des Tettigidæ" [Annales de la Société Entomologique de Belgique, xxxi. pp. 175-313, tabb. 4, 5 (1887)].