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REVIEWS.
Kirkaldy’s Catalogue of the Hemiptera. An appreciation with digressions.*

The appearance of volume I of Mr. Kirkaldy’s Catalogue of the Hemiptera of the world marks an epoch in the study of this group of insects, not alone on account of the quantitative enumeration of the described forms but even more for the foundation it gives us for an up-to-date classification of our Hemiptera. I have ventured to criticise a few features of this catalogue, but I do so not to find fault with a work which is of the highest quality, but as a conservative in matters nomenclatural, I believe a catalogue of this kind should not represent the extreme views of a radical. However, this is but my private opinion and I am well aware that most of our students may prefer the sweeping changes here proposed.

Of greatest interest are the forty pages of introductory matter beginning with a complete but succinct statement of the rules of nomenclature followed by the author. If we cannot agree with all his conclusions we must admit that he has led us a long way toward a stable nomenclature in this order. Following this is a discussion of the classification adopted, a partial Bibliography, an incomplete list of abbreviations and an appendix giving the author’s reason for the selection he has made of types for many of the genera, an item of much importance.

The catalogue proper occupies 361 pages and embraces the family Cimicidae (Pentatomidae) only. It covers the same ground as volume I of the Lethierry and Severin Catalogue, except that the Thysanoptera and Urolabididae are relegated to the second volume, an unfortunate, although doubtless necessary procedure. Following this catalogue are 23 pages of additions and corrections bringing the list down to the end of 1907, and including most names published in 1908 and 1909. At the end is an index to genera, the specific index being held for the second volume.

On looking over this catalogue one is impressed by the remarkable industry, and by the accuracy as well, of the author, but it is a question if he does not lean too much toward the purely bibliographical side of his work. This is especially noticeable in his selection of geno-types, where, for instance, he practically make Fabricius redescribe his own genus Acanthia as Salda. We must bear in mind that the earlier entomologists fixed no types for their genera. That was a later invention which came with the multiplicity of generic names, and we have no right to so fix the types of these earlier genera as to change their meaning. Fabricius founded Acanthia for the Cimex lectularius of Linneus and the name must fall as a synonym of Cimex. When he founded Salda in 1803 he was simply separating out a group of species from his old genus Acanthia which he recognized as generically distinct from lectularius. In the same way I must disagree with our author in his use of the name Cimex. This was the ancient classical name of the bed bug which Linneus certainly considered representative of his genus and Fabricius had no more right to apply this generic name to bidens and its allies than had Latreille to fix zosterae as the type of Acanthia. We have had no more able student of the Hemiptera than Stal, and he in his mature work uses the name Cimex for lectularius.

There is one course adopted by my friend Kirkaldy against which I wish to record my strongest protest. He says on page xiv that the names of families, tribes, etc., should be formed from the root of the “oldest generic name in the respective group.” This is contrary to the rules of zoological nomenclature now almost universally adopted, and is also contrary to the rule of priority for which our talented author is elsewhere so strong an advocate. The family and tribal names should be formed from the “type genus” which I take to mean the genus considered most characteristic by the founder of the family. For instance, the family name Capsidae has priority over Miridae and is founded on a more typical genus and there is no valid reason why it should be replaced by the later name. Our author claims that by following this plan “we would have a family Lygaeidae which did not contain a genus Lygaeus”, which is incorrect as Art. 5, of the Code provides that “the name of a family or sub-family is to be changed when the name of its type genus is changed.”

In the matter of the emendation of generic names Mr. Kirkaldy has, I think, taken the right stand, but perhaps he has carried it too far when elsewhere he adopts the form Cyrtosia for Cyrtosia, when the former was obviously a typographical error. This is taking the responsibility out of the hands of the author and placing it on the typesetter and to be consistent, we should use the name of such typesetter or of the proofreader as authority for the name rather than that of the author.
I wish also here to enter a protest against allowing a name given to the immature form of an insect to replace a later one founded on the adult. If we find an egg or larva new to us we should endeavor to raise it to maturity and learn to what species it belongs. If we have not the ambition or industry to do this we have no right to claim the species. We cannot but admire the strong stand our author has taken on the subject of priority and in the recognition of specific names except as noted above this rule probably cannot be too rigidly applied, but when we come to genera the personal element comes so prominently to the front in the selection of geno-types that it probably is hopeless to look for unanimity. There will be many cases which could well be submitted to an unbiased authoritative commission who could undertake to decide each controverted case upon its merits.

I do not feel competent to discuss the system of classification adopted by Mr. Kirkaldy which differs radically from that of the Lethierry and Severin Catalogue. It is founded on the Schödtian system and is probably the most philosophical thus far proposed. I would, however, like to suggest a few slight changes in the arrangements of the families and in doing this I have restored certain names which I think he has unwarrantably altered. Assuming his phylogeny to be substantially correct, I would list the families as follows:

1. Cydnidae (Thyreocoridæ).
2. Pentatomidae (Cimicidae).
3. Urolabididae.
4. Aradidae.
5. Coreidae.
6. Pyrrhocoridæ.
7. Lygaeidae (Myodochidæ).
8. Tingidae.
10. Gerridae.
11. Reduviiæ.
12. Phymatidæ (Macrocephalidae).
15. Anthocoridae.
17. Polycenidæ.
18. Aërophilidæ.
19. Capsidæ (Miridæ).
20. Dipsocoridæ.
22. Ochteridæ.
23. Nauocoridæ.
24. Belostomidæ.
25. Corixidæ.

It seems to me that the representation of the relationship between various groups of insects of the same category by a phylogenetic tree, printed in two dimensions of space only, on the page of a book is but little more satisfactory than the linear arrangement of a catalogue. A phylogenetic tree to be at all true to nature must be in three dimensions, and in my opinion, many, if not most of its branches, must anastamose at various points with the adjacent branches. This will sound to some like ignoring the principles of evolutionary development, but I do not see how we can escape from this view if we study
the more recent and plastic generic groups where each genus will be found to connect with related genera through intermediate species which may not necessarily have reverted to their parent stock but which do combine the characters of both genera and are characteristic of neither. One student will place such a species in one genus while the next will locate it in another and both may be equally correct. These transition species serve to show us how artificial our generic groups are, and must be if we wish them to be of the greatest service in the classification of our insects.

But to return to the catalogue before us. The enumeration of the genera and species we find to be remarkably complete and accurate and shows a marvelous industry on the part of the author. I have not been over it for omissions or errors and incidentally have noticed but one or two. On page 187 my Platycoris scutellatus is listed as a synonym of Poecilotoma grandicornis, whereas it is a distinct but closely allied species of that genus, and my Dictyotus (?) pallidus (page 43) belongs to Bergroth's recent genus Eurymannus (page 204). Under each genus the species are arranged in alphabetical order, a purely artificial method which has its disadvantages but the use of sub-genera and sectional divisions in a measure compensate for this. Under the specific name the full binomial used by the author is given which will be a great convenience to the student. Another very useful feature is the naming of the types for each genus and sub-genus. On the other hand, our author has used "l. e." much too freely for ordinary reference, and each generic and specific name should have been followed by its authority. We also note that he has given us no table for distinguishing the superfamilies enumerated on page xxi. We are grateful to Mr. Kirkaldy for this first volume of his great catalogue and will look anxiously for the appearance of the later volumes.

Since sending this review to the printer I have learned with deep regret of the untimely death of my friend G. W. Kirkaldy. We have faint hope that someone may be found who can take up the bibliographical work he so ably inaugurated and give us an authoritative catalogue of the Hemiptera of the world.

E. P. VAN DUZEE.


This is a book of 321 pages and is illustrated by 07 figures. The kind of entomology that is here set forth appeals to everyone as it re-