

OBSERVATIONS ON NOMENCLATURE AND TAXONOMY OF COLEOPTERA

By Ralph Hopping

Dominion Entomological Laboratory, Vernon, B. C.

Although the following remarks apply to the Coleoptera of America north of Mexico they are more or less true of the other orders of insects. The definition of nomenclature is "a system of names, as applied to any art or science." These names are supplied by our taxonomic workers.

In Coleoptera, we have had various check lists beginning with Melsheimer's list of 1853, and followed by Crotch's list of 1880, with Austen's supplement, listing 9704 species, rather quickly followed by Henshaw's in 1885 and his three supplements of 1887, 1889 and 1895, where the number of species is brought to 11,255. Then for a quarter of a century no list was published until in 1920 Mr. Chas. Leng brought out the revised check list of 18,547 species followed in 1927 by the first supplement and in 1933 by the second and third supplements. These three supplements added another 3,503 species, bringing our total to 22,050 for North America north of Mexico. During the past few years a number of taxonomic revisions have greatly reduced the number of species in some groups, but these have been more than balanced by the wholesale description of species by some authors. One outstanding increase in species in one genus is from 1895, when it stood at 126, to 1927 when 427 were listed. Most of this increase was due to one author and in my opinion is out of all proportion to recognizable forms. The same thing occurs in many other genera. In fact up to 1927 one writer had nearly doubled our listed species. This implies a condition existing in our nomenclature where revisions are suppressing many more species than are described unless the taxonomic group remains nearly the same as it was in Henshaw's time.

It seems that taxonomic writers have lost sight of the object of these lists. They are supposed to be systematic lists of species, to enable entomologists to look up the literature and definitely determine insects submitted to them for identification. This is fundamental, for upon these identifications the economic entomologist must base his decision as to the status of the insect in relation to plant or animal life.

In addition to our enormous number of species, we have in our check list under certain letters a-b-c-d-etc., scientific names including a conglomeration of subspecies, variations, colour varieties and aberrations. Dr. H. E. Burke some years ago published an article on the various forms included under these so-called subspecies, but I have been unable to find it. By far the greater number are colour variations and should be suppressed.

In the field one finds that these colour variations are either sexual or common to the species in both sexes. It is certainly ridiculous to call one by the specific name and the opposite sex, of a different colour, by a subspecies or varietal name.

One author informs us that in one part of the country occurs a race and in another part occurs another race which he says deserves a subspecific name but at the same time informs us that in the intervening territory occurs every variation between his so-called races, but does not tell us what to call the variations, whether by the subspecific or specific name. Another goes so far as to erect keys to the colour aberrations under each group or species and give them each a technical name.

This so-called taxonomic work has given the authors of our last check list so much trouble that they have been obliged to introduce the following in one family to explain subspecific variations.

- “1. Correlated with geographical distribution= subspecies.
2. Variations in colour pattern= aberration.
3. Variation in sculpture and colour of pubescence= variety.
4. Variation in general pigmentation of the exoskeleton= accident.

The use of the word “accident” is most interesting. Only one thing is omitted and that is the naming of deformed specimens. In time we might get enough of them to form a key. But what good is this doing the economic entomologist who wants to know what is doing the damage in his particular region?

A case in point is our common *Orsodacne atra* Ahr., to which are given six varieties, subspecies, aberrations, or accidents, whatever you wish to call them, where all the variations may be found in one rose blossom freely copulating. Then there is the habit of referring to the typical specimens by repeating the specific name. Does it make it any stronger to say it twice, especially in a key.

This is just so much dead wood and some taxonomists have gone so far as to use four specific names. Probably in the majority of cases insufficient knowledge and the desire to name species, especially by those having insufficient material, is responsible for many specific names which finally have to be placed in the synonymy. A few words should also be said in regard to the use of the genital organs as a means of separation. Conservatively used they have proved useful in some families of the Coleoptera, but I know of one case where they were checked by others than the author and found, when properly mounted, to be identical and yet the author made three species although he acknowledged that he could not tell them apart from external characters. I think it is time we acknowledge that the male genital organs are subject to slight variations in the same species, and that these slight variations might look enormous when highly magnified.

Of course everyone realizes that each species should have a name but many of us seem to have a distorted idea of what is a genus and what is a species.

Characters wholly specific are considered generic when the existing characters barely suffice to separate the species; the species then descend to individual variations and lead to the extreme of separating as species, individuals with small differences in the shape of the maculation, or colour design, a little more closely punctured on the margin of the pronotum, etc. Many sexes are so separated.

This is a plea for a little more conservative policy in taxonomic articles. It is not the only one which has been made of late years and even as far back as Darwin's time. We all make mistakes but let us not be so anxious to be authors of species, and to see our names in print, as to lose all idea of proportion. Let us be a little more sure of our facts before rushing into print and not think that because we have a few dried specimens before us we can sit in a swivel chair and determine their exact position in the universe.