MR. CRAWFORD'S RECENT WORK ON THE DELPHACINÆ[1]

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Mr. Crawford has given us a considerable contribution to our knowledge of the Delphacinæ of America north of Mexico in which he has described one genus and twenty species as new to our fauna and in addition has given us a fair insight into the Delphacid fauna of Central and South America. There is a carefully prepared key to the genera, in part founded on characters not before used for this purpose. Chief among these is the use of the post-tibial spur. The author has disregarded the pronotal carinæ in his classification of the genera, as a character difficult to appreciate, but uses those of the vertex and frons which are often still more obscure. In spite of all the objections that have been raised against the use of these pronotal carinæ in the classification of this group it still seems to me that they form a character of prime importance in discriminating the genera. There certainly are very few species in which their form cannot readily be made out, much more easily in fact than the form of the tibial spurs, and it seems hardly likely that they would ever separate otherwise closely related species. His discarding of this and other equally useful characters has led to his lumping several readily separable genera: three under *Dicranotropis* and six under *Megamelus*. These will be referred to later. A hasty glance over the paper shows that three genera and over forty described species were unknown to him in nature out of a total of fifteen genera and about one hundred species recorded from north of Mexico, a relatively large number which leads one to fear there may be some duplication among his twenty new species.

For one I cannot follow Kirkaldy, as Crawford has done, in giving the Delphacinæ family rank. It seems much better to continue the divisions of the old family Fulgoridæ as subfamilies, at least until some competent student has worked out the classi-

[1] A contribution toward a monograph of the Homopterous insects of the family Delphacidæ of North and South America. From Proc. U. S. Nat. Mus., Vol. 46, pp. 557-640, 1914.

fication of the Homoptera in the same masterly way in which the later Dr. Reuter has the Heteroptera. I add the following notes:

Genus **Stobaera** Stal.

Crawford unites *concinna*, *minuta* and *affinis* with *tricarinata* but I am by no means convinced. While closely related I still believe them distinct as pointed out by me in my report on the Florida Hemiptera.

Genus **Cochise** Kirk.

In a letter from Mr. Muir he has suggested to me that *Cochise apacheanus* Kirk. is a synonym of *Bostæra nasuta* of Ball and I am inclined to think him right in this. Kirkaldy writes his descriptions in such a vague way it is impossible to form any mental picture of the object he is describing. For instance what does he mean when he says "lateral keels (of the pronotum) distant apically and basally, arising anteriorly at the inner margin of the eye, curving at an acute angle near the hind margin to meet the eye again"? If one tries to draw such a carina on a Delphacid pronotum he finds himself wandering aimlessly about, with two entirely different sets of carinæ as the final result. Probably the genus can only be located by a restudy of the type.

Genus **Achorotile** Dahlb.

It is likely that this genus does not occur in America. The specimens I formerly located as albosignata Dahlb., I now find to be the young of *Megamelus notatus* Germ. *Achorotile foveata* Spooner is a redescription of my *Stobæra 4-pustulata* from Florida.

Genus **Jassideus** Fieber.

In *Macrotomella* the lateral pronotal keels are distinct and run to the hind margin and the form of the head is entirely different. *Stiroma* I also believe to be sufficiently distinct. Both of these genera have the keels of the head continued over the apex while in *Jassideus* they are obsolete there, a character Crawford accepts in *Kormus*.

Genus **Phyllodinus** Van Duzee.

Mr. Crawford names Jamaica as the locality for my *nitens*. It was from Florida and was described in my paper of 1909, not 1907.

Genus **Liburniella** Crawford.

This is a good genus sufficiently distinct from *Liburnia* Stal. *L. ornata* Stal. is the only species known to me.

Genus **Stenocranus** Fieber.

S. saccharivorus Westw. is a light green insect, not "yellowish-orange" as described by Crawford. His specimens may have been in spirits. It was common about sugar cane in Jamaica and I took it at Tampa, Florida.

Stenocranus croceus Van Duzee. This species is here wrongly credited to Osborn and Ball, who merely listed the species but did not describe it. Their paper was published in 1897, not 1896. This is a true *Kelisia* as described by me, and has the front distinctly wider than in *Stenocranus* with the sides arcuated.

Stenocranus vittatus Stal is undoubtedly the same as my *lautus* and both are probably mere color varieties of *dorsalis* Fitch.

Genus **Dicranotropis** Fieber.

The genera *Peregrinus* and *Pissonotus* are entirely distinct from *Dicranotropis* and may at once be distinguished by the characters of the pronotal carinæ: In *Perigrinus* they run straight to the hind margin, while in *Pissonotus* they are more divergent and rarely attain the hind margin. In *Dicranotropis* these carinæ follow the contour of the eye. The general aspect of *Pissonotus* is very distinct, approaching only *Megamelus*. Mr. Crawford sinks my *basalis* as a synonym of *delicatus* but it is absolutely distinct. The Columbus, Texas, specimen which he examined was not typical of the species as I stated in my description. I do not think I labeled that specimen as a "type." If I did it was done inadvertently.

Genus **Megamelus** Crawford

This genus as outlined in the work before us contains at least six undoubtedly valid genera: *Megamelus, Kelisia* and *Prokelisia* with the lateral pronotal keels running straight to the hind margin, and *Euidella, Chloriona* and *Liburnia* in which they curve outward behind the eyes. In his key the author divides his unwieldy genus into these two sections and under each uses color characters first and ultimately structural features for locating the species. I have not tried to run down any of the species by his key but it would,

I believe, have been just as simple and useful had it been divided into the six genera formerly recognized. The preparation of a key for the large genus *Liburnia* was no small task and if Mr. Crawford has done this successfully it is something for which we will all feel grateful.

I must call attention to a statement made by Kirkaldy some years ago and now repeated by Crawford: that Stal used *Embolophora monoceros* as the type of his new genus *Liburnia*. There is absolutely not one iota of foundation for this statement except the fact that Stal placed it as the first species of his new genus. As a matter of fact *monoceros* is the type of the entirely distinct genus, *Embolophora*, and can never be used as the type of *Liburnia* Stal. I have already shown (Bull. Buf. Soc. Nat Sci. X, p. 504, 1912) that *Liburnia* Stal was simply a new name for *Delphax* Auct. (not of Fabr.) of which *pellucida* Fabr. should be the type. *Delphax striata* Fabr. is the type of *Delphax* Latr. but Stal does not quote *Delphax* Latr. but *Delphax* Auct. and as *striata* seems to be an unrecognized species it is probably better to use *pellucida*, which is a well known form.

TWO NEW SPECIES OF PLATYPEZA FOUND AT STANFORD UNIVERSITY.

By Frankie Willard,
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While making a study of the insect larvæ living in mushrooms, I found an old cluster of *Agaricus californicus* which was infested with hundreds of small oblong larvæ that were feeding on the soft fleshy portions of the plant at the base of the gills. Many other specimens were taken during the months of April and May, the dark gills of the mushrooms showing that the material was rather old. When these were placed in jars containing damp soil the larvæ fed for several days in the mushrooms. Some then bored into the soil to pupate, others pupated on the surface under the fungus or in exposed places. The length of the larval period was not determined. Most of the insects remained in the pupal stage from seven to nine days, but some did not issue until the following