

**Notes on the "Biologia Centrali-Americana."**

BY GEO. H. HORN, M. D.

Students of the natural history of the North American continent have much to be thankful for in the progress of the important work undertaken under the editorship of Messrs. Godman and Salvin, with the collaboration of those whose names scarcely need any additional lustre from the "Biologia."

The work aims to embrace that portion of the continent of North America south of the boundary line of the United States and including the Isthmus of Panama. From a political stand-point the Peninsula of California should have been included, but it has been omitted, from the fact that many of the species have been described by Dr. LeConte and myself, showing that the fauna of that region (with the exception of the extreme southern end) is much more closely related to our Arizona region than would be any similar southern extension from the boundary line of Arizona.

The territory along the boundary line is for the most part an inhospitable region—hot, dry and barren, with occasional more or less fertile valleys extending in a general direction N. W. to S. E. Some of these valleys are properly Arizonian extensions, others extend upwards from Mexico. The latter case prevails in the northwestern portion of Mexico, while the reverse exists in the northeast, in the region west of the Rio Grande. This results in a preponderance of the species of the region from which the fertile peninsula arises. The broad belt of desert, hot and rainless, east and southeast of Fort Yuma seems to act as an effectual barrier against the intermingling of the species of the two faunas to any notable extent.

The collection made by Morrison teaches very little. How far he went below the boundary I do not know, although my series was purchased as from Arizona purely, and the same series is quoted by the authors of the "Biologia" as from northern Sonora. With very few exceptions the series was such as we are accustomed to meet in Arizona with no greater admixture of Mexican forms than we find on the Texas side of the Rio Grande.

On the whole the two faunas, Boreal and Central America, seem to be quite distinctly marked, more so than would be expected from the topography of the greater part of the border zone as there are no natural obstructions—as high mountains or wide seas—in the way of a free intermingling of species.

These remarks, which must be restricted in their application to the Coleoptera alone, express the views entertained by Dr. LeConte and explained in his notes on the first series of Coleoptera collected by Xantus in the Peninsula of California. Mr. H. W. Bates seems to have adopted what is practically the same idea, as I have gathered from his introduction to vol. i, and isolated expressions more particularly in the Appendix.

To students of the Coleopterous fauna of the more northern portions of the continent the work is indispensable, and will doubtless diminish in future the duplication of descriptions of species on the two sides of the line. It is only to be regretted that the authors have satisfied themselves with cataloguing very many of the species, giving, often, too abundant citations of habitat in place of a few lines of description, which would have been of far greater utility.

The first volume of COLEOPTERA deals with the Cicindelidæ and Carabidæ, and is from the hands of Mr. H. W. Bates. It contains 316 pages and 13 plates, on which are figures of 323 species and varieties. Publication of the volume began in October, 1881, and finished in August, 1884. In going over the pages a few notes have been made, which have been thought of sufficient interest to give:

*Iresia boucardi* Chev., p. 17. A male of this species taken at Cordova by José Nieto, and now in my possession, is entirely rufo-testaceous beneath. The male was unknown to Mr. Bates, and it is probable that he is entirely correct in separating *Iresia pulchra* as distinct.

*Calosoma peregrinator* Guer. As this species has *C. carbonatum* Lec. for a synonym, the remarks concerning *prominens* and *lugubre* Lec., should be disregarded.

*Micrixys distinctus* Lec. This species should be added on p. 41. I have seen a specimen in the possession of Mr. Flohr, collected (I think in Coahuila) in Mexican territory.

*Dicaelus flohri* Bates, p. 49. Mr. Bates is correct in referring (on p. 269) this species to *levipennis* Lec.

A second species, *D. costatus* Lec., occurs in Mexico (see preceding note).

On p. 73 Mr. Bates seems to have doubts as to the position of Polpochila. The difficulty seems capable of solution by accepting as groups (or whatever else they may be called) those aggregations of genera with male tarsi dilated and (1) biserially squamose, or (2) spongy pubescent, and (3) those with undilated male tarsi with few or no squamules. While it is inferentially stated here that I have suggested too many subdivisions I am reminded on p. 75 that I have not made quite enough.

*Evarthrus constrictus* Bates, p. 80. This name is preoccupied in the genus and in the series with bisetose labial palpi.

*Blechrus glabratus* Duft., p. 192. This European species is quoted from California. That the *nigrinus* Mann., is a *Blechrus* is undoubted, as LeConte had a type from Mannerheim. It is highly probable that the *nigrinus* is *glabratus*. I am not aware that *Metabletus* occurs in California, but it is known from British Columbia, etc.

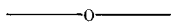
On p. 220 Mr. Bates intimates that I consider *Loxopeza majuscula* Chd., a synonym of *L. grandis* Hentz (not Hald.). All my publications have been quite to the contrary.

The *Discoderus* mentioned on p. 276, as number 10, had been described by me as *robustus*.

With page 256 of this volume the supplementary part begins, in which we find introduced the species collected by Mr. Morrison. On going over these latter it will be observed that, with extremely few exceptions, all had been described from our territory.

It seems worthy of special note that *Scaphinotus mexicanus* is the only Cychride described or recorded, while in California species of the subgenus *Brennus* are numerous. Arizona has not, to my knowledge, furnished even a specimen of Cychride, while the adjacent region of New Mexico furnishes *Scaphinotus Snowii* Lec., and northward in Colorado we find only *S. elevatus*.

The occurrence of a species of *Carabus* is remarkable. In Calosoma the fauna of Mexico is unexpectedly less rich than our own, twenty being enumerated from Mexico and twenty-six with us. Three are common to the two regions: *scrutator*, Sayi (*armatum* Lap.) and *peregrinator* (*carbonatum* Lec.) while another, *angulatum*, is admitted to our lists with doubt.



The fifth volume of COLEOPTERA comprises the Cerambycidae and Bruchidae (the intermediate volumes being in preparation), and consists of 537 pages and 26 plates, illustrating over 500 species or varieties. The part relating to Cerambycidae is the result of the studies of Mr. H. W. Bates, that concerning the Bruchidae of Dr. David Sharp.

*Perilasius* Bates, p. 16. This genus is related to *Brothylus* and *Osmidus*. It differs from the former in having the anterior coxæ less angulated externally; the antennæ are similarly sulcate. *Osmidus* has the anterior coxæ as in *Perilasius*, but the antennæ are not sulcate. *P. championi* has a great superficial resemblance to *O. guttatus* Lec.

Page 84. Mr. Bates proposes to unite under the generic name *Sphenothecus* those species which, in our fauna, are divided among several genera, viz.: *Sphenothecus*, *Ischnocnemis*, *Entomosterna* and possibly *Perarthrus*. As we have but one species in each it would be presuming to controvert the opinion of Mr. Bates, but the separation of genera in the Cerambycidae seems to depend entirely on the standpoint from which separation starts. Important structural characters have, in this family, at times merely specific or sexual value, as between *Gaurotes cyanipennis* and *abdominalis* in the mesosternum as well as in the vestiture of the hind tarsi in the two sexes of *Acmæops militaris*. The form of the mandibles, the initial point of LeConte's subdivision, seems to me more important and less subject to variation than the form of the mesosternum.

*Lepturges infilatus* Bates, very closely resembles our *angulatus*, but is less distinctly punctured.

*L. symmetrimacula* Bates, is extremely close to our *symmetricus*. I have seen but one of the form.

On page 216 Mr. Bates recurs to the question of Amphionycha and its type, and I think supplies what was lacking in my previous notes in proof of the fact that LeConte was the first who described the genus and gave a definite type. Mr. Bates' argument is correct if we admit the propriety of shifting one of Chevrolat's names from one type to another, and then admitting that Leseleuc established the genus, although "he did not give a generic formula."

On page 314 the name *Agalissus gratus* Hald., has been placed as a synonym of *clytoides*, while the case should be reversed.

*Myrmolamia* Bates, p. 363. This is identical with *Cyrtinus*, as I am informed by Mr. Bates. It is interesting to find the genus extending so far as Panama.

On page 392 it is suggested that our species of *Liopus*,—*Wiltii*, *crassulus* and *fascicularis* should be referred to *Eleothis*. The characters seem extremely feeble for generic separation.

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With page 437 of the fifth volume the portion relating to the Bruchidæ begins, Dr. David Sharp the author. In the Mexican fauna there are but three genera, as in our own, but the species far exceed those described in our fauna. Dr. Sharp remarks that in our "Classification" the Bruchidæ are placed between the Chrysomelidæ and Tenebrionidæ. While this is true it is merely from the mechanical necessities of book-making. The Tenebrionidæ and Chrysomelidæ belong to two distinct divisions of normal COLEOPTERA, and while the Bruchidæ are placed between the two families, it is intended to indicate their relationship with Chrysomelidæ, but not even the most vague with the Heteromera, as will be seen by reference to p. xxxvi of the Classification.

*Bruchus longiventris* Shp., p. 476, is *protractus* Horn.

*Spermophagus* p. 492. Under this genus Dr. Sharp has suppressed *Zabrotes* Horn, and probably justly, but whatever the typical form of *Spermophagus* may be the species *robiniae* and those separated by me as *Zabrotes* should not belong to the same genus.

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### Notes from the Museum at Cambridge.

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The Museum became the recipient of the cabinets of Ziegler and Melsheimer by purchase, and the types have been examined with extremely few exceptions by Mr. Henshaw and myself, and our results will soon be published by him in the manner already adopted for other of the older authors. The search for the actual types required a considerable expenditure of time and labor, as many were scattered in the general collections of the Museum, while others were in the cabinet of Dr. LeConte.