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## The Siricidae of North America

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Over ten years ago the writer undertook to rearrange the collection of Siricidae and allied families belonging to Mr. E. T. Cresson, then in the keeping of the American Entomological Society, and which since then has been most generously presented to that society by Mr. Cresson. Since that time, during the intervals of other duties, these insects have received a greater or less degree of attention at his hands, and the paper then begun has been several times rewritten and extended.

Unable to foresee the early completion and publication of the entire work, and confronted with the expressed desire of certain workers in the field of Hymenopterology that it should be available to them at an early date, it has seemed best to present a preliminary and brief account.

Pending the completion and publication of the fuller work, which is planned to cover the families Siricidae, Cephidae, Megalodontidae, Oryssidae, and Niphydriidae, the author will be grateful for the correction of errors, discrepancies or omissions in the present paper, and especially for the loan of material in any of the above groups, from any part of the world, which he will be glad to identify.

Acknowledgments are due to Professors J. H. Comstock, A. D. MacGillivray, the late Dr. William H. Ashmead, Mr. S. A. Rohwer, Dr. L. O. Howard, and others, which will be expressed in more detail when the fuller paper is published. I am indebted to my brother, Dr. B. W. Bradley, for assistance in the determination of the derivation and grammatical form of the technical names.

Mr. S. A. Rohwer (1911b) has had the last word upon the classification of the horn-tails and sawflies (Cindastogastra). While recognizing the weight of his views as therein expressed, I have not been able in all cases to accept them. In my opinion

there have been two well-marked lines in the phylogeny of the suborder, the Tenthredinid and the Siricid stems. The Nyctidae and Pamphiliidae are very primitive forms that represent offshoots from near where these two stems divide. The Siricidae also retain many highly primitive characters, although in other respects "sidewise specialized". The Niphydridae, Cephidae, and Megalodontidae group themselves with them. The Oryssidae represent the most highly modified group within the suborder. They are more divergent from any other family than are any of the other families from each other. Yet I believe they had an ancestry somewhere along the Siricid stem. I am not convinced of the taxonomic advisability of erecting super-families for small groups of their nature, representing as they do, highly specialized offshoots of some other stock.

The classification offered by Dr. MacGillivray (1906) was based upon careful and critical comparative study of a single set of organs—the wings, and seems more conservative and more in accordance with my own views. I have followed, in the main, the arrangement which he proposes.

I am not prepared, from personal knowledge, to offer an opinion upon the advisability of dividing the Tenthredinidae into several families, as is done by Ashmead and Rohwer. It is outside of the scope of this paper, and I have followed Dr. MacGillivray's classification in this regard.

## THE SUBORDER CHALASTOGASTRA

### A KEY TO THE FAMILIES

- A. Front wings with  $R_2$  present, possessing three marginal cells. *NYCTIDÆ*
- AA. Front wings with  $R_2$  absent, therefore possessing one or two but never three marginal cells.
- B. Front wings with subcosta present as a distinct longitudinal vein. *PAMPHILIIDÆ*
- BB. Front wings with subcosta absent. (Rarely it is present as a pale, very indistinct line, closely appressed to  $R + M$ , or  $Sc_1$  may be present as a transverse vein).

- C. The radial cross-vein in the front wings with its caudal end basad of  $R_1$ , or if it or  $R_1$  is absent or they are opposite then the anterior tibiae have a single apical spur.
- D. Front wings with  $M_2$  complete; ovipositor more or less saw-like, usually exerted and with prominent sheaths; antennae not inserted beneath a frontal ridge.
- E. Anterior tibiae each with only one apical spur; propodeum divided longitudinally.
- F. Pronotum presenting a strictly cephalic surface, or both cephalic and dorsal surfaces; front wings with the medio-cubital cross-vein subequal in length to the transverse part of media. (Fig. 6.)
- G. Pronotum transversely right-angled, so that it presents both a strictly dorsal and a cephalic aspect, the latter concave; mesoprescutum poorly defined or wanting;  $Se_1$  absent; maxillary palpi one-segmented; labial palpi two or three-segmented, the last segment enlarged and bearing a large sensory cup, the first segment not elongate. (Figs. 16 and 17.)

*SIRICIDÆ*

- GG. Pronotum a narrow collar extending around the front of the thorax, therefore presenting lateral and cephalic but no dorsal aspect; mesoprescutum well developed;  $Se_1$  present in the front wings as a transverse vein; maxillary palpi four-segmented; labial palpi three-segmented, the first segment elongate. *XIPHYDRIDÆ*
- FF. Pronotum more or less quadrate, not transversely angled, presenting lateral and dorsal but no strictly cephalic surfaces, its posterior margin extending almost directly from