more firmly to the larva were two eggs orange eggs, placed were placed in a vial 1th there were two the head applied to corrugated by the ventral side where metal ridge. Head lobe and one on the 7 mm. June 12th above and below incy shape ellipt. They crawled for saw place. In the parasites also, but they left the saw-fly al. a species of Pam-

Ashmead, Busek, this was the first saw-fly larva which note-hooks of the shed by himself knew of no publish, the sting of elius trogoderma bringing it before parasite always at this was but it was prob. always stings pair of legs, its ovipositor being the third could generally derma larva, to if so would have noticed that

although incapable of motion after being thus stung, the Trogoderma larva could still void its excrement.

— Mr. Ashmead read the following paper:

ON THE GENERA OF THE EUCARIDAE.

By WILLIAM H. ASHMEAD.

In my paper entitled "Notes on the Eucarids found in the United States," read October, 1892, I wrote: "Since becoming better acquainted with that great complex of the Hymenoptera at present known to us under the family name Chalcidoidea, I have gradually come to the conclusion that instead of a single family to deal with we have several distinct families. Indeed, in many cases, these families are even more distinct and sharply defined than many others of the so-called families in this order, and until these are properly separated and defined, I believe but little real progress can be made in our systematic knowledge of the Chalcidoidea."

Since this was written, I have diligently and laboriously prosecuted my studies on these insects, and have now in MSS. a new classification of them, which I hope to publish this winter, in which I have recognized fourteen distinct families.

Inasmuch, therefore, as I have entitled this paper "On the Genera of the Eucarids," I desire briefly to put on record the names of these families and the new arrangement proposed in this work.

The families recognized and their arrangement are as follows:

SUPERFAMILY VII.—CHALCIDIOIDEA.

Family LXXX. Aganide.

LXXI. Topyriniode.

Subfamily I. Idariniode.

II. Topyriode.

III. Monodontomerinae.

IV. Megastigmata.

V. Ormiyridae.

LXXII. Chalcidoidea.

Subfamily I. Leucoctoide.

II. Chalcidoidea.

LXXIII. Eucaridimode.

LXXIV. Perilampidode.

LXXV. Eucaridimode.

LXXVI. Mischogasteride.

Subfamily I. Pireninae.

II. Tridyminae.

III. Mischogasterinae.

IV. Lehopinae.
LXVII. Ciconymidae.
Subfamily I. Chlorocyrtinae.
II. Chlorryninae.
III. Pelecinellinae.
IV. Colotrichinae.

LXVIII. Eucyrtidae.
Subfamily I. Eupelminae.
II. Eucyrtinae.
III. Signiphoridae.

LXIX. Pteromalidae.
Subfamily I. Merisinae.
II. Pteromalinae.
III. Sphugigasterinae.
IV. Spalingiinae.
V. Diparinae.

LXX. Elymini.
LXLI. Eulophidae.
Subfamily I. Entobrininae.
II. Aphelininae.
III. Tetrastichinae.
IV. Eulophinae.

LXXII. Trichogrammatidae.
Subfamily I. Oligostratinae.
II. Trichogramminae.

LXXIII. Mymaridae.
Subfamily I. Gonatocerinae.
II. Mymarinae.

The family *Eucharidae* takes its name from the genus *Eucharis* Latreille, erected in 1802, for *Cynips adscendens* Fabricius, a species widely distributed over Europe, and described under the latter name as early as 1787, or a little over a century ago.

In 1811 Spinola described his genus *Stichus* to contain *Ichneumon cyniformis* Rossi, evidently a misprint for *cynipiformis*, a species found in South Europe.

Latreille's definition of the genus was a broad one, and from this time down to the year 1829 all other species of *Eucharis* discovered in various parts of the world, showing any affinities, were described and placed in it. In this year, however, Latreille erected another genus, *Tharaconis*, for a singular-looking species discovered in Brazil.

In 1830 Blanchard described his genus *Pseudogaster*, while six years later Mr. Kirby, British Museum, group the former the genus belong here, a

Subsequent time to the discription of the class *Schizaspidea* he described *Hopei*.

In 1856 For the name *Euchilium*.

Between this and as the earlier is the name *Euchilium*.

It is for the name *Euchilium*.

Two years later excellent genus was sistent in the family *Eucharis*.

This revision in the British Museum of the Chalcididae.

Brief but it is given, and in the following new genus *Chalcis*, *Kersis*.

Mr. Kirby's

which 12 genera of *Eucharis* are placed in a subfamily, with this separation.

Mr. Kirby's since the pith of this student to pun...
years later Francis Walker, in his "List of the Chalcidie in the British Museum," brings the genera together and gives to the group the family name Eucharidé, wrongly associating with them the genera *Perilampus* and *Caratoma*, neither of which belong here, although the former exhibits some affinities.

Subsequent to this publication new species and genera continued to be discovered. Westwood, who had announced his intention of monographing the group, in 1835 erected his genus *Schizopida*, for a form discovered in India, while in 1865 he described his genus *Eucharissia*, from the Cape of Good Hope.

In 1836 Förster recognized the group as a distinct ...,3 by under the name *Eucharididae*.

Between this time and 1884 there was a long period of rest, so far as the establishment of genera, although new species continued to be described, especially by Francis Walker. In this year, however, Mr. Peter Cameron,4 in working up the Mexican and Central American *Chalcididae*, found it necessary to characterize four new genera, viz., *Oraea*, *Lophyroceras*, *Lirata*, and *Kapala*. He gave a good table for recognizing the new genera, and they were incorporated by Mr. Howardi in his table of the *Eucharina*, prepared for Cresson's *Synopsis* of the North American Hymenoptera.

Two years later, however, or in 1886, the group received an excellent generic revision at the hands of Mr. W. F. Kirby,5 Assistant in the Zoological Department in the British Museum.

This revision was based on types and the extensive material in the British Museum, and is entitled "A Synopsis of the Genera of the Chalcididae, Subfamily *Eucharina*, with Descriptions of Several New Genera and Species."

Brief but fairly good diagnoses of all the known genera are given, and in every case the type of the genus is mentioned. The following new genera were characterized: *Tricorynus*, *Melagora*, *Chalcara*, *Rhipiphorus*, *Treronella*, *Uromelis*, and *Szechara*.

Mr. Kirby terminates his paper with a table of the genera, in which 13 genera are tabulated. He has, however, not included *Eucharissia* and *Szechara*; these he considers represent a new subfamily, which he calls *Eucharissina*, but does not define. In this separation I cannot follow him.

Mr. Kirby settled definitely the types of the various genera, and since the publication of his Synopsis it has been possible for the student to pursue intelligently further studies in the group. His

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table, slightly altered, was reproduced by me in Entomologica Americana, vol. iii, 1887, p. 186.

In 1894, Mr. John W. Shipp,* gave a short revision of the genus *Thoracantha* Latr., based upon material in the Hope Museum, Oxford, in which five supposed new genera are characterized, viz.: *Lasionychus*, *Dilacaucha*, *Latoanca*, *Acrocta*, and *Isomeraria*.

*Lasionychus* Shipp equals *Uromelia* Kirby, while *Acrocta* Shipp is apparently based upon the male of *Thoracantha* Latr. At least, that is my opinion, since all the *Acrocta* I possess are males, and I had them placed as the opposite sex of *T. latreillei* before Mr. Shipp's paper appeared, and I see no reason for believing them other than the opposite sex of this common Brazilian species.

Of the traits of this group, comparatively little is known. Mons. L. Pedel, Bull. Soc. Ent. de France, 1895, p. xxxv, records the rearing of *Chaleura bedoti* Cameron from the cocoons of *Formica rufa* Linn.; while Mr. Cameron, in Mem. and Proc. Manchester Lit. and Phil. Soc., 1891, p. 5, records the interesting fact that Prof. Forel, of Zurich, obtained two specimens of *Eucharis myrmecia* Cam. from the cocoons of the Bull-dog Ant, *Myrmica foetida* Fabr., sent him from South Australia. Before giving a table of the genera now recognized, it may be well to give some of the structural peculiarities of the group which I believe enable it to family rank.

The head is comparatively smaller than other Chalcidids, triangular, and much thinner anterior-posteriorly; the mandibles are rather long, falcate, without or with one or two teeth within in one or other mandible, both mandibles rarely being exactly alike.

The shape and characteristics of the mandibles alone will enable the careful student to separate at once a Eucharid from all others in the Chalcidoidea. But there are several other distinguishing characters: The thorax is most frequently very gibbous, the scutellum very large, abnormally developed, elevated, and usually produced posteriorly, the axilla being constricted, not distinctly separated from the surrounding surface, and broadly united along their inner margin, so as to separate widely the scutellum proper (middle lobe) from the base of the mesonotum.

The legs also are quite characteristic of the group, being unusually slender, with all the coxae of very nearly an equal size.

The wings, too, offer some slight differences from other Chalcidids; they are almost entirely bare or devoid of pubescence, the front pair being somewhat broadly rovecated at apes, with a moderately long, marginal vein and a very short sessile or at most subascissile stigmatal vein, the postmarginal vein being absent, very short or only slightly longer than other families, the cilia of the abdomen is of a very broad saw-like to that of a small Scutellum in

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*Antennae 13-jointed
*Antennae 14-jointed
Scutellum sinistro
dextrally

2. Scutellum bidentate
Abdomen 

Scutellum simple, 

Antennae 13
Antennae 14
Abdomen

3. Joints of antennae
Thorax simo at apex...

Thorax rugos

Joints of antennae
Thorax not s.

Joints of antennae

Antennae 13
Antennae 14

4. Scutellum with the sometimes very small Scutellum bidentate
Metathorax:

Metasoma:
short or only slightly developed. The hind wings are proportionately larger and wider at base than in the generality of the other families, the costal cell being distinct.

The abdomen is always distinctly petiolated, the second segment abnormally enlarged and usually enclosing the following segments, or the greater part of them, while the female possesses a very broad saw-like ovipositor, the blade of which is very similar to that of a small saw-fly.

**Table of Genera.**

**Females.**

<table>
<thead>
<tr>
<th>Antenna 13-jointed or less</th>
<th>Antenna 14-jointed or more</th>
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<tbody>
<tr>
<td>Scutellum simple; antenna 16-18-jointed.</td>
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1. Eucharissa Westwood.
2. Eucharissa W. kirby.
3. Scutellum bidentate, or greatly produced into long processes over the abdomen. 4.
4. Scutellum simple, or other bidentate or produced into long processes.
5. Antenna not moniliform. 3
6. Antenna moniliform.
7. Abdomen compressed, ascending. 7.
10. Tricoryn kirby. First joint of hind tars.; very long, but not thicker than the others. 5.
11. Melegine kirby. 5.
12. Joints of antenna long; antenna 13-jointed. 3.
15. Pseudometagen Blanchard.
17. Thorax not greatly elevated, punctate, with complete parapsidal furrows; mandibles long, acute at tip, the right with two teeth within, the left with one tooth within. 8. Orasuma Cameron. 18.
19. Antenna 13-jointed. 9. Rhipiphan kirby. 10. Antenna 14-jointed. 10. Chalcus kirby. 11. 20. Scutellum with the processes usually as long as the abdomen and sometimes very broad and covering the abdomen. 5.
21. Scutellum bidentate, the processes never very long. 22.
22. Metatorax unarmed. 5.
23. Metanotum with hump-like elevations above the pleura. 11. Stilbula Spinola.
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Metathorax armed with strong lateral projections or teeth.
Metathoracic processes curving downwards.


5. Scutellar processes long and slender, generally curving inwards to ward tips. .................................................... 6

Scutellar processes broad and covering the entire abdomen.
Thorax not pubescent, the apex of the scutellar projections simple, cleft, or notched.
Scutellar processes very broad, triangular.

15. Thracanthia Latreille, Scutellar processes long, contiguous, and acutely pointed at extremity. ........... 16. Urocella Kirby.

(= Lasionycheus Sipp.)
Scutellar processes long, contiguous, but very flat, the extremities rounded or subtruncate; mesonotum and scutellum mediately impressed; head almost as wide as the thorax; antennae (excepted, the third joint as long as the scape, the following much wider than long.

17. Dicelothebra Ashmead, n. g. Thorax pubescent; apex of the scutellar processes rounded and not sharply cleft, the notch exceeding two-thirds of the entire length. ................. 18. Dilecantha Sipp.
Scutellar projections with the basal portion as wide as thorax, shortly compressed in centre, then dilated, and at the apex furnished with two rounded short spines. 19. Lasionycheus Sipp.
Scutellar projections with the basal portion as wide as thorax, produced and with the sides parallel, the apex furnished with a small semi-circular excavation, the spines of the spine being very sharp.

15. Acrostyla Sipp

18. Dilecantha Ashmead

6. Head and eyes tuberculate; antennae 12-jointed. 20. Isomera Sipp.

(= Thracanthia coronata Westwood.)
Head and eyes normal.
Antennae 10-jointed, the third joint as long as all the rest united.

17. Lepis Cameron.
Antennae 11-jointed, the third joint not much longer than the fourth.
Thorax not pubescent, the scutellum always longitudinally striated. 22. Kapala Cameron.

(Type Throcachina fusca Fabr.)
Thorax clothed with a fine pubescence, the scutellum smooth, not longitudinally striated, the processes smooth to spines where they are transversely serrated.

23. Lasikapala Ashmead, n. g.
13. Lophosternum Cameron. 
14. Tetramelis Kirby. 
15. Thoracantha Latreille. 
16. Uromelia Kirby. 
17. Dilacanda Shipp. 
18. Leucanthra Shipp. 
19. Leucanthra Shipp. 
20. Isomeria Shipp. 
21. Acroscaptha Linn. 
22. Lipita Cam. 
23. Uromelia Kirby. 
25. Metathorax unarméd. 
27. Metathorax with strong lateral projections or teeth.
29. Lophosternum Cameron. 
30. Eucharis Latreille. 
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129. Eucharis Latreille. 
130. Eucharis Latreille. 
131. Eucharis Latreille. 
132. Eucharis Latreille.
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5. Scutellar processes long and slender, generally curving inwards towards the tips.............................................................................. 6
Scutellar processes very broad, deeply, broadly, semicircularly emarginated at apex................................................................. 15. Thracantha Latreille
(= 7 Acrostelia Shipp.)
Scutellar processes long continuous and acuminated at apex; antennae with 8 long branches .................................................. 16. Uromelia Kirby
(= Lasionycha Shipp.)
Scutellar processes long continuous but rounded not acuminated at apex; antennae with no long branches, serrated.

17. Dicelothorax Ashmead, n. g.

Eyes normal.
Mesonotum, scutellum and the scutellar processes longitudinally furrowed or striated.
Third joint of antennae very long, with 7 branches which are scarcely longer than the third antennal joint.

21. Litha Cameron.
Third joint of antennae very short; antennae with 9 long branches........................................................................ 22. Kapala Cameron.
Mesonotum with the middle lobe coarsely transversely furrowed, the lateral lobes with the scutellum and scutellar processes smooth, not striated.................................................. 23. Lasiokapala Ashmead.

This paper was followed by a brief discussion of the probable habits of the insects of this group, participated in by Messrs. Ashmead, Howard, and Schwarz. Nothing is known of their host relations, except two records of Australian species having been reared from the pupa of ants. Mr. Howard stated that he had seen a specimen of Kapala forbata in Mr. H. H. Smith's collection from St. Vincent, which carried an ant in its jaws. He thought this might possibly be significant, although, of course, the Eucharid might have caught the ant in its death struggles in the cyanide bottle. Mr. Ashmead and Mr. Schwarz stated that Florida species occur commonly in localities where ants are abundant.

—Mr. Ashmead submitted for publication the following paper:

CLASSIFICATION OF THE OLD FAMILY CHALCIDIDÆ.

By William H. Ashmead.

At the meeting of the Entomological Society of Washington held December 2, 1897, I suggested the segregation of the old family Chalcididae into 14 distinct families, and gave a tentative list of these families, from which family name Chalcidoidea.

In the present paper I propose the families and subfamilies, now divided.

SUPERFAMILY

2d. Hind wings exceeding the body, from beneath just out a little, but not quite distant, the scape. Hind wings never very narrow, ovate, or oval, issuing from an elbow, with 1, 2, or 3 ribs, and rather long.
Axillae triangularly produced, region of the scutellum, and region of the scutum and always back of the tegula; anterior tibiae and (rarely) tarsi, jointed, rarely 5-jointed.
Basitibiae normal, or at least, if jointed, very short.
Axillae normal, or at least, if jointed, very short.

3. Head in profile with a dorsal occipital margin superciliarly spine at its middle; mandibles with saw-like appendages; their tibiae very much shorter than their antennae, sometimes not seen at all; trichobothria, ovipositor, the head antecolicus; ovipositor apical, which are placed the short 5-jointed, of tarsi which are placed the short 5-jointed.
Head rarely oblong and quite broad. Longitudinal furrows and transverse furrows.

Head rarely oblong and quite broad. Longitudinal furrows and transverse furrows.

The anterior mandibles are always slender, and hypopygium rarely very profusely aerseous; in the latter the mandibles are always slender, and hypopygium rarely very profusely aerseous; in the latter the
Mesepimerum long, entire without a sinuosity; unusually in some males the mesepimerum large, not extending to base of front coxae, with a sinuosity, most frequently long and stout, or short and stout. Mesepimerum always with a femoral furrow or impressed, the mesepisternum variable, rarely large, except in the Coenonympha, most frequently small, wedge-shaped, or linear and extending to base of front coxae; if large and triangular, either the anterior or posterior femora are much swollen; middle tibial spur not saltatorial, usually short or weak, never very stout.

Hind tibiae with 2 apical spurs, rarely with 1 only; in the latter case the radius terminates in a large, rounded stigma, the ovipositor very long. 4

Hind tibiae with 1 apical spur; ovipositor rarely long, if long the stigma is small. 9

4. Mandibles falcate, usually with 1 or 2 teeth within; thorax most frequently very gibbous, the scutellum usually very large, often abnormally developed, elevated and produced posteriorly, the axillary connotes, not distinctly separated from the surrounding surface and broadly united along their inner margins. 6

Mandibles usually 3.4-dentate at apex, rarely falcate, with 1 or 2 teeth within; thorax not or very slightly gibbous, the axillary distinctly separate, their inner margins most frequently widely separated, very rarely touching.

Hind coxae rarely much larger than the anterior coxae; most frequently smaller or equal; if much larger, the pronotum is elongate, mesepimerum large, the hind legs very long, the postmarginal vein very long; ovipositor very rarely prominent. 5

Hind coxae very large and long, usually five or six times larger than the anterior coxae.

Hind coxae subtrigeminate, or at least compressed into a sharp ridge above; hind femora never very much swollen, and most frequently simple, rarely with one large tooth or cinctulate beneath; abdomen most frequently subcompressed (more rarely depressed), with a long ovipositor; if without an exserted ovipositor, the abdomen is conical or conico-ovate with a peculiar sculpture, the radius (stigmatic vein) usually very short, the hind tibia at apex normal. 10

Hind coxae usually very long and subcylindrical, rarely trigeminate; hind femora always much swollen and most frequently armed with teeth beneath; finely serrated, rarely without teeth; abdomen of various shapes, most frequently conical or conico-ovate, more rarely gibbous, or oblong-ovate, the ovipositor very rarely prominent; radius variable, rarely very short; hind tibia strongly curved and oblique truncate, produced at apex, so that at the base seem to be attached a little before tips. 11

Family LXII. Chalcididae.

1. Pronotum rarely transverse-quadrangular, conical or conically produced anteriorly, or very short, transverse, and very much narrowed medially, rarely as wide as the mesonotum. 7

Pronotum quadrangular or transverse quadrangular, never very short, if somewhat shortened always as wide as the mesonotum.

Pronotum quadrangular or subquadrate; abdomen in 2 not triangulated, globose, conico-ovate or lanceolate and compressed or subcompressed; the hypopygium most frequently ornament slow-shape shaped; second dorsal segment never very long; mandibles not strong, most frequent 4-dentate. 12

Family LXIII. Eurytomidae.

Pronotum shorter, more transverse and as wide as the mesonotum; abdomen in 2 most frequently triangulated, or globose, the second and third segments occupying most of the dorsal surface, the following very short and more or less retracted within the third; hypopygium not prominent; mandibles 2 or 3-dentate at apex. Family LXIV. Perlampidae.

6. Second abdominal segment very large and most frequently enclosing the following; coxae not large, subglobose, nearly equal; all legs very slender; radius scarcely developed, its stigma sessile or subsessile. 13

Family LXXV. Lecithidae.

7. Mesepimerum not large, triangular; anterior femora never much swollen, the posterior femora also normal or only slightly swollen; marginal vein in hind wings usually long, the costal cell not reaching to the hooklets or spinulae and most frequently very narrow; radius well developed. 14

Family LXVI. Miscogasteridae.

Mesepimerum large, triangular; either the anterior or the posterior femora are much more weakly sometimes toothed, or both are swollen with the hind femora toothed; if with slender legs, the hind legs are very long, their coxae long, cylindrical, while the radius (stigmatic vein) in front wings is very short, with the postmarginal vein very long, extending to the apex of the wing (Pelecinella). 15

Family LXVII. Cleropidae.

8. Mesonotum either depressed, with more or less distinct parapsidal furrows, the scutellum longitudinally ridged, or convex or subconvex; entirely without furrows, rarely convex with distinct furrows; axillae most frequently meeting at inner basal angles, rarely very widely separated. 16

Family LXVIII. Eurytidae.

9. Mesonotum subconvex with incomplete or complete parapsidal furrows; hind coxae rarely much larger than the front coxae; axillae...