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NO. 2.

A GENERIC SYNOPSIS OF THE FULGORIDÆ.

By WM. H. ASHMEAD.

[Continued from p. 6.]

(FAMILY II. FULGORIDÆ.)

SUBFAMILY VI. DICTYOPHARINÆ.

TABLE OF GENERA.

- Head as broad as the prothorax, arcuated before. G. 1. **Cladypha**, A. et S.
- Head narrower than the prothorax.
- Elytra with small and quadrangular cells of the same size; head rather small, rounded before. G. 2. **Pterodictya**, Burm.
- Elytra with forked nervures and elongated cells, less numerous at their basal half; head more or less prolonged beyond the eyes.
- Elytra not separated into two parts by an elevated line. 2.
- Elytra divided into two parts by an elevated, transverse line.
- G. 3. **Dichoptera**, Spinola.
- 2 Elytra with basal cells somewhat elongated beyond the middle, followed by three rows of very small cells, narrow and arranged in a concentric half circle.
- G. 4. **Lappida**, A. et S.
- Elytra with the discoidal flap with an infinite number of anastomosing veins or ramifications, extending in all directions and distributing into an infinite number of cellules of different shape. G. 5. **Plegmatoptera**, Spinola.
- Elytra not having three rows of cells arranged in a concentric circle at their extremity.
- Cephalic prolongation in a pointed or subcylindric cone; vertex narrow.
- G. 6. **Dictyophara**, Germar.
- Cephalic prolongation but slightly longer than wide, rounded before; vertex large, flattened, faceted. G. 7. **Monopsis**, Spinola.
- Cephalic prolongation long and slender; head with a distinct callosity behind the eyes; vertex with the lateral margins slightly dilated.
- G. 8. **Scolops**, Germar.

SUBFAMILY VII. FULGORINÆ.

TABLE OF GENERA.

- Head with a cephalic prolongation 3.
- Head without a cephalic prolongation.
 - Head broad without a longitudinal keel on the vertex 2.
 - Head very narrow with a longitudinal keel on the vertex.
 - Mesothorax with three regular longitudinal keels, of which the two lateral ones are curved and united at the anterior margin ; frons broad, feebly keeled G. 1. **Aphana**, Guer.
 - Mesothorax without keels ; elytra very large, one or more times longer than the body G. 2. **Phenax**, Germar.
- 2 Head cut straight before the eyes ; a spine above each eye ; frons nearly vertical with three distinct facets G. 3. **Hypæpa**, Stål.
- Head curved before ; no spine above the eyes.
 - Elytra opaque their whole length ; last dorsal segment not covering the extremity of the abdomen in the ♀ G. 4. **Piocera**, Laporte.
 - Elytra coriaceous at the base only, last dorsal segment covering the extremity of the abdomen in the ♀ G. 3. **Calyptoproctus**, Spinola.
- Frons nearly horizontal, divided into three not very distinct facets ; second joint of antennæ spherical. G. 6. **Homalocephala**, Spinola.
- 3 Cheeks without a spine or tubercle anteriorly 4.
- Cheeks with a spine or tubercle anteriorly.
 - Cephalic protuberance horizontally directed before, inflated and vesiculose. G. 7. **Laternaria**, Stål.
 - Cephalic protuberance not at all inflated or vesiculose ; protuberance suddenly enlarged at its extremity G. 8. **Phrictus**, Spinola.
- 4 Vertex twice the breadth of the rounded eyes.
 - Protuberance insensibly narrowing from the base to the apex G. 9. **Enchophora**, Spinola.
- Vertex much broader than the eyes ; protuberance long, rounded or sub-tetragonal.
 - Cheeks at apex before the eyes truncated ; frons at apex slightly sinuate, with two or three longitudinal keels ; feet slender, scutellum slightly keeled ; protuberance more or less curved G. 10. **Fulgora**, Linn.
 - Cheeks at apex before the eyes rounded or subtruncately rounded ; frons at apex deeply sinuate ; scutellum not keeled ; protuberance straight. G. 11. **Pyrops**, Spinola.
- Vertex very broad, both sides of frons at apex lobate, above the lobe upwards, more or less enlarged.
 - Fifth dorsal plate of the abdomen operculiform, forming a covering for the following segment G. 12. **Episcius**, Spinola.
 - Fifth dorsal plate of abdomen of ordinary form. G. 13. **Dilobura**, Spinola.

SUBFAMILY VIII. CIXIINÆ.

TABLE OF TRIBES.

- A Ocelli 2 ; vein of clavus not reaching to the apex, or united with the commissural margin near the apex.
- Last joint of the rostrum elongated, last joint of posterior tibiæ elongated.
- Head narrower than the thorax.

Sides of clypeus keeled..... Tribe I. ACHILINI.
Sides of clypeus not keeled; thorax with three keels.....
Tribe II. TROPIDUCHINI.

Last joint of the rostrum short or very short.

Head sometimes not narrower than the thorax; thorax not keeled or with one
obsolete keel..... Tribe III. DERBINI.

B Ocelli most frequently 3, the third ocellus on the apex of the frons and seldom
wanting; vein of clavus reaching to the apex, or united with the suture of
the clavus near the apex..... Tribe IV. CIXIINI.

Tribe I. ACHILINI.

TABLE OF GENERA.

Anterior tibiae about equal to the femora and trochanters united, or somewhat
shorter.

Posterior tibiae with one spine or without spines.

Head and thorax of equal breadth G. 1. **Plectoderes**, Spinola.

Head narrower than the thorax.

Vertex short, transverse, not or scarcely prominent before the eyes, or con-
fused with the frons; posterior tibiae with one spine.

Vertex distinct, anterior margin obtusely rounded or angulated; thorax
twice as broad as the head G. 2. **Achilus**, Kirby.

Vertex, before the eyes, distinctly produced.

Eyes subrotund, beneath scarcely sinuate; wings with elongate areas be-
fore the apical areas; frons narrowed upwards.....

G. 3. **Helicoptera**, A. et S.

Tribe II. TROPIDUCHINI.

TABLE OF GENERA.

Vertex truncate at base; thorax slightly and broadly roundedly sinuated at base.. 4.

Vertex emarginated at base; thorax posteriorly angularly emarginated.

Radial vein forked before the middle or near the base of the wings..... 3.

Radial vein of wings simple or behind the middle of wings, or at least much
longer at the base than the forked interior ulnar vein.

Wings oval, convex, horny, sprinkled with dense, depressed granules, obsoletely
veined..... G. 1. **Grynia**, Stål.

Wings membranous, distinctly veined.

Head depressed; frons subhorizontal; wings with a series of strongly
oblique transverse veins, extending straight posteriorly and outwardly
to the apex of the clavus G. 2. **Tambina**, Stål.

Frons more or less reclining, never horizontal; anterior tibiae equal in length to the
femora and trochanters united or somewhat shorter.

Lateral margins of clypeus distinctly keeled; veins of clavus united very much
behind the middle..... 2.

Lateral margins of clypeus obtuse, sometimes slightly keeled at base; wings ex-
tending much beyond apex of abdomen.

Wings with a double series of transverse veins toward apex, exterior ulnar vein
simple.

- Head short, somewhat prominent before the eyes ; vertex arcuate, very short ; frons not keeled, with two longitudinal impressions ; sides of clypeus slightly keeled at base ; veins of clavus united before the middle G. 3. **Rudia**, Stäl.
- Head moderately produced before the eyes ; vertex produced ; frons distinctly keeled ; costa remote from margin, sending out numerous transverse nervules G. 4. **Numcia**, Stäl.
- 2 Anterior tibiæ somewhat longer than the femora and trochanters united ; head short, somewhat prominent before the eyes, obtuse ; frons somewhat convexly reflexed at base, also without a keel at base ; sides of clypeus obtusely subcarinated.
- Head very slightly prominent before the eyes G. 5. **Clardea**, Signoret.
- Head very much produced before the eyes G. 6. **Conchoptera**, Stäl.
- Wings subelongated, scarcely enlarged toward apex ; frons with a median keel, obliterated towards the base G. 7. **Isporisa**, Stäl.
- Wings toward apex gradually, greatly enlarged ; frons without a keel G. 8. **Paricana**, Stäl.
- 3 Exterior margin of wing all greatly rounded ; radial vein forked nearer to the base than to the interior ulnar vein, emitting oblique branches G. 9. **Alcestis**, Stäl.
- Costal margin of wing scarcely or slightly rounded ; the radial and interior ulnar veins very much alike forked from base, without branches, costa remote from margin and emitting numerous transverse veins ; frons with one or three keels.
- Head very greatly triangularly produced G. 10. **Daradax**, Stäl.
- Head slightly prominent before the eyes, obtuse G. 11. **Tropiduchus**, Stäl.
- 4 Body broad, oval, depressed ; wings depressed, slightly horny, reaching somewhat beyond the apex of abdomen G. 12. **Gastrina**, Stäl.

Tribe III. DERBINI.

TABLE OF GENERA.

- Head narrower than the thorax 2.
- Head and thorax of equal breadth G. 1. **Fescennia**, Stäl.
- 2 Antennæ with appendages at base ; last joint of rostrum twice longer than broad G. 2. **Otiocera**, Kirby.
- Antennæ without appendages.
- Second antennal joint oblong or elongated, apex with a sinus above 3.
- Second antennal joint of variable length, subglobose or elongated, apex without a sinus above.
- Antennæ remote from clypeus, inserted close to the eyes or behind the inferior part of the cheeks.
- Wings from within behind the clavus, dilated, rather long, obliquely roundedly truncate at apex ; clypeus somewhat longer than the frons, narrow, with keels ; scutellum with three keels G. 3. **Flaccia**, Stäl.
- Wings from within behind the clavus not enlarged.
- Head before the eyes strongly produced G. 4. **Persis**, Stäl.
- Antennæ inserted on the inferior part of the cheeks near the clypeus.
- Head before the eyes very slightly prominent, compressed G. 5. **Phenice**, Westwood.
- Head before the eyes greatly produced G. 6. **Halcita**, Stäl.

- 3 Wings very broad at the middle, narrowed behind the middle.
 Second antennal joint suboblong or somewhat elongated.....
 G. 7. **Mysidia**, Westwood.
 Second antennal joint short, tuberculate with a dorsal seta.....
 G. 8. **Ceuchrea**, Westwood.
- Wings not so broad in the middle.
 Second antennal joint elongated, sublinear, compressed, slightly obliquely truncate at apex, setigerous; head compressed, subtriangular, with two keels; frons subrostrate, rostrum straight; eyes prominent, sublunate.....
 G. 9. **Anotia**, Kirby.

Tribe IV. CIXIINI.

TABLE OF GENERA.

- Posterior tibiæ with one or three spines.
 Head with three triangular or transversely quadrangular facets.....2.
 Head without facets, prominent.
 Vertex pentagonal, angularly grooved posteriorly or sinuately curved; frons almost a right angle, twice longer than wide, high at its apex.
 Elytra enlarged behind the clavus, covering one another; posterior tibiæ with one small spine in the middleG. 1. **Cixidia**, Fieber.
 Elytra of equal breadth, posteriorly rounded not dilated; posterior tibiæ with three spines.....G. 2. **Ommatissus**, Fieber.
- 2 Wings broadly triangular behind, trilobed at their exterior margin near the flexible sutureG. 3. **Trirhacus**, Fieber.
- Wings not lobed at their posterior border, feebly curved; pronotum strongly, subangularly incised posteriorly.
 Mesonotum with three keels.....G. 4. **Cixius**, Latreille.
 Mesonotum with five keels.
 Vertex elongate pentagonal; frons with the median keel simple at apex; scutellum with the intermediate keel feeble; posterior tibiæ with two spines.....G. 5. **Hyalesthes**, Signoret.
 Vertex more or less broadly pentagonal with sharp ridges; scutellum with all the keels distinct; posterior tibiæ with three spines.....
 G. 6. **Oliarus**, Stål.

SUBFAMILY IX. DELPHACINÆ.

TABLE OF GENERA.

- Antennæ of variable length, the second joint longer than the first.....2.
 Antennæ long, first joint longer than the second.
 First antennal joint compressed, somewhat dilated above and below.
 Anterior legs dilated, foliaceous.....G. 1. **Asiraca**, Latreille.
 Anterior legs not dilated, simple.
 Head as broad as the thorax; antennæ and legs moderate.....
 G. 2. **Areopus**, Spinola.
 Head narrower than thorax; frons narrow, elongate, narrowed upwards; antennæ and legs long.....G. 3. **Sparnia**, Stål.
 First antennal joint, subcylindrical, not compressed; legs long, simple.....
 G. 4. **Hapalomelus**, Stål.
- 2 Antennæ greatly lengthened, dilated.....G. 5. **Copicerus**, Schwarz.
 Antennæ simple, cylindrical or somewhat compressed.

- Antennæ somewhat shortened, first joint short 3.
Antennæ very long, first joint elongated.
Scutellum with 5 keels.
Anterior tibiæ longer than the femora and trochanters united.
Interior ulnar and radial veins of corium of equal length, forked at base.....
G. 6. **Hygyops**, A. et S.
Interior ulnar vein shorter than the radial, the latter forked at base....
G. 7. **Canyra**, Stål.
Anterior tibiæ as long as the femora.....G. 8. **Livatis**, Stål.
3 Head broader than thoraxG. 9. **Amblycotis**, Stål.
Head narrower than thorax or of equal breadth.
Elytra convex..... G. 10. **Rhinotettix**, Stål.
Elytra flat or somewhat flattened.
Posterior tarsi shorter than their tibiæ..... 8.
Posterior tarsi as long as their tibiæ.
Side keels of pronotum oblique, shortened behind..... 4.
Side keels of pronotum attaining the posterior margin, divergent; frons with
a median keel.
Vertex a long isosceles triangle, without grooves or foveæ, with a median
keel extending from one extremity to the other, prolonged beyond the
eyes nearly half their length; clypeus with a median keel; basal an-
tennal joint about one-third the length of second, thick, cylindrical;
posterior tibiæ with two spines.....G. 11. **Tropidocephala**, Stål.
Vertex elongated, quadrangular, more or less prolonged before the eyes;
frons with a median keel biforked on the vertex; clypeus with a sharp
median keel; basal antennal joint cylindrical, somewhat compressed,
two-thirds the length of second which is cylindrical.....
G. 12. **Megamelus**, Fieber.
4 Frons with two distinct keels, or else feeble above or nearly effaced, or more or
less longly peduncled toward clypeus..... 6.
Frons with one distinct median keel, entire or shortened, often scarcely visible.
Frons with the apex of vertex forming an obtuse angle; vertex pentagonal,
short, as long as wide at the base; pronotum short, half as long as wide at
the base; pronotum short, half as long as the vertex with a median keel;
side keels robust when with short elytra, feeble when with elytra well de-
veloped.....G. 13. **Delphacinus**, Fieber.
Frons at apex and vertex at apex, truncated; vertex quadrate or elongated
nearly trapezoidal.
Vertex a short isosceles triangle, or transversely quadrangular slightly passing
the eye 5.
Vertex quadrangular, elongated or trapezoidal, twice as long as wide, passing
nearly half or more than half its length before the eyes; first posterior
tarsal joint much longer than 2 and 3 united, joints 1 and 2 deeply ex-
cised at the apex, their lobes straight.
Vertex elongated, trapezoidal, visibly wider at the nape of the neck than at
the apex; frons elongated nearly hexagonal, widest about the middle
or at the apical third.....G. 14. **Chlorion**, Fieber.
5 Frons with keel entire or forked only at the apex.....
G. 15. **Delphax**, Fabr. (= **Liburnia**, Stål.)

- Frons and vertex straight at the apex ; vertex quadrate ; elytra clear in their two forms, but also black or brown when they are short, sometimes fringed with white7.
- 6 Frons and vertex obtusely angular at apex, sides elevated at the base, pressed against the eyes at apex ; head seen from the side short, cone-shaped ; vertex before pentagonal ; body short and black, even as are the elytra which are coriaceous.
- Frons with two sharp keels curved outwardly, approaching very close and converging at the apex, slightly separated from each other at the clypeus which is convex and without keels.....G. 16. **Jassidæus**, Fieber.
- Frons with feeble traces of 2 keels, more distinct in the ♀, very rarely found in the ♂ ; clypeus convex with a short and feeble keel, sides keeled.....
G. 17. **Metropis**, Fieber.
- 7 Frons with the keel forked much before the vertex
G. 18. **Dicranotropis**, Fieber.
- Frons with 2 sharp keels as far as the vertex parallel, afterwards coming together at the level of the clypeus.....G. 19. **Achorotele**, Fieber.
- 8 Frons with two distinct keels....11.
- Frons without a keel or only feeble traces of a keel10.
- Frons with a distinct median keel.
- Frons long, narrowed, much narrowed towards apex, sides generally curved outwardly, at the apex a sharp, biforked keel extending nearly to the angles of the nape of the neck, with an angular keel between the two branches ; wing nerves strong, prominent ; basal antennal joint short, almost as long as wide.....G. 20. **Stenocranus**, Fieber.
- Frons elongated, nearly hexagonal, wider towards the inferior angles of the eyes, its apex ordinarily truncate, very rarely curved ; the median keel feeble, generally curved, sometimes straight, lost at the apex, again distinct on the vertex and forked towards the angles of the nape of the neck ; basal antennal joint short, a little longer than wide.....G. 21. **Kelisia**, Fieber.
- Vertex short, an isosceles triangle or transversely triangular, slightly passing the eye9.
- Vertex elongated, quadrangular or trapezoidal, passing beyond the eyes, nearly, or more than half its length.
- Vertex rectangular, not one and a half times as long as wide ; frons of nearly equal breadth between the eyes, a little narrower towards the apex and sinuated, about three times as long as wide at the clypeus ; median keel of frons sharp, forked before the apex to scarcely back of the middle of the vertex, shortened here by the angular projection and directed on the angle of the nape of the neck ; basal antennal joint cylindrical, more than twice as long as wide.....G. 22. **Euides**, Fieber.
- 9 Frons elongated, almost hexagonal, broader between the inferior angles of the eyes, towards the apex at the sides, short, towards the base at the sides, long, much narrower at the clypeus than at its apex which is straight, median keel sharp on the frons, which is smooth, forked before the apex, basal antennal joint short, thickened, compressed, prolonged to the middle of the cheek, slightly longer than half the length of the second ; the second joint seen from before broader at the base, slightly compressed, and with an elongated hump near its middle beneath, where there is a small groove at the prominent

border, superior part of joint narrower, cylindrical.....

G. 23. **Conomelus**, Fieber.

10 Frons rectangular, twice as long as wide, its sides smooth, somewhat emarginate; pronotum as long as the vertex with a sharp median keel; basal antennal joint long, cylindrical, reaching the extremity of the cheek, more than three quarters as long as the second, which is a little thicker, reaching to the extremity of the clypeal margins..... G. 24. **Kormus**, Fieber.

Frons elongated, almost hexagonal, broader at the middle, the sides feebly emarginated, sometimes nearly obtusely angular at the eyes, slightly more than twice as long as wide at the middle; pronotum visibly shorter than the vertex, posterior margin feebly grooved in an obtuse angle, the median keel feeble, the side keels distinct only at the base, obliquely curved around the eyes; basal antennal joint short, cylindrical, reaching almost to the middle of the cheek, thickened, about two-thirds the length of the second which is robust and slightly passes the frons..... G. 25. **Eurysa**, Fieber.

SUBFAMILY X. **TETTIGOMETRINÆ.**

TABLE OF GENERA.

Vertex horizontal; frons obliquely directed, short; clypeus without keels and inserted in the extremity of the frons which is grooved, rounded.....

G. 1. **Tettigometra**, Latreille.



Notes on *Zeuzera pyrina*, Fabr.

By J. B. ANGELMAN.

August 14th, 1887, I took at an electric light in Newark, N. J., three specimens of this insect. Previous to that time I had never seen a specimen of the insect taken in America, nor had it been taken so far as I could learn by any of the Newark collectors.

In 1888 I took the insect again. The first specimen was taken on June 14th, and I continued taking others at intervals up to as late as Sept. 27th. Altogether I took 45 males and 1 female. The latter was not taken at light as were the others but was found on the side-walk after it had been stepped on by some passer-by. I learn from various collectors that it was taken quite commonly this year at the electric lights, and extending over a considerable length of time.

We can from the above be assured of two things: 1st,—that *Zeuzera pyrina*, Fabr., is permanently settled with us and exists in considerable numbers and a considerable range of country about New York. 2nd,—its time of appearance varies very greatly as I took it off and on for a period of 106 days during the season of 1888.