

Pour Son Excellence

Mons^r. Gottlieb Fischer

De la part de

J. Middleton





AMERICAN
ENTOMOLOGY.

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**AMERICAN
ENTOMOLOGY,**

OR

Descriptions

*W. P. Hay
Aug. 30, 1940*

OF THE

INSECTS OF NORTH AMERICA.

ILLUSTRATED BY

COLOURED FIGURES

FROM

ORIGINAL DRAWINGS EXECUTED FROM NATURE.

BY THOMAS SAY,

Curator of the American Philosophical Society, and of the Academy of Natural Sciences of Philadelphia; Correspondent of the Philomathique Society of Paris; and Professor of Natural History in the University of Pennsylvania, and of Zoology in the Philadelphia Museum.

" Each moss,
Each shell, each crawling insect, holds a rank
Important in the plan of Him who fram'd
This scale of beings."

STILLINGFLEET.

Philadelphia Museum:

PUBLISHED BY SAMUEL AUGUSTUS MITCHELL.

FOR SALE BY ANTHONY FINLEY, CORNER OF FOURTH AND CHESNUT ST.

William Brown, Printer.

1824.#



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TO

WILLIAM MACLURE,

PRESIDENT OF THE ACADEMY OF NATURAL SCIENCES OF
PHILADELPHIA, AND OF THE AMERICAN
GEOLOGICAL SOCIETY,

MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY,
&c. &c.

Distinguished as a successful cultivator, and
munificent patron, of the Natural Sciences, this
Work is respectfully inscribed,

By his much obliged,

and most obedient servant,

THE AUTHOR.

“As there is no part of nature too mean for the Divine Presence; so there is no kind of subject, having its foundation in nature, that is below the dignity of a philosophical inquiry.”

HARRIS.

Preface.

THE author's design, in the present work, is to exemplify the genera and species of the insects of the United States, by means of coloured engravings. He enters upon the task without any expectation of pecuniary remuneration, and fully aware of the many obstacles by which he must inevitably be opposed.

The graphic execution of the work will exhibit the present state of the arts in this country, as applied to this particular department of natural science, as no attention will be wanting, in this respect, to render the work worthy of the encouragement of the few who have devoted a portion of their attention to animated nature.

To such persons, as well as to those whose information is sufficiently comprehensive to en-

able them duly to appreciate the various departments of human knowledge, this book is more especially addressed; and the author would happily profit by their friendly co-operation in the correction of any errors that may appear, in the enunciation of new facts in the manners and economy of insects, or in the addition of species and localities.

It is not possible, in the present state of our collections, to publish all the species in regular systematic succession; and the Entomologist will therefore observe, that although the specimens are somewhat indiscriminately described and figured, yet care has been taken that species of different genera be not represented in the same plate. The pages are not numbered, and the enumeration of the plates, which is on the inferior margin of the impression, is referred to beneath the text. This arrangement will admit of the work being bound up, when completed, agreeably to systematic order in the succession

of genera, without any apparent confusion of numerals.

In order that the descriptions may be understood by those who are not conversant with the science, we subjoin an explanation of the technical terms used in Entomology, illustrated by elementary plates.

Six plates of the present volume, together with their accompanying text, were printed off in the year 1817, but as they were never properly published, it has been thought advisable to include them in the present work.

With these preliminary notices, the first volume of the *American Entomology* is submitted to the patrons of science; and whatever may be its merits or its defects, we must observe, that it is the first attempt of its kind in this country. It is an enterprise that may be compared to that of a pioneer or early settler in a strange land, whose office it is to become acquainted with the various productions exhibited to his view, in

order to select such as may be beneficial, either as regards his physical gratification, or his moral improvement, and in order to counteract the effects of others that may have a tendency to limit his prosperity. From the novelty of the surrounding objects, or the imperfection of his implements, it is vain to suppose that his selection would be unerring, or his system of culture invariably judicious. But unabating industry and zeal remove obstacles that for ever bar the advance of indolence or timidity; and if our utmost exertions can perform only a part of a projected task, they may, at the same time, claim the praise due to the adventurous pioneer, of removing the difficulties in favour of our successors.



PAPILIO.

GENERIC CHARACTER.

Antennæ terminating in a conic-ovate or elongate-ovate, somewhat arquated club; palpi pressed closely to the front, hardly reaching the clypeus, the terminal joint obsolete or very minute; feet all formed for walking, armed with simple claws at tip; superior wings somewhat falcate; inferior wings often tailed at tip, and on the inner margin excised or folded to admit of the free motion of the abdomen.

OBSERVATIONS.

The Caterpillars in this genus are destitute of a hairy or spiny armature; but, when disturbed, they suddenly project from the anterior and superior part of the neck a soft bifid appendage, which diffuses a strong odour. This singular organ, although somewhat formidable in appearance, is yet perfectly harmless; it may, however, serve the purpose of repelling the enemies of the

larva, rather, perhaps, by the odour it emits, than by its menacing aspect.

The pupæ or chrysalids are, for the most part, of an angulated form, with two processes or lobes before; they are secured in an upright position by a silken thread, which passes transversely around the body.

The perfect insects are considered by many observers as the most beautiful part of the creation.

PAPILIO PHILENOR. *Fabr.*

SPECIFIC CHARACTER.

Wings tailed, green-black; posterior pair green, polished, with seven fulvous subocellar spots beneath.

SYNONYMS.

PAPILIO ASTINOUS. *Drury*, vol. i. tab. 11, fig.

1. 4. *Cramer*, *Ins.* tab. 208, fig. A. B.

P. PHILENOR. *Fabricius*, and of *Smith and Abbot's Insects of Georgia*.

PLATE I.

DESCRIPTION.

Head black; eyes red-brown, posterior orbits yellow; palpi yellowish before; a white dot behind the base of each antenna; neck with two dots before, and a band of four dots behind.

Thorax black, immaculate: breast dotted with yellow; feet black, anterior trochanters with an obsolete yellow dot; superior wings dark green, sometimes blackish, with whitish crenæ; four or five white spots on the margin, more conspicuous beneath, often obsolete above; inferior wings highly polished, green; six pearl-white spots before the margin; crenæ white; beneath with a yellow spot at base, brownish, with a very broad polished green border, upon which are seven large fulvous spots, each surrounded by a black ring, and marked by a lateral white spot; on the inner edge about six small white dots.

Abdomen green, a little brassy above; a lateral double row of whitish dots; first segment with a single larger spot conspicuous above.

FEMALE larger, colour of the wings brown, with cupreous reflections.

The *Philenor* is one of the most beautiful of

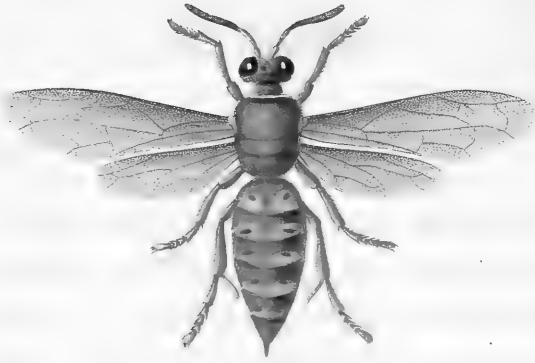
PLATE I.

our butterflies, and is, at the same time, very common.

The plate represents the male in two positions.

PLATE I.





STIZUS.

GENERIC CHARACTER.

Thorax with the first segment transverse linear: feet short or moderately long: labrum entirely exerted, short, semicircular: palpi filiform, maxillary ones longer, six-jointed; labial palpi four-jointed: ocelli very distinct: superior wings not folded longitudinally: radial cellule one, elongated; cubital cellules three, the second narrowed before, and receiving the two recurrent nervures; the third not attaining to the end of the wing.

OBSERVATIONS.

Latreille formed this genus for the reception of many species of the tribe BEMBECIDES, distinguished by the above recited characters. These species had previously been placed in the genus BEMBEX by Fabricius and Olivier, in that of CRABRO by Rossi and Fabricius, in LARRA by Illiger and Fabricius, in SPHEX by Villers, in MELLINUS by Panzer, in LIRIS and SCOLIA by

Fabricius, and by Latreille, in his earlier works, in **MONEDULA**.

Of all the genera which form the order **HY-MENOPTERA**, the present genus is the most closely allied to those of **MONEDULA** and **BEMBEX**, in the general appearance of the insects of which it is composed, as well as in the distribution of the nervures of their wings. This affinity is so striking in many species of these groups, that it becomes necessary to inspect the form of the labrum, in order to decide upon their respective appropriate genus. A very remarkable difference is observable in this organ, which, in those genera, is much elongated and triangular, but in **STIZUS** it is short and semiorbicular. Nearly all the species have three spines at the extremity of the abdomen, as in the genus **SCOLIA**, but they cannot be considered as *Scolia*, as their eyes are entire, and the form and number of the wing cellules are altogether different.

PLATE II.

STIZUS GRANDIS.

SPECIFIC CHARACTER.

Segments of the abdomen, each with a yellow band, and lateral blackish spot.

SYNONYM.

STIZUS GRANDIS. *Nobis. Western Quarterly Reporter*, vol. ii. p. 77.

DESCRIPTION.

Antennæ black, the three basal joints rufous: *front* and *labrum* yellowish: *thorax* with a yellowish spot on the anterior angle, and first segment margined with yellowish: *scutel* ferruginous: *wings* ferruginous, dusky at tip: *feet* ferruginous: *tergum* ferruginous, each segment with a yellow band, and lateral, blackish, oblique, sublinear spot; *venter* with an obsolete margin on the second segment, and obsolete lateral triangles on the remaining segments, yellowish.

MALE. Head, thorax, base of the three or four terminal, and of the abdominal segments,

PLATE II.

and beneath, black; bands of the abdomen uninterrupted; lateral spot of the first band obsolete or wanting; anal spines none. Length to the tip of the wings, one inch and a fifth.

FEMALE. Ferruginous; basal band of the abdomen, and sometimes the second and third bands, interrupted in the middle; lateral spot of the first abdominal band very oblique. Length to the tip of the wings, one inch and three-fifths.

OBSERVATIONS.

This remarkably fine and new species is very distinct from the *speciosus* of Drury, and is somewhat larger than that common insect. When descending along the bank of the Arkansa river, with a detachment of Major Long's exploring party, I had frequent opportunities of observing this species. It generally occurred upon flowers, in company with many other interesting HYMENOPTEROUS insects. It is highly probable, that, like the *speciosus*, the *grandis* nidificates in the earth, and feeds its larvæ with the dead bodies of CICADÆ.

The *speciosus*, *grandis*, and a few other large species, ought to constitute a distinct division in

this genus, distinguished by the want of spines at the tail of the male.

The upper figure represents the female, and the lower left figure the male, both of the natural size.

STIZUS UNICINCTUS.

SPECIFIC CHARACTER.

Black, opaque; abdomen polished, with a rufous band above; wings dark violaceous.

SYNONYM.

STIZUS UNICINCTUS. *Nobis. Western Quarterly Reporter*, vol. i. p. 77.

OBSERVATIONS.

A broad, bright rufous band occupies the basal half of the second segment of the tergum. The wings are blackish-violaceous, and the anal spines

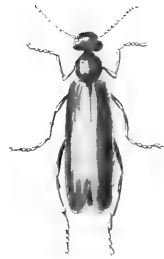
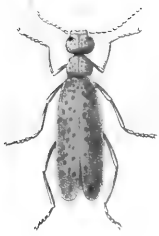
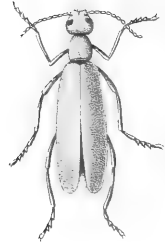
are prominent. The length of the male is half an inch.

This species occurred on the banks of the Arkansa river, in company with the preceding insect.

The lower right figure magnified, and beneath is an outline showing the natural size.

PLATE II.

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LYTTA.

GENERIC CHARACTER.

Tarsi entire; nails bifid; head not produced into a rostrum; elytra flexible, covering the whole abdomen, linear, semicylindric; wings perfect; maxillæ with two membranaceous lacinia, the external one acute within, subuncinate; antennæ longer than the head and thorax, rectilinear; first joint longest, the second transverse, very short; maxillary palpi larger at tip.

OBSERVATIONS.

To this group of insects belongs the celebrated "Spanish fly," distinguished in the healing art for its vesicating virtue. The species were placed by Linné in his genus *MELŒ*; Geoffroy, Degeer, Olivier, Lamarck, Latreille, and Leach, distinguished them by the name of *CANTHARIS*; and Fabricius, Marsham, and Dejean, apply the designation I have adopted.

The larvæ live in the earth, and the perfect insect is often gregarious, feeding on leaves.

It is highly probable that all, or nearly all, of the North American species, are endowed with the same properties that have so long rendered the *L. vesicatoria* almost indispensable to the practice of medicine; and it is certain that a sufficient quantity may be collected in the United States to supply the demand of the shops, to the complete exclusion of the foreign insect.

LYTTA NUTTALLI.

SPECIFIC CHARACTER.

Bright green, varied with golden; elytra golden purple; feet black, thighs blue, trochanters armed with a spine.

SYNONYM.

L. NUTTALLI. *Nobis. Jour. Acad. Nat. Sciences*, vol. iii. p. 300.

DESCRIPTION.

Body glabrous: *head* deep greenish, varied

PLATE III.

with golden; *front* punctured, subimpressed, and with a small rufous spot; *antennæ* robust, surpassing the base of the thorax, black, opaque; joints turbinate, approaching to moniliform, the margin of the tip rounded; second joint two thirds the length of the third; terminal joints largest near the middle, and rapidly attenuated to an acute tip: *eyes* oblong-oval, emarginate: *palpi* black: *clypeus* and *labrum* obscure: *thorax* golden-green, polished, with unequal, minute, sparse punctures; a longitudinal, dorsal, impressed line, and a transverse basal one; base bluish, anterior angles prominent: *scutel* blue, obtuse behind: *elytra* red, or golden-purple, somewhat rugose: two indistinct elevated lines on the disk, and a submarginal one: *beneath* green, polished: *feet* black; *thighs* beneath blue or purplish; *trochanters* armed with a conic spine near the inner base, obsolete or wanting in the female.

OBSERVATIONS.

This noble species, which in magnitude and splendour surpasses the far-famed *vesicatoria*, has, I understand, been labelled in a British cabinet with the name which I have here adopted,

in honour of Mr. Thomas Nuttall, who discovered it.

Although this insect certainly belongs to this genus, yet the proportional length of the second and third joints of the antennæ, is somewhat similar to that of the genus ZONITIS, as defined by Latreille in the *Regne Animal*. In common with several other American species, the antennæ increase a little in thickness towards the tip, but are much shorter than in ZONITIS. These characters, combined with the form of the terminal joint, seem to prove a close alliance with the genus MYLABRIS, but the antennæ are not arquated at tip, and are of a more considerable length; the habit also differs, the form of the body being more elongated. The species, then, possessing the form of antennæ above noted, seem to have the habit of LYTTA, combined with a form of antennæ allied to that of MYLABRIS.

They cannot be referred to ZONITIS, as the palpi are not filiform, and the habit does not agree.

The *nuttalli* seems to be limited to the western region. In company with Major Long, I observed it, for the first time, near the base of the Rocky Mountains. A very numerous flock had there taken possession of the few diminutive

bushes that occurred within the space of a hundred yards, every spray of which was burdened with their numbers. After passing this limited district, not an individual was seen during the remainder of our journey. On the recent expedition of the same officer to the river St. Peter, I obtained but a single specimen, which was found one evening at an encampment in the North West Territory.

The upper left figure, natural size.

LYTTA ALBIDA.

SPECIFIC CHARACTER.

Black, covered with dense whitish hair.

SYNONYM.

L. ALBIDA. *Nobis. Jour. Acad. Nat. Sciences,*
vol. iii. p. 305.

PLATE III.

DESCRIPTION.

Body black, entirely covered by dense, short, prostrate greenish or yellowish-white hairs: *head* with a longitudinal impressed line: *antennæ* subglabrous; first and second joints rufous, the latter nearly equal in length to the third joint: *clypeus*, *labrum*, and *palpi* pale rufous: *tarsi* black.

OBSERVATIONS.

Another remarkably fine species, which I discovered within about a hundred miles of the Rocky Mountains, during the progress of Major Long's expedition over that vast desert. It appeared to be feeding upon the scanty grass, in a situation from which the eye could not rest upon a tree, or even a humble shrub, throughout the entire range of its vision, to interrupt the uniformity of a far outspreading, gently undulated surface, that, like the ocean, presented an equal horizon in every direction.

The upper right figure, natural size.

LYTTA MACULATA.

SPECIFIC CHARACTER.

Black, covered with cinereous hair ; elytra spotted with black.

SYNONYM.

L. MACULATA. *Nobis. Jour. Acad. Nat. Sciences*, vol. iii. p. 398.

DESCRIPTION.

Body black, invested with cinereous, prostrate hairs: *head* with an impressed, longitudinal line: *antennæ*, joints cylindrical, and, with the *labrum* and *palpi*, glabrous: *maxillary palpi* much dilated at tip; *eyes* elongated, retuse behind the antennæ, and behind the insertion of the maxillæ: *thorax* subquadrate, narrower than the head, a longitudinal impressed line, and a transverse basal one: *elytra* with numerous, orbicular, black dots, irregularly placed, sometimes confluent, and are the effect of the absence in those

parts of the cinereous hair: *tarsi*, tips of the *tibia* and *thighs*, glabrous.

OBSERVATIONS.

This insect is much smaller than the preceding ones, and the spots of the elytra distinguish it in a remarkable manner. Numerous specimens were brought by Mr. Nuttall from Missouri.

The lower left figure; the line represents the natural length

LYTTA SPHÆRICOLLIS.

SPECIFIC CHARACTER.

Dark green, tinged with brassy; thorax rounded, convex.

SYNONYM.

L. SPHÆRICOLLIS. *Nobis. Jour. Acad. Nat. Sciences*, vol. iii. p. 299.

PLATE III.

DESCRIPTION.

Body glabrous, blackish-green, slightly tinged with brassy: *head* punctured: *antennæ* robust, black, hardly attaining the base of the thorax; joints short, conic, acute at the edge of the tip; second joint rufous, subglobular: *eyes* oval, not elongated: *labrum* and *palpi* blackish: *thorax* subglobular, punctured, punctures sparse, not profound: *elytra* green, slightly tinged with olivaceous and brassy, somewhat rugose; two, rarely three, obsolete, longitudinal lines on the disk, and another near the external margin: *beneath* blackish-green.

Variety, *a*. Body green, destitute of the brassy tinge.

Variety, *b*. Head and thorax black; *elytra* bluish.

OBSERVATIONS.

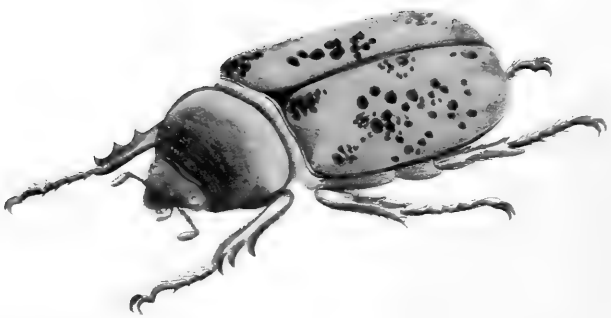
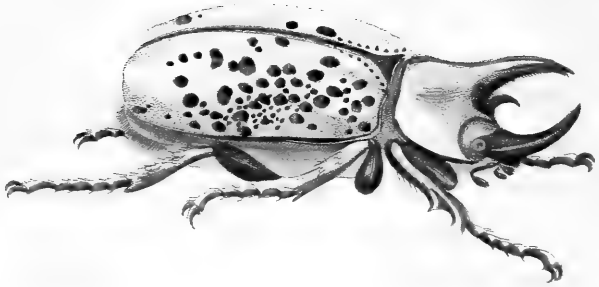
This species is less robust than the preceding, and may be readily distinguished from others by the rounded thorax and very short antennæ, the remaining characters of which latter agree with

those of the *nuttalli*. Many specimens were brought from Missouri by Mr. Nuttall.

In a future volume of this work, we propose to give some account of the American species of this genus, as related to medicine.

The lower right figure ; the line shows the natural length.

PLATE III.



SCARABÆUS.

GENERIC CHARACTER.

Antennæ ten-jointed, the club composed of oblong-oval lamellæ, which have an almost common insertion; body ovoid, convex; mandibles with their external edge crenulated; maxillæ corneous, dentated; labrum entirely concealed; palpi filiform.

OBSERVATIONS.

The genus possessed of the above characters, retains the Linnæan name of *SCARABÆUS* in the system of Latreille, and corresponds with the genus *GEOTRUPES* of Fabricius; whilst the genus *SCARABÆUS* of the latter author, is the same with *GEOTRUPES* of Latreille. Although, in the small portion of the present work, printed in the year 1817, I adopted the Fabrician designation, yet as Entomologists have generally chosen Latreille's nomenclature in this respect, I have thought it necessary to acquiesce in their decision.

This genus comprehends some of the largest insects of the order COLEOPTERA, and, amongst others, the noble species known by the name of *S. Hercules*, of which the truly absurd story has been related of its clasping a branch of a tree between the corneous projections of the head and thorax, and, by flying round the limb thus included, finally succeeds in separating it from the tree; and that the insect then becoming inebriated with the fluid that exudes from the wound, falls apparently lifeless to the ground.

SCARABÆUS TITYUS. *Linn.*

SPECIFIC CHARACTER.

Thorax three-horned, the lateral ones short, subulate, middle one bearded with yellow hair beneath, projected forwards, and bifid at tip; horn of the head recurved, subemarginate on the back near the tip.

PLATE IV.

SYNONYMS.

SCARAB. TITYUS. *Linn. Syst. Nat.*

Amoenit. Acad. vol. vi. p. 391. †

Jablonsky Coleopt. p. 257. pl. 4. fig. 2.

Oliv. Ins. vol. i. p. 9. pl. 10. fig. 31. b. c.

Palisot de Beauv. Ins. p. 137. pl. 1. c.
fig. 4, 5.

LE SCARABÉ TITYUS. *Ency. Meth. Ins.* pl. 137.
fig. 7. †

GEOTRUPES TITYUS. *Fabr. Syst. Eleut.* vol. i.
p. 10.

SCARAB. HERCULES MINOR. *Voet. Coleopt.* p. 24.
pl. 12. fig. 99.

SCARAB. MARIANUS. *Linn.* ♀

*Fabr. in his earlier works; omitted in
his Syst. Eleut*

OBSERVATIONS.

This insect is so extremely rare in Pennsylvania, that the late Rev. F. V. Melsheimer, the parent of Entomology in this country, and a very industrious collector, found but two individuals in eighteen years. An instance has however occurred, in which the appearance of a considerable number of them occasioned no little

surprise in the neighbourhood where they were discovered. A mile or two southward of Philadelphia, and near the river Delaware, an old cherry-tree was blown down by a violent current of wind, and my informant saw the remains of numerous individuals, in and about a cavity of the tree, laid open by the shock of its fall. That there might be no mistake as to the species, he exhibited the thorax of a male he had chosen from the mutilated fragments.

I think it highly probable the *tityus* is more especially a native of the southern states, as my friend, Mr. J. Gilliams, presented me with several specimens in high perfection, collected by himself in Maryland; and from these, the drawings for the annexed plate were made.

The length of the male, exclusive of the horns, is two inches, and the greatest breadth one inch. In colour it resembles the *S. Hercules*, being glaucous with brown spots, or brown with glaucous spots. These spots vary considerably in size, figure, position and number, being sometimes confluent, and exhibiting a clouded appearance. The elytra of one specimen in my collection are entirely chesnut-brown, immaculate, and the larger thoracic horn frequently occurs simple, or undivided at tip, as exhibited

in the figures given by Jablousky and Olivier; to the latter author we are indebted for a knowledge of the specific identity of the *tityus* and *marianus*.

The female is generally somewhat smaller than the male, and unarmed, excepting a small tubercle on the head.

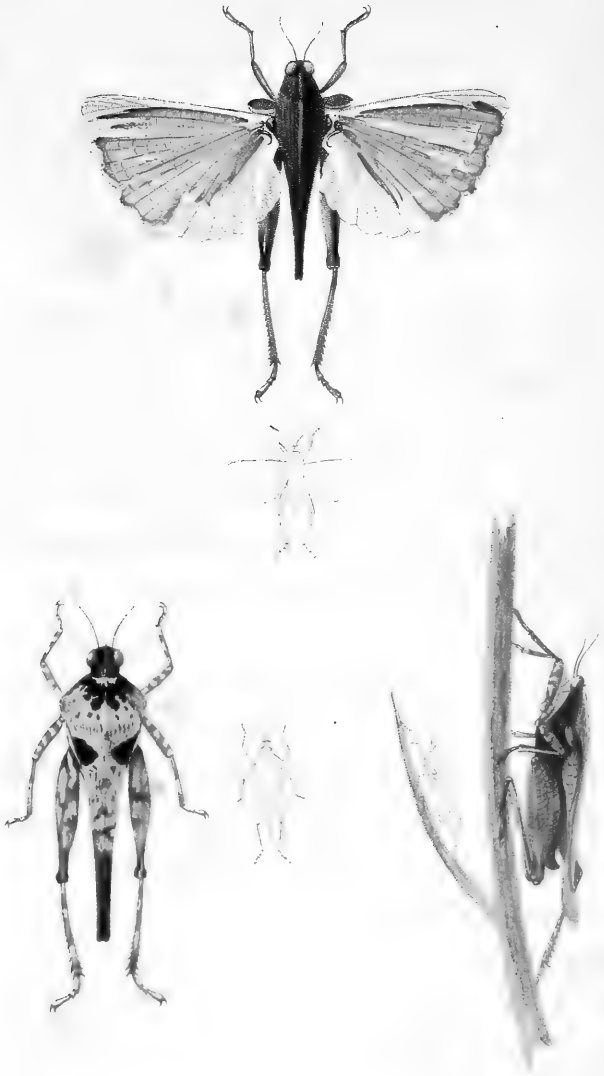
TITYUS, in the heathen mythology, was a gigantic son of Jupiter and Elara, whom Apollo killed for offering violence to his mother Latona.

The upper figure of the plate represents the male, and the lower the female.

PLATE IV.







ACRYDIUM.

GENERIC CHARACTERS.

Thorax elongated behind, often longer than the abdomen; elytra very small; pectus with a cavity for the reception of the inferior part of the head; tarsi three-jointed, destitute of pulvilli; antennæ thirteen or fourteen jointed, not half the length of the body; oviduct not exerted; posterior feet formed for leaping.

OBSERVATIONS.

This genus was established by Fabricius under the name which, with Thunberg, I have adopted. Linné included the species in his genus *GRYLLUS*. Lamarck distinguished them by the name of *ACHETA*, and Latreille by that of *TETRIX*. The species are nearly all small, and several are common. They may be very readily distinguished from "grasshoppers" of other genera, by the remarkable elongation of the thorax, which is continued backward so as to cover the abdomen wholly or in great part.

ACRYDIUM ORNATUM.

SPECIFIC CHARACTER.

Whitish; beneath fuscous; thorax nearly as long as the wings, spotted with black.

DESCRIPTION.

Head blackish; *vertex* with an elevated longitudinal line, which extends down over the front where it is grooved, but this groove does not reach the acute ridge which divides the vertex from the front; *thorax* flattened, somewhat granulated and whitish, laterally projecting a little over the origin of the hemelytra, a slightly elevated longitudinal central line, and two abbreviated oblique elevated lines near the head; a velvet black spot each side over the tip of the hemelytra: *pleura*, *hemelytra* and *pectus* black-brown.

Length to the tip of the wings, half an inch.

OBSERVATIONS.

I am indebted to Mr. Lesueur for this inter-
PLATE V.

resting species, which he caught at Kaign's Point, in the vicinity of Philadelphia. The insects of this genus vary much in their sculpture, size and colour, which renders it difficult to distinguish the species, of which we seem to have several. In the above description I have purposely avoided a minute detail of colours and markings, noting such only as will probably prove to be permanent, or nearly so, and characteristic of the species.

The left hand figures of the plate ; natural size and magnified.

ACRYDIUM LATERALE.

SPECIFIC CHARACTER.

Pale brownish-testaceous, with a lateral broad fuscous line ; thorax shorter than the wings.

DESCRIPTION.

Vertex with an elevated longitudinal line, commencing near the tip, and extending down over

the front, where it is canaliculate the whole length, and terminating beneath the antennæ: *antennæ* reddish-brown, blackish at tip: *thorax* flattened, with small longitudinal lines or wrinkles, and a more obvious, continuous, elevated central line, extending the whole length: *wings* brown on the anterior margin towards the tip, and extending at least the twentieth of an inch beyond the thorax: *pleura* with a dilated blackish-brown line or vitta, beginning at the eye, and including the abdomen above and each side: *feet* brown, more or less annulated with pale: *venter* pale yellowish or testaceous.

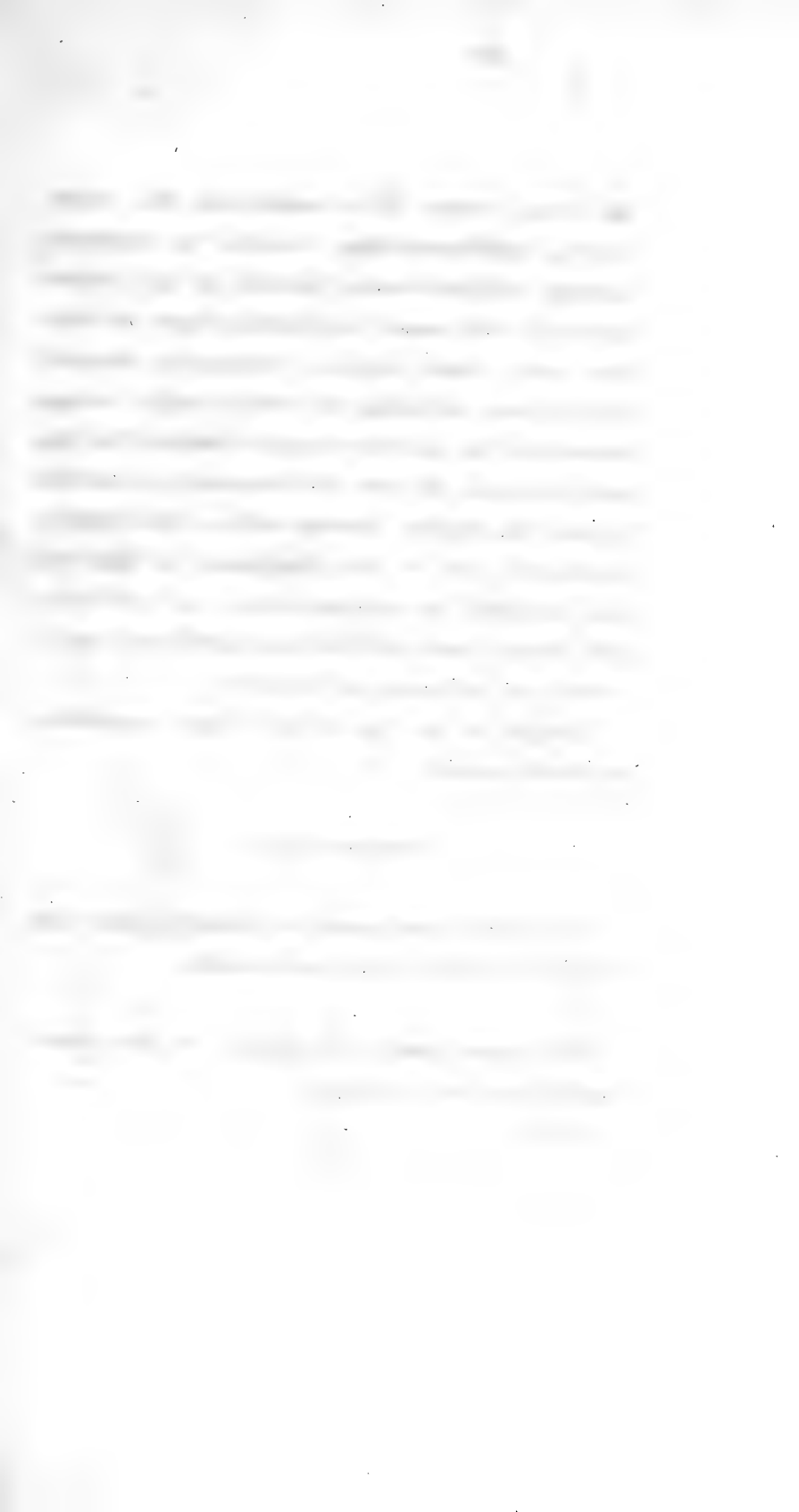
Length to the tip of the wings, nine-twentieths of an inch.

OBSERVATIONS.

I obtained this insect in Georgia and East Florida, where it is not uncommon.

The upper and right figures of the plate; natural size and magnified.

PLATE V.





LAPHRIA.

GENERIC CHARACTERS.

Body elongated; wings incumbent: antennæ divaricating, approximate at base, three-jointed; third joint inarticulate, obtuse, and destitute of a style: front impressed: hypostoma with long rigid hairs: proboscis horizontal, short, without dilated labia: poisers naked: abdomen with seven segments: posterior tibia arquated: tarsi terminated by two nails and two pulvilli.

OBSERVATIONS.

The genus *LAPHRIA*, of Meigen, is perfectly well distinguished from its neighbouring groups by the above stated traits, and has received the approbation of all recent authors who are willing to keep pace with modern discoveries. The arrangement of the nervures of the wings, particularly of those of the anterior margin, is very similar to that of the wing nervures in the genus *ASILUS*, as restricted by the same author; but the form of the antennæ, in this case, at once

decides the genus, those of *LAPHRIA* being simple at their termination, whilst those of *ASILUS* are furnished with a very distinct, and generally elongated, setaceous style.

These insects fly swiftly, and the force with which the wings strike upon the air, produces a loud humming sound. They are predaceous, and pursue with voracity smaller and weaker insects, which they seize, and then alight to suck out their fluids. Many species inhabit the United States. Of these, the *thoracius* of Fabricius, and another which I described under the name of *tergissa*, in consequence of the form of body and sounding flight, have been very frequently mistaken for humble-bees, (*Bombus*.)

The larvæ live, probably, in the earth.

LAPHRIA FULVICAUDA.

SPECIFIC CHARACTER.

Black, with cinereous hair; wings blackish; tergum fulvous at tip.

PLATE VI.

SYNONYM.

LAPHRIA FULVICAUDA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 53.

DESCRIPTION.

Body black, with long cinereous hair: *head* large, transverse; *eyes* deep black: *thorax* varied with black and cinereous, and with short, black hair; two distinct, longitudinal, dorsal, black lines, with a more obvious cinereous band in the middle, which is interrupted by the dorsal lines; two cinereous obsolete points each side behind: *wings* blackish: *halteres* pale at tip: *abdomen* depressed, above and beneath subglabrous, hairy each side; the two terminal segments of the tergum with a common fulvous spot.

Length about three-fifths of an inch.

OBSERVATIONS.

I obtained it at the settlement of *Cote sans Dessein*, on the Missouri river, during a short stay of Major Long's exploring expedition at that place.

Lower right figure.

LAPHRIA SERICEA.

SPECIFIC CHARACTER.

Above with golden-yellow hair; beneath with pale hair; thorax, beneath the hair, dark blue.

SYNONYM.

LAPHRIA SERICEA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 74.

DESCRIPTION.

Head black; *hypostoma* and *gena* with grayish hair, that of the former tinged with dull yellowish; *vertex* and *occiput* with black hair: *thorax* dark blue, with golden-yellow hair, rather longer and somewhat more dense behind; a fringe of longer black hairs over the insertion of the wings: *pleura* blackish; a few long, pale hairs near the *poisers*: *poisers* pale: *pectus* and *feet* black, hairy; hair of the former long; hair beneath the anterior and intermediate feet whitish: *scutel* dull chesnut: *wings* hyaline; ner-

vures fuscous, broadly but faintly margined with yellowish-brown, as well as the inner edge: *tergum* dark chesnut-blue, thickly covered by golden-yellow, silky hair: *anus* black, naked: *venter* black-brown, nearly glabrous, with a few whitish hairs, the segments pale on their posterior margins: *abdomen* cylindrical, depressed.

Length four-fifths of an inch.

OBSERVATIONS.

The nervures of the wings are arranged like those of *L. ephippium*, Fabr. Meig. It is an inhabitant of the United States generally.

Lower left figure.

LAPHRIA DORSATA.

SPECIFIC CHARACTER.

Blue-black; head and feet with cinereous hair; nervures of the wings widely margined with fuscous.

PLATE VI.

DESCRIPTION.

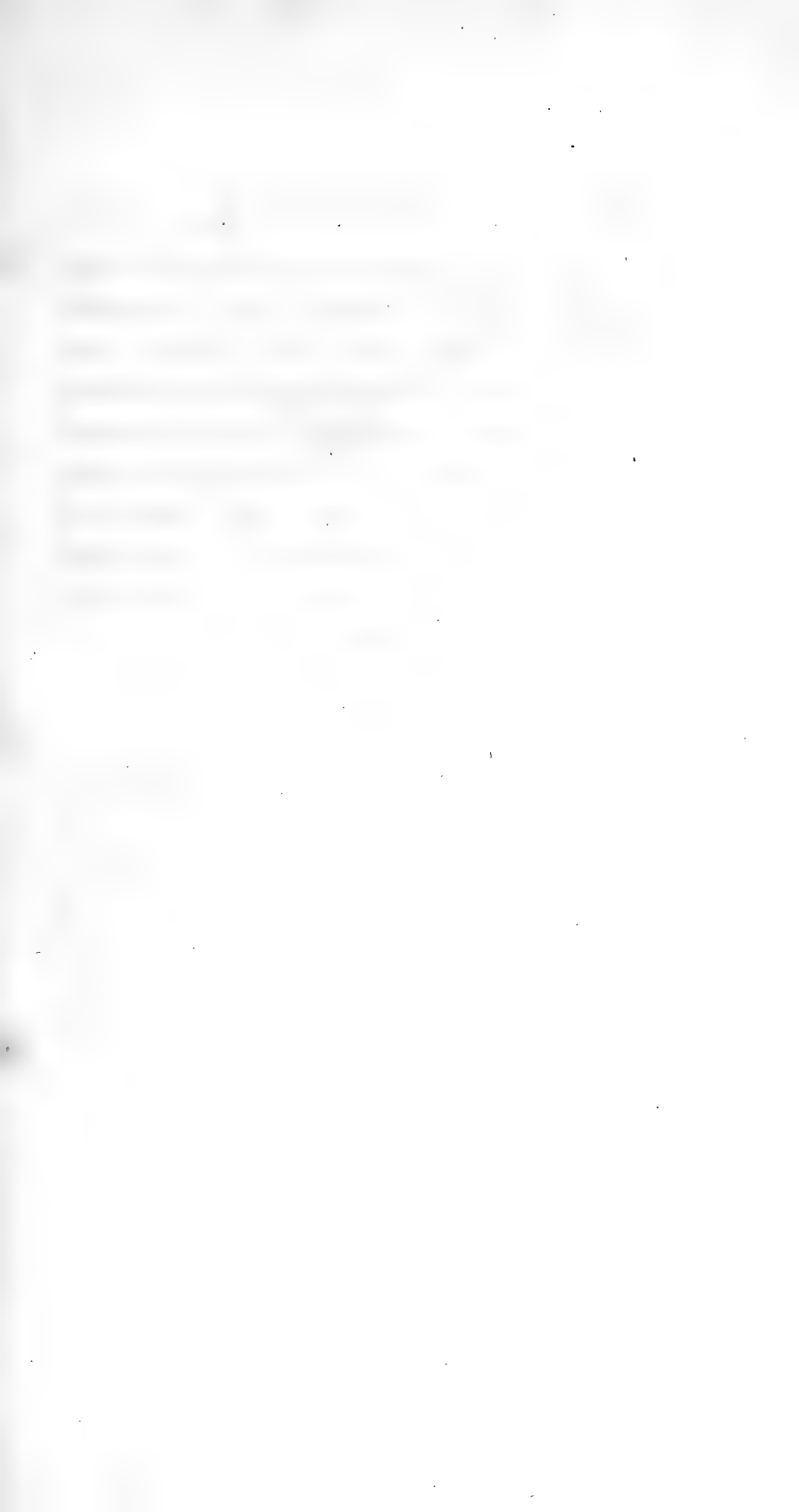
Head black; *anterior orbits* with a white line: *mystax* cinereous; *vibrissæ* black; *stethidium* blue-black, with slight dark cinereous hair; *wings*, nervures widely margined with fuscous, obscuring the anterior part of the wing, and leaving the middle of the cellules on the inner margin almost hyaline: *feet* black; tinged with purplish, and with cinereous hair: *poisers* blackish, paler at base: *tergum* blue-black, with a coppery or purple gloss.

OBSERVATIONS.

It was taken near Philadelphia. The back of the abdomen, although of a dark colour, in a certain light reflects a brilliant coppery or purplish tint. The short nervure which terminates at the apex of the wing, is not only bifid at its origin, as in the *albibarbis*, Meig., but the upper branch joins the nervure above, as well as the lower branch joins the nervure immediately below.

Upper figure.

PLATE VI.





NEMOGNATHA.

GENERIC CHARACTER.

Antennæ longer than the thorax, with the first and third joints nearly equal, the second a little shorter, terminal one fusiform, abruptly terminated by a short point; palpi filiform; maxillæ very much elongated, filiform, curved; elytra elongate, linear; tarsi with entire joints.

OBSERVATIONS.

This genus was formed by Illiger for the reception of such species of the Linnæan genus *MELŒ*, as are distinguished by the remarkable and striking character of elongated maxillæ. Fabricius included them in his genus *ZONITIS*. The maxillæ of these insects have the closest analogy with the spiral trunk of the *LEPIDOPTERA*, and every point of comparison induces the supposition that this organ is applied to the same uses. The species are found on flowers.

NEMOGNATHA IMMACULATA.

SPECIFIC CHARACTER.

Lemon-yellow, immaculate ; elytra pale yellowish, with scattered punctures ; maxillæ not longer than the thorax, and, with the antennæ and palpi, black.

DESCRIPTION.

Antennæ black, basal joint pale testaceous ; *eyes, maxillæ, palpi,* and *tips of the tarsi,* black ; *elytra* irregularly punctured, naked, polished.

OBSERVATIONS.

It inhabits the plains of Missouri, and was captured by Mr. Thomas Nuttall, on a species of thistle (*CARDUUS*) ; I have since observed it in some plenty in the same locality. It seems to be allied to the *ZONITIS PALLIDA* of Fabricius, judging by his description of that insect.

The smaller figure of the plate denotes the natural size, and the figures beneath it exhibit magnified representations of some of the oral organs, &c.

Fig. 1. Antenna.

2. Mandible.

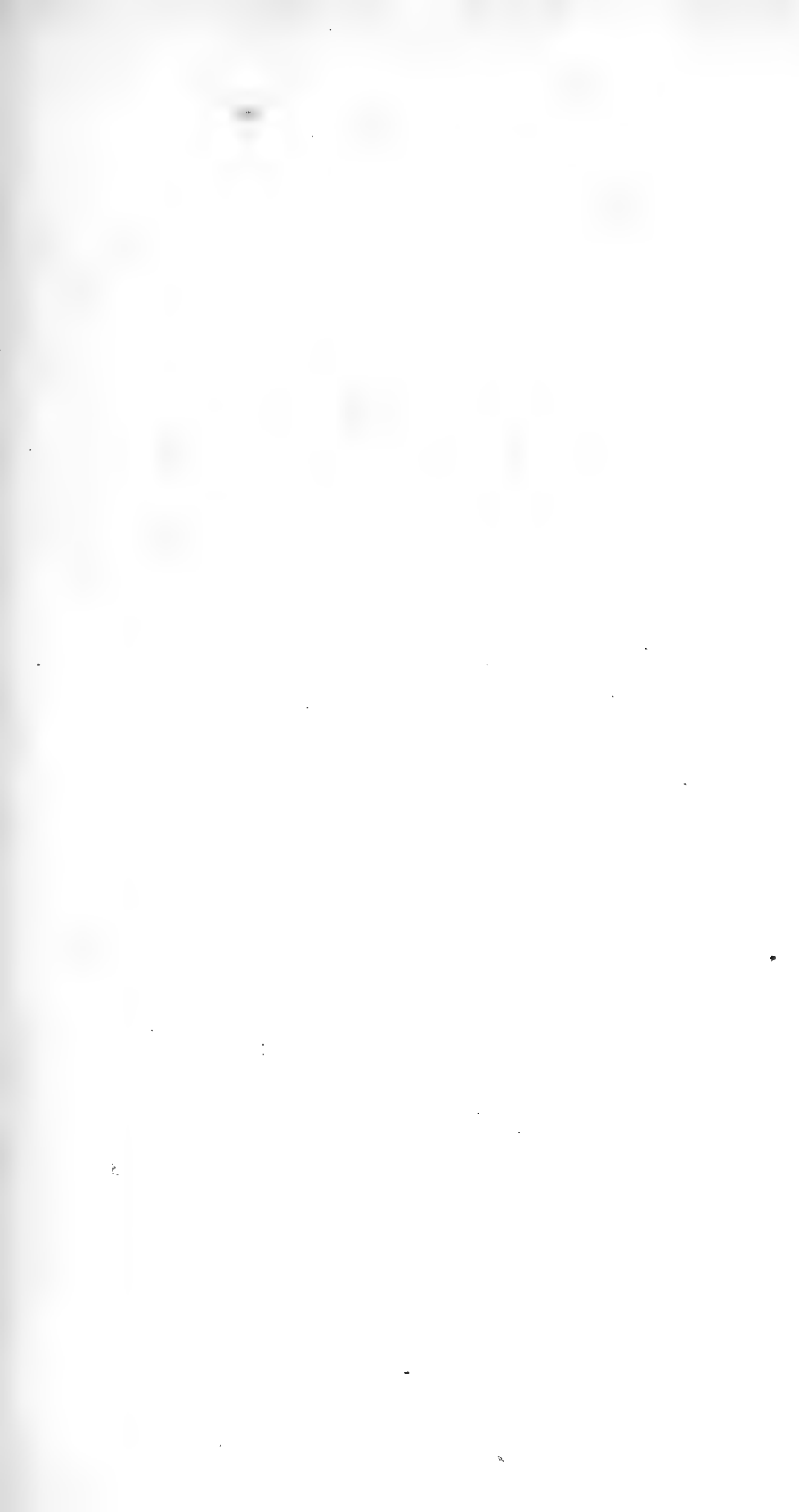
3. Tongue and labium supporting the labial palpi.

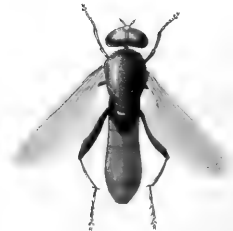
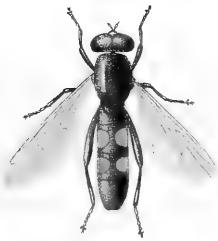
4. Labial palpus.

5. Maxilla with its palpus, verticillate with short hairs.

PLATE VII.







XYLOTA.

GENERIC CHARACTER.

Antennæ three-jointed, inserted on a frontal elevation, nutant; third joint suborbicular, compressed, with a naked seta placed behind the dorsal middle; ocelli three; proboscis with fleshy lips; hypostoma above impressed, near the mouth a little elevated, retuse and subtuberculated: posterior thighs dilated, spinous beneath; onychii two; abdomen with five segments; wings incumbent, parallel.

OBSERVATIONS.

For this genus we are indebted to Meigen. Linné, Gmelin, Degeer, Schranck, and others, referred the species to *MUSCA*; Fabricius and Panzer to *SYRPHUS* and *MILESIA*. In his *Systema Anthiatorum* Fabricius, with Latreille and Falén, included them in the genus *MILESIA*; and a few species were scattered in the genera *MERODON*, *SCÆVA*, *ERISTALIS*, and *THEREVA*, by several authors.

The species are frequently found on flowers, and the larva is supposed to inhabit decaying wood.

XYLOTA QUADRATA.

SPECIFIC CHARACTER.

Blackish; tergum with four dilated subequal ochraceous spots; posterior thighs with a prominent angle near the tip.

DESCRIPTION.

Head golden-yellow, black at base of the antennæ and in a line proceeding to the mouth: *hypostoma* very slightly indented, carinated: *antennæ* ochraceous: *eyes* chesnut: *thorax* dark brassy; with two cinereous lines confluent before, attenuated behind, and abbreviated behind the middle; an obsolete interrupted line each side over the wings: *scutel* on the posterior margin ochraceous: *pleura* and *pectus* with a pale glaucous covering: *feet* ochraceous, thighs black at base; posterior pair black-brassy, their thighs

dilated, with spines beneath, placed irregularly; a prominent projecting angle near the tip: *tergum* black; basal segment on the lateral margin ochraceous; second segment with a large subquadrate, ochraceous spot each side, approaching the middle where it is longer than on the margin, posterior edge ochraceous; third segment with also a large subquadrate, ochraceous spot each side, approaching the middle where it is longer than on the margin, it reaches the basal suture, posterior edge ochraceous; fourth segment ochraceous at tip: *venter* yellowish-white, blackish at tip.

OBSERVATIONS.

The specimen is a female, and was captured in Pennsylvania. By its form of body, and the character of the hypostoma, it approaches the genus **EUMERUS**, Meig.

The upper right figure of the plate.

PLATE VIII.

XYLOTA EJUNCIDA.

SPECIFIC CHARACTER.

Blackish; tergum with four semioval, subequal, ochraceous spots; posterior thighs rather slender, with two series of black spines beneath.

DESCRIPTION.

Head silvery: *antennæ* ochraceous: *eyes* chestnut: *thorax* greenish-brassy, with a grayish spot each side before: *poisers* and *scale* whitish: *feet* whitish, two last joints of the tarsi black; thighs piceous with a slight brassy tinge, posterior pair not remarkably dilated, exterior series of spines nearly equal from near the base to the tip; posterior tibia piceous at tip: *tergum* black, with a slight tinge of green; basal segment polished, immaculate; second and third segments each with a large semioval ochraceous spot on each side, approaching the middle and attaining to the lateral edges, but not reaching either the base or tip of the segment; fourth segment ob-

scure, brassy, polished: *venter* yellowish-white, black at tip.

OBSERVATIONS.

The specimen is a male. I caught it on the banks of St. John's river, in East Florida, during a short visit to that country in company with Messrs. Maclure, Ord, and T. Peale. A specimen, in the collection of Mr. William W. Wood, was taken near Philadelphia.

The upper left figure.

XYLOTA PROXIMA.

SPECIFIC CHARACTER.

Blackish; tergum about six-spotted; posterior thighs dilated, with a large rufous spot on the middle.

DESCRIPTION.

Head yellowish-silvery: *vertex* black: *antennæ*

PLATE VIII.

ochraceous: *thorax* blackish, two gray oblong-triangular spots on the anterior margin, connected with a lateral line that extends nearly to the origin of the wings: *poiser* and *scale* whitish: *pleura* and *pectus* silver-gray: *feet* ochraceous; *posterior thighs* much dilated, with a very distinct rufous spot each side, and another at base, posterior half of the inferior edge more prominent, spines extending from near the base to the tip; *posterior tibia* blackish, rufous in the middle and at base: *tergum* black; first segment with an ochraceous lateral margin and basal edge; second segment with a large semioval ochraceous spot each side; third segment with a small transversely semioblong-oval ochraceous spot each side at base; fourth segment with a transverse pale ochraceous line each side at base, and posterior margin: *venter* yellowish-white, blackish at tip.

OBSERVATIONS.

Very common in the neighbourhood of Philadelphia, on flowers. I obtained a variety in Virginia, of which the spots of the tergum are grayish-glaucous. The two sexes are similar in colour.

It is closely allied to *Syrphus pipiens* of Fabri-

cius; but the posterior thighs of that species, if we may rely upon Panzer's figure, are widest in the middle, whereas in this species they are widest near the tip, and the rufous band is on the inside as well as on the exterior side.

The lower left figure.

XYLOTA HÆMATODES.

SPECIFIC CHARACTER.

Brassy-black; abdomen rufous; wings fuliginous.

SYNONYM.

MILESIA HÆMATODES. *Fabr. Syst. Antl.* p. 193.

DESCRIPTION.

Head black-brown: *hypostoma* and *front*, in a certain light, silvery: *vertex* polished: *thorax* brassy-black: *humerus*, in a certain light, silvery: *scutel*, colour of the thorax: *wings* fuli-

PLATE VIII.

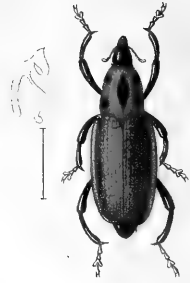
ginous: *pleura* and *pectus* nearly black, polished: *feet*, anterior pairs tinged with brownish: *posterior thighs* much dilated, immaculate, spines short: *tergum* bright rufous, basal segment black, second segment with a longitudinal black line at base: *venter* paler rufous.

OBSERVATIONS.

A native of the southern states. I obtained two specimens in East Florida, one of which is represented on the annexed plate. It was first described by Fabricius, in his *Systema Anthiatarum*, from the collection of M. Bosc, but no figure has been hitherto given of it.

The lower right figure.

PLATE VIII.



CALANDRA.

GENERIC CHARACTER.

Body elliptic-oval, above somewhat depressed; eyes immersed, oblong, encircling the head beneath; antennæ geniculated, inserted at the base of the rostrum; rostrum dilated at the insertion of the antennæ; elytra plain, not covering the anus above; anus acutely prominent; tarsi reflected to the inner side of the tibia.

OBSERVATIONS.

Such of the individuals, as were known to Linné, of almost the whole of the vast tribe of insects now distinguished from the other tribes by the name of *CURCULIONIDES*, were included by that author in his single genus *CURCULIO*. So extremely numerous were the species, thus combined together, as to offer a very serious inconvenience to Entomologists. They soon perceived that the continual accessions of species, resulting either from the more critical and accurate observations of numerous investigators, or

from the contributions of those who were occupied in the adventurous task of exploring remote and unknown regions, had so far augmented the obstacles already existing, that the hand of reformation became absolutely necessary. Accordingly Olivier, Herbst, Fabricius, Latreille, Germar, Megerle, and other distinguished systematists, undertook to separate the Linnæan genus *CURCULIO* into numerous smaller assemblages, and thus to bring this part of the system into a more intimate alliance with the order observed by nature in the distribution of species.

The labours of these naturalists eventuated in the construction of more than one hundred additional genera, but the characters of many of these genera appear to be too obscure, and of others not sufficiently important to justify their collective adoption. By far the greater portion of them, however, will probably tend to the elucidation of this difficult part of the system, and amongst these may be ranked the genus *CALANDRA* of Clairville, distinguished by obvious and striking traits.

The history of many species of this group is highly interesting and important, and we propose to represent, in a future volume, those that are so destructive to the wheat, rice, and maize.

CALANDRA TREDECIM-PUNCTATA.

SPECIFIC CHARACTER.

Above sanguineous ; five spots on the thorax, four on each elytrum, and scutel, black ; head and all beneath black.

SYNONYMS.

RYNCHOPHORUS TREDECIM-PUNCTATUS. *Herbst*,
vol. vi. p. 10. pl. 60. fig. 5.

CALANDRA CRIBRARIA. *Fabr. Syst. Eleut.* part
2. p. 434.

CURCULIO TREDECIM-PUNCTATUS. *Melsheimer's*
Catalogue, p. 28. No. 597.

DESCRIPTION.

Body punctured, beneath black, with a cinereous shade in a particular light, and with numerous large punctures ; *head* black ; rostrum, dilated portion not longer than broad, but more dilated at tip, and with an impressed longitudinal line ; *thorax* sanguineous, with five black spots,

of which two are orbicular, and placed on each side, and one is central, fusiform, sometimes rounded; *scutel* black; *elytra* sanguineous, with punctured striæ, interstitial lines flat, with dilated punctures; four black spots on each elytrum, placed 1, 2, 1, the latter largest.

Length seven-twentieths of an inch, exclusive of the rostrum.

OBSERVATIONS.

We introduce this familiar insect, and a variety of it, chiefly for the sake of comparison with another species, which has many characters in common with it. A slight inspection of the plate will, however, at once disclose the differences by which we will always be enabled to distinguish them from each other.

The *tredecim-punctata*, which does not appear to be injurious to any useful plant, may be found in considerable numbers on the milk-weed, or wild cotton (*Asclepias syriaca*), which is very common in the neighbourhood of Philadelphia, growing on the banks of streams of water. The insect seems to be a pretty general inhabitant of the United States; I have found it in Missouri, Arkansa, and the North West Territory, as well as in Pennsylvania.

Lower right figure; the line represents the natural size, with a lateral enlarged view of the head.

CALANDRA TREDECIM-PUNCTATA, *Var.*

DESCRIPTION.

Body punctured; beneath black, with a cinereous shade in a particular light, and with numerous large punctures; *head* black; rostrum, dilated portion longer than broad, but more dilated at tip, and with a deeply impressed puncture at its base above: *thorax* sanguineous, with five black spots, of which two are placed on each side, the posterior one larger and generally oblique, and one is central fusiform: *scutel* black: *elytra* sanguineous, with punctured striæ; interstitial lines flat, with dilated punctures; two small marginal spots; a large common transverse spot on the middle, and a common tip consisting of about one-third of the length of the elytra, black.

PLATE IX.

OBSERVATIONS.

The spots of the elytra appear at first view to be formed and located differently in this from those of the preceding, yet by dilating the two central elytral spots of the preceding insect transversely, and enlarging the posterior spots in a posterior and transverse direction, we shall be able to exhibit an arrangement precisely conformable to that of the present variety.

The spots of the elytra in this variety are subject to some variations; the transverse spot on the middle of the elytra is divided into two on one of my specimens; the posterior common spot is subcordate, being much narrowed behind in another, and in a third is a black spot on each elytrum, insulated from the common terminal spot which is much narrowed.

This insect is a native of Missouri and Arkansas, as well as of the atlantic states.

The lower left figure; the natural size is represented by a line, above which is an enlarged view of the head.

PLATE IX.

CALANDRA QUINQUE-PUNCTATA.

SPECIFIC CHARACTER.

Black ; thorax sanguineous, with five black spots ; elytra with a sanguineous exterior submargin.

DESCRIPTION.

Body punctured, beneath black, with a very slight cinereous reflection in a particular light: *rostrum*, dilated portion longer than broad, but wider at tip, and with a deeply impressed puncture at base above: *thorax* sanguineous, with five black spots, of which two are on each side, the posterior one larger, oblique, and generally confluent along the basal margin with the opposite basal spot, the central spot is dilated and elongated, fusiform: *scutel* black: *elytra* black, with punctured striæ; interstitial lines flat, punctured, penultimate lateral one and ultimate one at base sanguineous: *thighs* with a dull sanguineous spot on the middle, obsolete on the posterior pair.

Size of the preceding.

PLATE IX.

OBSERVATIONS.

I observed this species to be very abundant on the Southern Sea Islands of Georgia ; many specimens also occurred in East Florida, but I cannot learn that it has ever been taken further north than that state, neither does it seem to inhabit the western region.

The upper right figure ; the natural size is exhibited by a line, above which is an enlarged representation of the head.

CALANDRA COMPRESSIROSTRA.

SPECIFIC CHARACTER.

Castaneous black ; rostrum compressed ; a profound frontal puncture ; thorax with two punctured lines converging to the scutel.

SYNONYM.

CALANDRA COMPRESSIROSTRA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 319.

PLATE IX.

DESCRIPTION.

Body dark chesnut-brown, passing into blackish: *head* with small distant punctures, larger ones on the base of the rostrum, which decrease in size to the tip; a profoundly impressed large puncture between the eyes: *rostrum* very much compressed, acutely carinate above: *antennæ* at the tip rufous: *thorax* with larger punctures on the side, on the anterior impressed submargin and on two indented lines which originate each side of the middle and converge to the suture: *elytra* with crenate striæ; interstitial lines each with a series of punctures: *tibia* with a very robust obtuse spine and setæ below the interior middle.

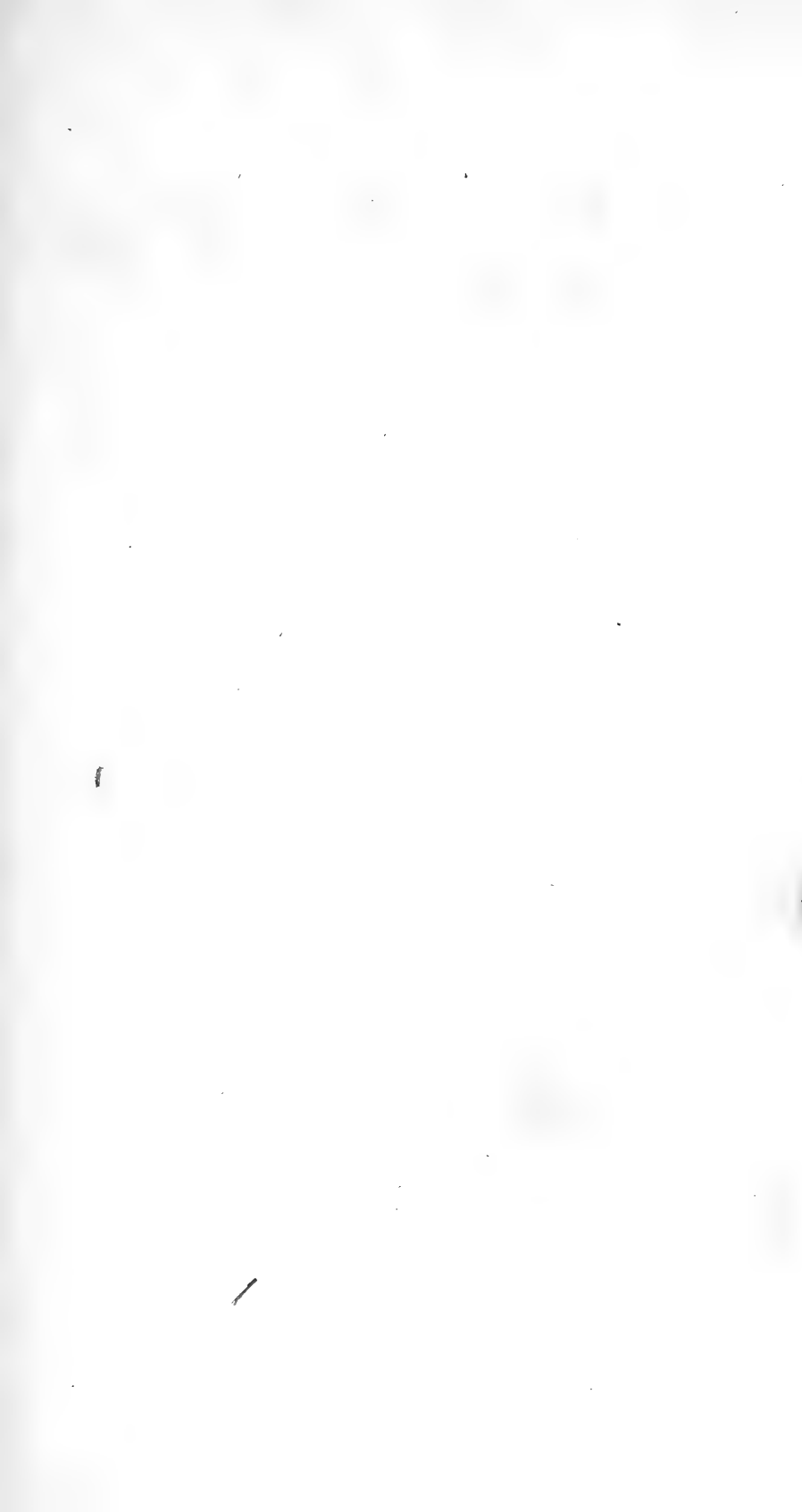
OBSERVATIONS.

This singular species occurred near the Rocky Mountains, on the banks of the Arkansaw river. It is widely distinct from either of the preceding species, as well by the much compressed form of the rostrum, as by the more obvious dissimilarity of colour.

PLATE IX.

The upper left figure ; the natural size is represented by a line, and an enlarged view of the head and part of the thorax is added.

PLATE IX.





ANTHICUS.

GENERIC CHARACTER.

Antennæ with conic joints, the second and third nearly equal, terminal one ovate-oblong; labial palpi terminated by a small truncate joint; thorax subcordate, often strangulated near the middle; penultimate tarsal joints bilobate; nails simple.

OBSERVATIONS.

The type of the insects which now constitute the genus *ANTHICUS* of Fabricius, was included by Linné in that of *MELŒ*, by Geoffroy, Olivier and Illiger in that of *NOTOXUS*, and by Marsham in that of *LYTTA*. I formerly adopted Geoffroy's designation, but that name has since been adopted by European naturalists for a very different genus of insects.

ANTHICUS BICOLOR.

SPECIFIC CHARACTER.

Blackish, thorax with a projecting horn, and with the feet testaceous, immaculate.

DESCRIPTION.

Head very dark testaceous; *front* and *vertex* covered by short incumbent hair of a silky lustre; *eyes* black; *thorax* testaceous, immaculate; *horn* obtusely dentate each side, and somewhat bicarinate above; *scutel* small, black; *elytra* purplish-black; *breast* and *abdomen* testaceous, sericeous; *body* with short incumbent hair; *feet* naked.

OBSERVATIONS.

In the forests of New-Jersey, I have found this little insect in the month of June, on the leaves of the hickory (*JUGLANS tomentosa*, Michaux), and of some other plants. The Rev. John F. Melsheimer, an able Entomologist, in-

formed me that he obtained many specimens from the garden carrot. This species is allied to the *NOTOXUS serricornis* of Panzer, fascicle 32, pl. 17.

The upper figures of the plate, of which the smaller one indicates the natural size.

ANTHICUS MONODON. *Fabr.*

SPECIFIC CHARACTER.

Testaceous; elytra with a black band and spots.

SYNONYM.

ANTHICUS MONODON. *Fabr. Syst. Eleut.* 1, p. 289.

DESCRIPTION.

Body above hairy: *head* with the *vertex* silky: *eyes* fuscous: *thorax* with a lateral obscure spot: *horn* obtusely dentate each side: *scutel* small:

PLATE X.

elytra with a black band on the middle; each marked by two black spots at the base, of which one is near the scutel, and the other on the humerus; a black obsolete one near the tip: *abdomen* silky.

OBSERVATIONS.

Not uncommon. I have found it in June, on the oak and other forest trees: it very much resembles *ANTHICUS monoceros*, of which Marsham observes, “Thorax recta antrosum exiens in cornu nigricans ultra caput entensum, unde verè monstrosa et insectis insolita facies.” *A. monodon* was first described by Fabricius, but it has not been hitherto figured.

Lower figures, of which the smaller indicates the natural size.

PLATE X.

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Third block of faint, illegible text near the bottom of the page.



SYRPHUS.

GENERIC CHARACTER.

Antennæ separate at base, shorter than the head, advanced, nutant, triarticulate; third joint orbicular or oval, compressed, with a seta near the dorsal base; hypostoma tuberculated, but not very remarkably prominent; feet simple and slender; wings incumbent parallel, central transverse nervure placed almost perpendicularly.

OBSERVATIONS.

This genus was included by Linné in his comprehensive genus *MUSCA*. In the *Systema Antliatorum*, Fabricius constructed a separate genus under the name of *SCÆVA*, for the reception of many insects that he had formerly placed in his genus *SYRPHUS*. But it is now ascertained that nearly or quite all the species retained in the latter belong to other genera, and particularly to those of *VOLUCELLA* and *SERICOMYIA*. The name *SYRPHUS* being therefore disengaged, has

been very properly restored to its old species, and, as far as I can learn, the name of *SCÆVA* is rejected by Meigen. Consequently, the nine new species which I described in the *Journal of the Academy of Natural Sciences* (vol. iii. p. 88.) under the name of *SCÆVA*, must now be considered as belonging to the genus *SYRPHUS*. As it now stands, this genus is closely allied to *MILEZIA*. Not one of our numerous species was known to Fabricius.

The larvæ feed on Aphides or Plant-lice; the body is in the shape of an unequal cone, large behind, attenuated to a point before, and destitute of distinct feet. In order to suck out the juices of their victim, they raise it from the surface of the plant on which they rest. When about to enter the pupa state, they attach themselves by a glutinous secretion to a fixed object, the body contracts, and the anterior portion, which was previously attenuated, becomes the most dilated part.

PLATE XI.

SYRPHUS CYLINDRICUS.

SPECIFIC CHARACTER.

Blackish, varied with yellow; abdomen, excepting the base of the tergum, yellow-ferruginous.

DESCRIPTION.

MALE. *Head* yellowish-white, somewhat silvery, polished; *antennæ* more deeply tinged with yellow; tubercle of the *hypostoma* a little dusky at tip; *eyes* chesnut: *thorax* dark greenish-olivaceous, spot before the wings and *scutel*, yellow: *pleura* black with yellow spots: *pectus* black: *feet*, including the *coxæ*, pale yellow: *tergum* yellowish-ferruginous; first segment and base of the second black; tip of the second segment either dull ferruginous or blackish; third segment dull yellow, somewhat ferruginous at base and tip: *venter* yellow at base, ferruginous towards the tip.

PLATE XI.

OBSERVATIONS.

I have seen but two specimens, which are both males, taken near Philadelphia. In form of body it resembles the *S. scalaris*, Fabr., and *tæniatus*, Meig., of Europe.

The upper figure of the plate.

SYRPHUS OBSCURUS.

SPECIFIC CHARACTER.

Blackish-green; tergum with lateral full cupreous triangles.

DESCRIPTION.

MALE. *Head* metallic black, tinged with green: *antennæ*, third joint dull testaceous: *stethidium* entirely blackish-green, polished, immaculate: *feet* dull testaceous, thighs blackish at base: *tergum* velvet-black, slightly tinged with green; second segment with a dull coppery semioval spot on the middle of the lateral mar-

gin, extending on the edge to the base and tip; third and fourth segments each with a large dull coppery triangular spot on each side at base, approaching closely towards each other on the basal margin, and extending on the lateral edge nearly to the tip; an obsolete, longitudinal, central, dull coppery line, widely outspread on the posterior margin, so as to attain to the posterior angles: *venter* purplish or dusky, highly polished.

OBSERVATIONS.

Of this also I have seen but two specimens, both of which are males; one was taken near Philadelphia, and the other at Chinquoteage, Virginia.

The lower figure of the plate.

PLATE XI.

SYRPHUS OBLIQUUS.

SPECIFIC CHARACTER.

Thorax green-bronze, with a yellow dot before the wings; tergum bounded and spotted with yellow.

SYNONYM.

SCÆVA OBLIQUA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 89.

DESCRIPTION.

Head yellow, a dusky line above the antennæ; *orbits* yellow to the vertex; *antennæ* blackish on the superior edge: *thorax* dark green-bronze; a yellow spot before the wings: *scutel* bright yellow: *feet* whitish; *anterior tibia* and *tarsi* a little dilated, the latter with short joints; *posterior thighs* with one obsolete band, their *tibia* two banded; extremity of all the *tarsi* dusky: *tergum* black; first segment with a yellow basal edge; second segment with a band at base, inter-

rupted into two oblong triangles, and a broader one on its middle, yellow; third segment with one arquated band; fourth and fifth segments each with an oblique oblong-oval spot each side, and two longitudinal lines on the middle, yellow.

Variety β Band of the third segment of the tergum interrupted into four small spots.

OBSERVATIONS.

A very pretty insect, not uncommon in gardens on flowers, leaves, &c. The sexes are alike in colour and markings.

The left figure of the plate. (This figure represents the variety.)

PLATE XI.

SYRPHUS POLITUS.

SPECIFIC CHARACTER.

Thorax with a yellow line each side, and a cinereous dorsal one; tergum with yellow bands and quadrate spots.

SYNONYM.

SCÆVA POLITA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 88.

DESCRIPTION.

Head yellow, above the antennæ dusky silvery: *thorax* somewhat olivaceous, a yellow line above the wings, and a dorsal cinereous one: *scutel* dusky yellowish, with a paler margin: *feet* whitish: *tergum* black; basal segment with the basal and lateral edges yellow; second segment with a transverse yellow band on the middle; third and fourth segments with a band and longitudinal line, each side of which latter is a large, transverse, subtriangular spot, yellow;

PLATE XI.

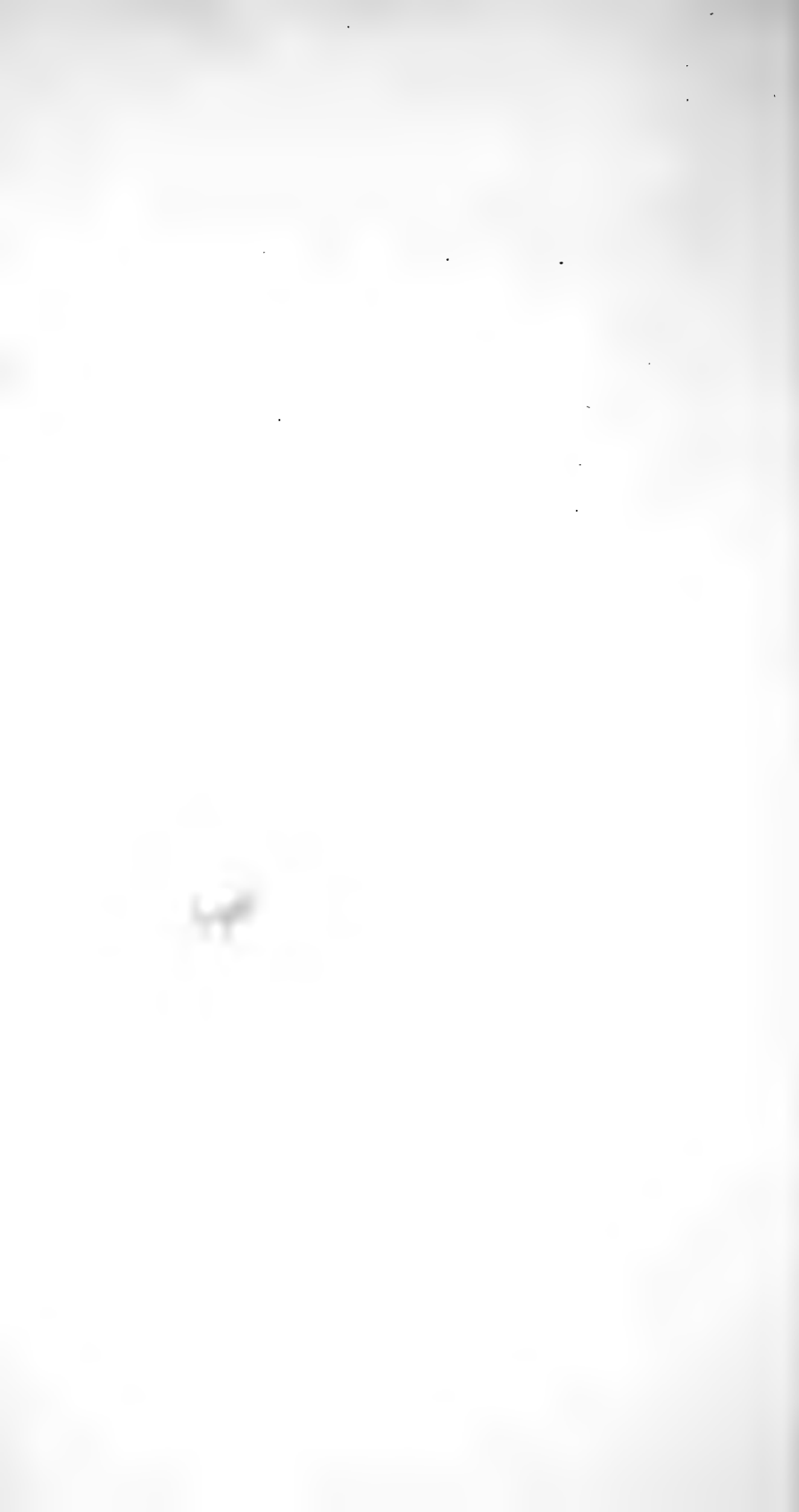
fifth segment with the yellow spots and base, but destitute of the longitudinal line.

OBSERVATIONS.

This species, like the preceding, is very agreeably ornamented with the yellow lines and spots that characterize it, and like that species it is not unfrequent, yet I have but two imperfect specimens, which are both females.

The right figure of the plate.

PLATE XI.







SMERINTHUS.

GENERIC CHARACTER.

Tongue very short; antennæ serrate; palpi contiguous, short, terminal joint tuberculiform, very short; anterior wings angulated; anus simple.

OBSERVATIONS.

Latreille constructed this genus to receive such Linnæan Sphinges as have a very short or indistinct tongue. The species, although closely allied to those of the genus from which they were separated, are yet distinguishable by their form of body and habits of life. They are short, robust, and generally remarkable by a handsome display of colours. They are never seen to shoot, like meteors through the air, from flower to flower, balancing the body at each, in order to extract sweets from the nectary, but, unlike the Sphinx and Humming-bird, their flight is heavy and reluctant, and they receive food only in the state of repose.

The larvæ are generally elongated, with lateral, oblique, coloured lines, and a prominent horn on the upper part of the posterior extremity of the body. They feed on leaves, and undergo their change to the pupa state in the earth, without the care of constructing any regular cocoon.

SMERINTHUS GEMINATUS.

SPECIFIC CHARACTER.

Inner angle of the posterior wings with a large black spot, in which are two blue spots.

DESCRIPTION.

Head tinged with ferruginous before; vertex white: *antennæ* whitish, *pectens* brown; *thorax* whitish, with a dark brown disk rounded before and gradually dilating behind: *superior wings* varied with brown and cinereous; a dark semi-oval spot at the tip is obvious and remarkable: *inferior wings* yellowish, with a red disk, and a large deep black spot of a similar shape to that of the thorax, including two blue spots.

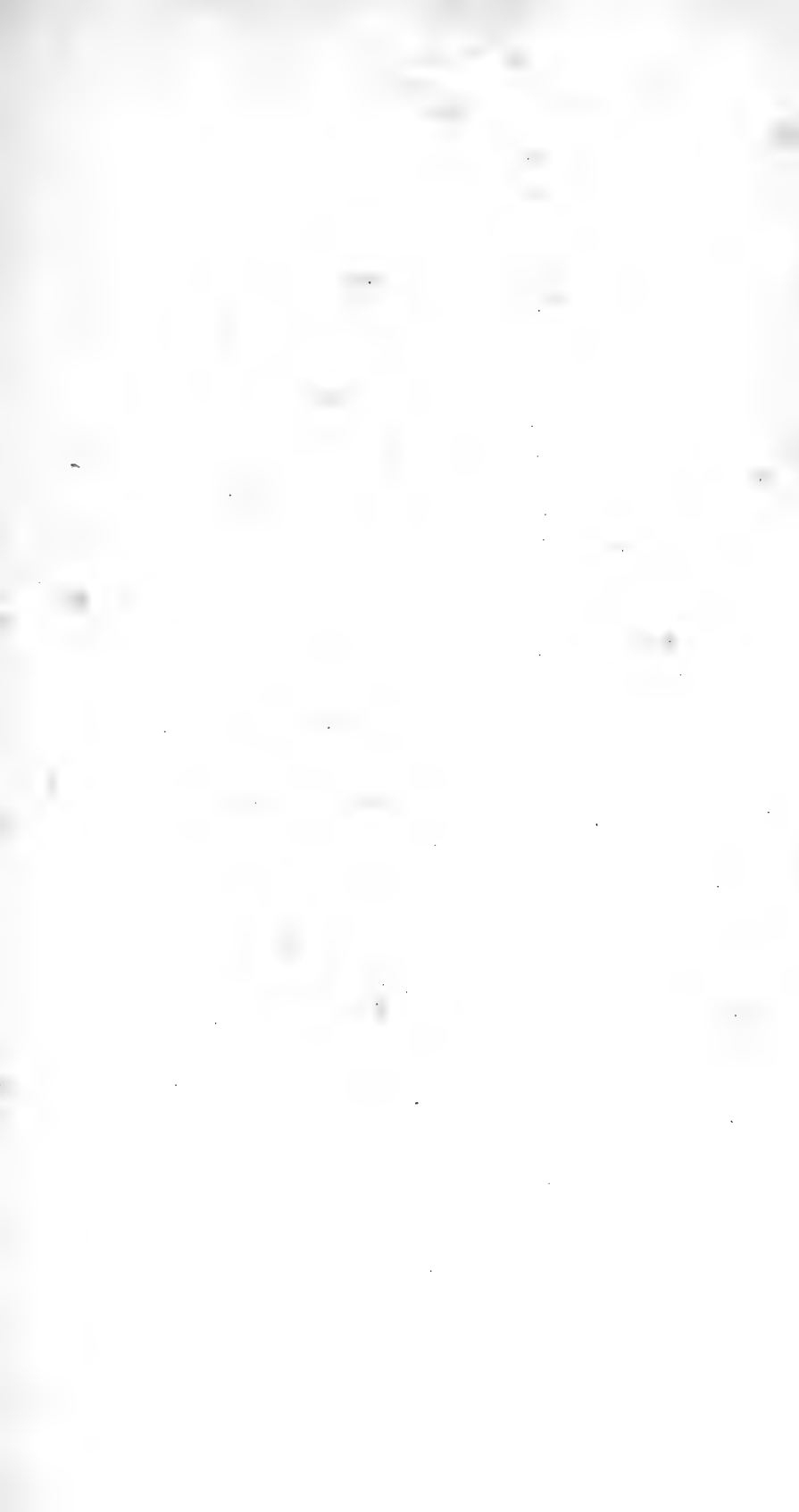
OBSERVATIONS.

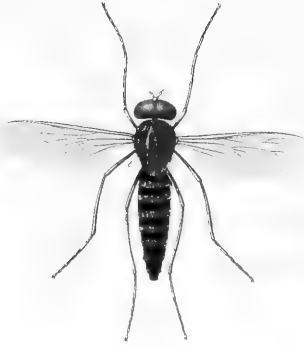
Closely allied to the *ocellata* of Europe, and to the *myops* and *excaecata* of our own country, but it may be distinguished from either by the double blue spot in the black patch on the posterior wings. The *excaecata* I have not seen, and have therefore to rely on Abbott's drawing of that insect, as given by Smith in his splendid work, the "Lepidopterous Insects of Georgia," where it is represented with a single large blue spot, in the place of the two that exist on each posterior wing of the present species. These two spots seem to be constant as well as common to both sexes.

The plate represents two views of the natural size.

PLATE XII.







LEPTIS.

GENERIC CHARACTER.

Antennæ short, approximate, at base, triarticulate; basal joint cylindric; second cyathiform; third conic, not annulated, and terminated by a long seta; stemmata three, situated on the vertex; proboscis and palpi exerted, the latter pilose, with its second articulation elongated; wings divaricated; halteres naked; onychii three; abdomen consisting of seven segments.

OBSERVATIONS.

The species were arranged by Linné in his genus *MUSCA*. Fabricius, Meigen and Latreille, in their earlier works, removed them from *MUSCA*, to form a distinct group, to which they applied the name of *RHAGIO*, including, as it then stood, some species that have been since separated, and now stand under the name of *ATHERIX*. Those authors, in their subsequent publications, finding that the appellation of *RHAGIO* presented the inconvenience of a collision

with that of a Coleopterous genus (**RHAGIUM**), united in rejecting the word, and supplied its place with that of **LEPTIS**, which I have adopted.

Some of the species are common; they are predaceous; the larvæ are cylindrical, apodal, with a small horny head, and live in the earth.

LEPTIS ORNATA.

SPECIFIC CHARACTER.

Velvet-black; thorax and abdominal bands with whitish hair; wings hyaline; feet white.

SYNONYM.

LEPTIS ORNATA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 34.

DESCRIPTION.

Hypostoma and *front* with silvery white hair: *thorax*, particularly on its lateral margins, with silvery hair very slightly tinted with yellow: *pleura*, *pectus* and *coxæ* black: *feet* pale yellow-

ish: *tarsi*, except at base, fuscous: *poisers* pale yellow: *tergum* on the basal segment nearly covered with silvery hair; remaining segments each with a silvery band behind, occupying nearly one half of its length, and interrupted in the middle: *venter* immaculate.

OBSERVATIONS.

The specimen is a male. The species is an inhabitant of Pennsylvania, and probably also of several of the neighbouring states. It is very closely allied to the *thoracica* of Fabricius, with which it has probably been hitherto confounded; but it differs from that beautiful species by its pellucid wings, pale tibia, broader bands of the tergum, colour of the thoracic hair, and by having silvery hair on the hypostoma and front. It belongs to the second division of the genus, in which the palpi are cylindrical, or slightly clavate and recurved.

The upper left figure of the plate.

PLATE XIII.

LEPTIS ALBICORNIS.

SPECIFIC CHARACTER.

Pale testaceous; tergum with a dorsal series of black spots; wings spotted and tipped with fuscous.

SYNONYM.

LEPTIS ALBICORNIS. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 38.

DESCRIPTION.

Body above rufo-yellowish: *hypostoma* chestnut: *antennæ* yellowish-white; *seta* black: *palpi* and *rostrum* white: *cheeks* somewhat glaucous, with whitish hair: *thorax* three or five lined with black, the three intermediate lines being obsoletely separate: *scutel* immaculate: *wings* hyaline, costal margin tinged with yellowish; *nervures*, particularly those of the inner margin, those that are transverse, *stigmata* and tip of the wing margined with fuscous, more obvious and

dilated at the tip of the wing, and on each side of those transverse nervures that are beyond the middle: *tergum* with a large rounded black spot on each segment, and a black line on the lateral edge.

OBSERVATIONS.

Very closely allied to *L. scolopacea*, Fabricius, of Europe, but it differs from that insect in several particulars, as in the colour of the antennæ, stethidium, feet, &c. The specimen is a male.

The upper right figure.

LEPTIS VERTEBRATA.

SPECIFIC CHARACTER.

Pale testaceous; tergum with a dorsal series of black spots; wings immaculate.

SYNONYM.

LEPTIS VERTEBRATA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 38.

DESCRIPTION.

Head black; terminal joint of the *antennæ*, excepting the *seta*, and *palpi*, pale: *stethidium* blackish (in the female pale testaceous, with obscure lineations): *thorax* with two obsolete cinereous lines, and a pale humeral spot: *scutel* and *poisers* pale-yellowish: *wings* hyaline, costal margin tinged with testaceous, nervures brown: *feet* pale testaceous, *coxæ*, *tarsi*, half of the posterior thighs, and posterior tibia, black (*coxæ* of the female colour of the stethidium): *tergum* yellowish, segments each with a fuscous or blackish spot above, and a line on the lateral edge; the dorsal spots of the posterior segments are extended into bands: *venter* blackish on the terminal joints.

OBSERVATIONS.

This species, as well as the *albicornis*, belongs to Meigen's first division of the genus, in which the palpi are elongate-conic, and incumbent on the proboscis. It resembles the *albicornis*, but the wings are immaculate, &c.

The lower left figure.

PLATE XIII.

LEPTIS FASCIATA.

SPECIFIC CHARACTER.

Velvet-black; thorax with golden-yellow hair; tergum fasciate with white; wings hyaline with a large brown stigma.

SYNONYM.

LEPTIS FASCIATA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 37.

DESCRIPTION.

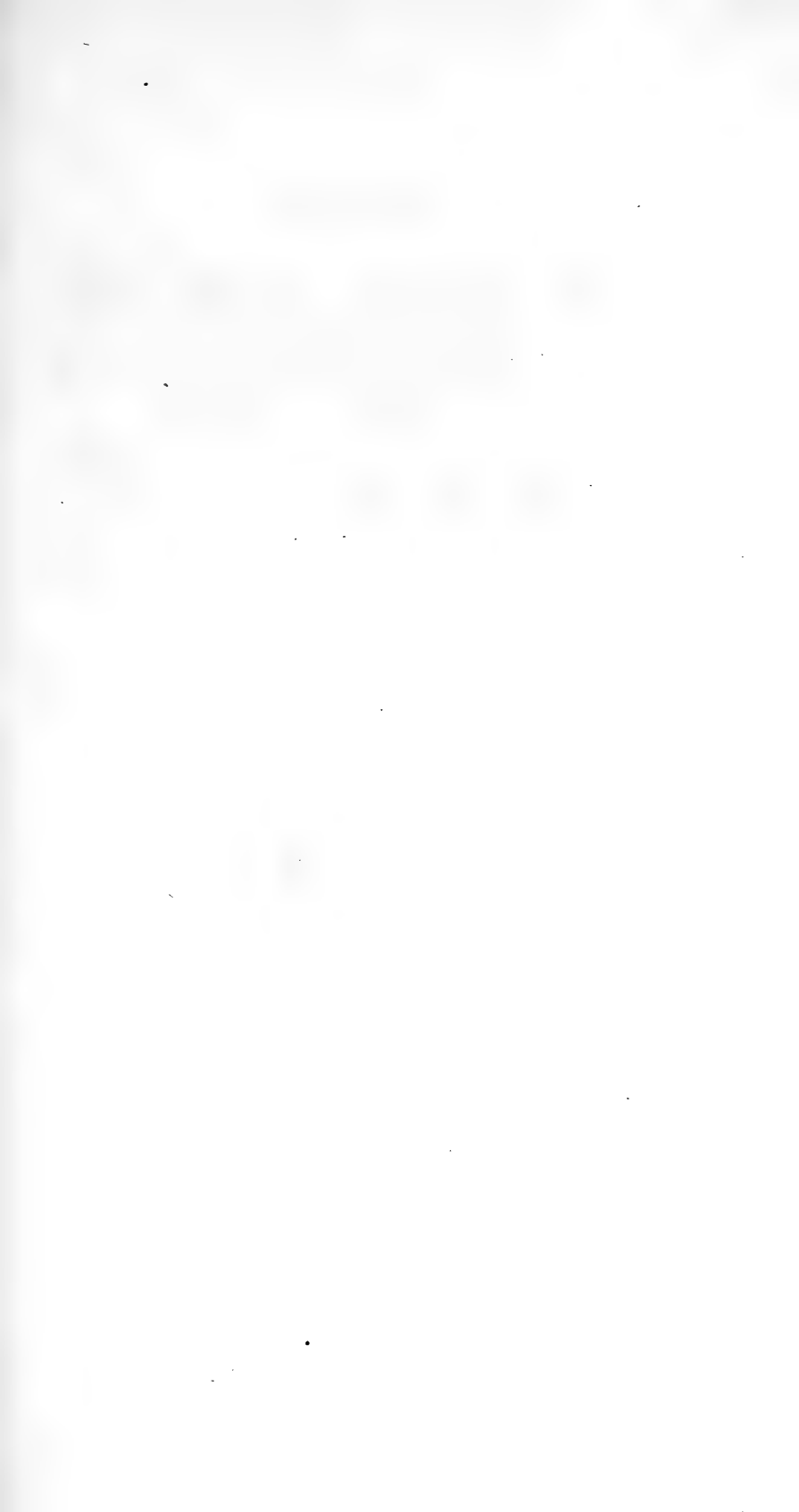
The fundamental colour of the *thorax* is the same with that of the other parts of the body; *hypostoma* in a particular light cinereous; *pleura* and *pectus* dark lurid; *poisers* fuscous, *scapus* whitish; *wing nervures* brown, *stigma* rather large, brown and distinct; *tergum* on the posterior margin of each segment banded with yellowish; *venter* immaculate; *feet* whitish, *thighs* reddish-brown towards their bases, *tarsi* dusky at tip.

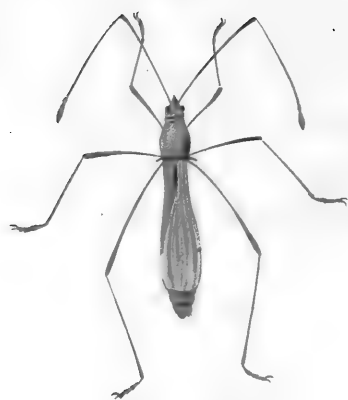
OBSERVATIONS.

Inhabits Pennsylvania. The nervures of the wings are arranged as in Meigen's second division, and the insect has much the appearance in miniature of *L. thoracica* of Fabricius.

The lower right figure.

PLATE XIII.





BERYTUS.

GENERIC CHARACTER.

Antennæ four-jointed, filiform, elongated, geniculated in the middle, inserted above a line drawn from the eyes to the base of the labrum; first joint very long, clavate at tip; second and third joints intimately connected so as to appear as one; last joint short and oval; body filiform; feet elongated, thighs clavate.

OBSERVATIONS.

This is one of the many genera that have been very properly separated from the Linnæan CIMEX by Fabricius under the name I have adopted, and under that of NEIDES by Latreille. It is very distinct in appearance from either of its neighbouring genera, and is remarkable for its slender form of body and limbs.

PLATE XIV.

BERYTUS SPINOSUS.

SPECIFIC CHARACTER.

Obscure reddish-brown; terminal joint of the antennæ fuscous; thorax punctured; a strong spine before the posterior feet.

DESCRIPTION.

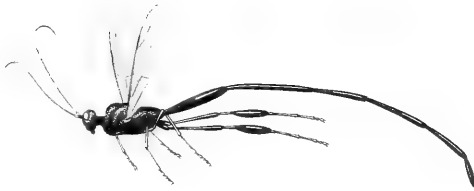
Antennæ longer than the body, terminal joint fuscous, yellowish at base and tip: *eyes* black: *stemmata* sanguineous, distant, placed very far back, almost lateral: *clypeus* produced, conic; *rostrum* as long as the thorax, inflected, and placed in a groove beneath: *thorax* gibbous behind, punctures large and crowded: *scutel* with an elevated spine: *elytra* nervous, with a black costal spot near the tip: *posterior feet* longest; a spine each side as thick as the thighs, originating before the posterior coxæ, curving upward above the elytra, and abruptly attenuated near the tip: *abdomen* depressed, fusiform, margined; margin paler.

OBSERVATIONS.

Of this genus Fabricius has described two species, of which the *tipularius* appears to be very like this insect—at least as far as I can judge from description, having no opportunity to consult a figure of either insect of the genus. One specimen in my cabinet has the antennæ rather shorter, and on the thorax are three lines a little elevated, one of which is dorsal and two marginal, with a two-lobed raised transverse spot before: this may be a sexual variety, or possibly a distinct species; but, for want of sufficient knowledge of them, I will not, at present, incur the responsibility of separating them.

The smaller figure in the plate denotes the natural size.

PLATE XIV.



PELECINUS.

GENERIC CHARACTER.

Antennæ with not more than fourteen joints; tongue trifid; neck not apparent; posterior tibia clavate; abdomen slender, elongated, filiform, inserted at the posterior and inferior extremity of the metathorax.

PELECINUS POLYCERATOR. *Drury.*

SPECIFIC CHARACTER.

Black; antennæ with a white annulus; posterior tibia sericeous on the inside.

SYNONYMS.

ICHNEUMON POLYTURATOR. *Drury*, vol. ii. pl. 40, fig. 4.

PELECINUS POLYCERATOR. *Fabr. Latr.*

PLATE XV.

DESCRIPTION.

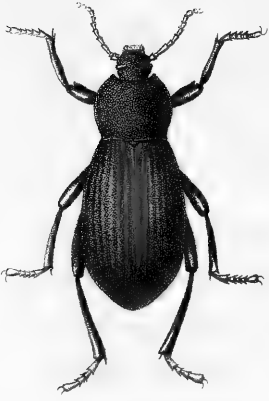
Head with a compressed, elevated, scale-like tooth at the inner base of each antenna: *antennæ*, tenth joint and half of the ninth joint white: *wings*, nervures and costal margin fuscous: *feet*, two anterior pairs blackish-piceous; posterior pair black, polished, the tibia much dilated at tip and much dilated on the inner side, the tarsi piceous.

OBSERVATIONS.

A truly singular insect, not uncommon in various parts of the United States. Its flight is slow and awkward, and when taken it endeavours to force the point of the abdomen through the skin of the hand, but its strength not adequate to the task. The whole abdomen resembles a much elongated pedicle, from which the abdomen itself, or dilated portion, has been accidentally removed.

The plate exhibits two views of the insect, natural size, and a wing somewhat magnified, to show the arrangement of the nervures.

PLATE XV.



BLAPS.

GENERIC CHARACTER.

Mentum small, or moderately large, quadrate or orbicular; palpi terminated by a larger joint; terminal joint of the maxillary palpi securiform; mandibles naked to their base; clypeus terminated by a straight line; labrum transverse; antennæ moniliform at tip, third joint much larger than the fourth; back flat; thorax almost quadrate; elytra acute at tip.



BLAPS SUTURALIS.

SPECIFIC CHARACTER.

Blackish; elytra scabrous, grooved, reddish-brown, punctured; lateral thoracic margin reflected.

PLATE XVI.

SYNONYM.

BLAPS SUTURALIS. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 257.

DESCRIPTION.

Body black-brown, punctured: *antennæ*, third joint longer than the fourth and fifth conjointly; fourth, fifth, sixth and seventh equal obconico-cylindric; eighth obconic-orbicular, shorter than the preceding; remaining joints nearly equal to the eighth, globose; the terminal one somewhat conic-compressed: *labrum* prominent, emarginate, and with very short yellow hairs at tip: *thorax* transverse-quadrate; edge deeply concave before; lateral margin dilated, reflected; lateral edge regularly arquated, slightly excurved at base; posterior edge slightly flexuose, nearly rectilinear; angles acute, anterior ones with a small excurved point; punctures of the disk acute, distant; two obsolete indented spots behind the middle: *scutel* impunctured, distinct, acute: *elytra* with seven grooves, the four sutural ones each with a single series of elevated points, remaining grooves with numerous points; a series of points on each of the interstitial lines; lateral

edge reflected, slightly elevated, acute; a sutural, common, reddish-brown margin: *epipleura* scabrous and punctured, with four or five obsolete impressed striæ: *feet* scabrous, anterior thighs slightly dilated beneath before the tip into an obtuse angle.

Length one inch nearly.

OBSERVATIONS.

During the progress of Major Long's expedition up the Missouri, that enterprising and excellent officer entrusted me with the direction of a small party of thirteen persons, destined to explore the country on the south side of that extended river. After encountering many obstacles and privations which it is unnecessary to enumerate, the party arrived at the village of the Konza Indians, hungry, fatigued, and out of health. Commiserating our situation, these sons of nature, although suffering under the injustice of white people, received us with their characteristic hospitality, and ameliorated our condition by the luxuries of repletion and repose. Whilst sitting in the large earth-covered dwelling of the principal chief, in presence of several hundred of his people, assembled to view the arms, equip-

ments, and appearance of the party, I enjoyed the additional gratification to see an individual of this fine species of *BLAPS* running towards us from the feet of the crowd. The act of empaling this unlucky fugitive at once conferred upon me the respectful and mystic title of "medicine man," from the superstitious faith of that simple people.

On the subsequent journey towards the Rocky Mountains, several specimens occurred, together with other insects of the same classical division, till then unknown.

The upper right figure.

BLAPS ACUTA.

SPECIFIC CHARACTER.

Blackish; elytra scabrous, grooved; dilated sutural margin reddish-brown; exterior edge acute; thoracic margin not reflected.

PLATE XVI.

SYNONYM.

BLAPS ACUTA. *Nobis. Journ. Acad. Nat. Sciences,*
vol. iii. p. 258.

DESCRIPTION.

Body blackish, punctured: *head* with larger punctures than those of the thorax: *antennæ* as in the preceding species: *labrum* prominent, emarginate, with short yellow hairs at tip: *thorax* subquadrate; anterior edge concave; punctures minute, separate; lateral margin not reflected; lateral edge regularly arquated, a little excurved at base; posterior edge nearly rectilinear: *scutel* impunctured: *elytra* grooved; the four sutural grooves with a single series of elevated points; interstitial lines with about one series of distant punctures; sutural margin obsoletely reddish-brown; exterior edge acute: *epipleura* obsoletely grooved, scabrous, punctured, and from the base to near the middle tinged with reddish-brown: *anterior thighs* dilated, and armed with a prominent spine near the tip.

Length nearly one inch and one-fifth.

PLATE XVI.

OBSERVATIONS.

The gradually recurved form of the lateral margin of the thorax in the preceding species, gives to the whole thorax a somewhat concave appearance, notwithstanding the convexity of the disk. In this conformation the present insect is obviously distinct, although very similar as respects general colour, the form of the elytra, feet, and abdomen. The thorax here exhibits a regular convexity, which gradually subsides towards the lateral edges. This species occurred in Missouri, near Council Bluff.

The upper left figure.

BLAPS OBSCURA.

SPECIFIC CHARACTER.

Blackish ; elytra scabrous, grooved, dark reddish-brown, margin rounded, thoracic margin not reflected.

PLATE XVI.

SYNONYM.

BLAPS OBSCURA. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 259.

DESCRIPTION.

This species resembles the preceding, but the thorax is proportionally longer, the elytra are of a dull reddish-brown colour, approaching to piceous, and the lateral margin is rounded so as to exhibit no edge.

Length more than one inch.

OBSERVATIONS.

I obtained this insect in the country bordering the river Platte, within a hundred miles of the Rocky Mountains.

The lower left figure.

PLATE XVI.

BLAPS HISPILABRIS.

SPECIFIC CHARACTER.

Blackish; elytra scabrous, grooved; sutural margin obsoletely reddish-brown; labrum with black, rigid hairs.

SYNONYM.

BLAPS HISPILABRIS. *Nobis. Journ. Acad. Nat. Sciences*, vol. iii. p. 259.

DESCRIPTION.

In form of the elytra, their lateral curve, roundity of edge, sculpture and colour, this species resembles the *obscura*; but the anterior angles of the thorax are distinctly excurved and acute, the posterior angles viewed from above exhibit no excurvature; the scutel is proportionally smaller and more rounded, and the labrum is distinctly armed with many black rigid hairs extending forward, and projecting beyond the extremity of the labrum.

PLATE XVI.

Length more than four-fifths of an inch.

Inhabits Missouri.

The lower right figure; the figure near the bottom of the plate is a magnified representation of an antenna.

PLATE XVI.



ARGYNNIS.

PAPILIO. *Lin.*

GENERIC CHARACTER.

Antennæ terminated by a short club: palpi divaricating, second joint compressed, broad, hairy; third joint terminating abruptly by a short, slender, acute joint: inferior wings sub-orbicular; anterior feet short, feeble: tarsi with double nails.

OBSERVATIONS.

Many species of this genus are beautifully decorated with spots on the lower surface of the inferior wings, resplendent with all the brilliancy of polished silver, or rivalling the milder, but not less attractive lustre, of precious opal. The superior surface of the wings is varied with red or orange, agreeably relieved by spots or lines of black or brown. The larva or caterpillar is armed with spines, and the pupa or chrysalis attaches itself by the tail to a fixed object, in

order to pass its destined period of quiescent preparation, for its change to the perfect, adult or butterfly state.

Linné included the species in his genus PAPI-
LIO, but Fabricius separated them as a distinct
group under the name we have here adopted.

ARGYNNIS DIANA. *Cramer.*

SPECIFIC CHARACTER.

Wings above black-brown, with a very broad
fulvous exterior margin, in which are a few
blackish spots and nervures.

SYNONYMS.

PAPILIO DIANA. *Cramer, Ins.* vol. ii. p. 4, pl.
98, fig. D. E.

LE P. DIANE. *Encycl. Method. Insectes*, pl. 35,
f. 2.

DESCRIPTION.

Body above black-brown: *vertex*, and anterior
PLATE XVII.

sides of the *thorax*, ferruginous: *wings* on the basal two-thirds blackish-brown; the outer third pale fulvous, on the superior wings divided by blackish-brown margined nervures, and marked by two distant series of dots of a similar colour, the exterior of which is obsolete; on the margin of the inferior wings the two series of dots are hardly to be traced: *beneath*, on the superior wings, the blackish-brown basal portion has from six to eight ochraceous spots, of which the external ones are longitudinal, and those nearer the base are nearly transverse; intervening between these two sets of spots, are two opalescent spots, placed transversely, and sometimes confluent; exterior third of the wing ochraceous, deeper towards the anterior angle, and with two distinct fuscous spots; inferior wings, on the basal two-thirds reddish-brown, with two small distant silvery spots on the anterior margin, and a series of obsolete dull silvery lines behind the middle; exterior third of these wings ochraceous, with a marginal series of seven short silvery lines.

OBSERVATIONS.

The present species, though not remarkable for any superior gaiety of colouring, interests by

the simple contrast of blackish and pale orange colours, of its superior surface, as well as by the rows of slender silvery lines which decorate the under page of its inferior wings.

I have taken this insect in Georgia, East Florida, Arkansaw, and Missouri, but have not yet met with it in Pennsylvania. Cramer described his specimen, in the collection of Mr. J. C. Sylvius Van Lennep, and states it to have been taken in Virginia. He has applied to it the terrestrial name of the daughter of Jupiter and Latona, and the twin sister of Apollo, in pursuance of the example of Linné, who thus endeavoured to connect Entomology with Mythology and the civil history of antiquity.

The plate represents two views of this species, beneath which is an enlarged palpus.

PLATE XVII.



CICINDELA.

GENERIC CHARACTER.

Antennæ filiform ; clypeus shorter than the labrum ; maxillæ monodactyle, with two very distinct palpi, of which the exterior one is nearly equal to the labial palpi, penultimate joint of the latter hairy ; mentum trifid, the divisions nearly equal in length ; feet slender, elongated ; anterior tibia without a sinus near the tip.

OBSERVATIONS.

A very natural and interesting group of insects. Many species inhabit this country, the more common of which, such as the *vulgaris*, *sex-guttata* and *punctulata*, are familiar to most persons who delight in rural scenery. They inhabit arid situations, run and fly swiftly, and live upon prey, which they seize by means of their somewhat elongated and very acute mandibles.

PLATE XVIII.

CICINDELA DECEMNOTATA.

SPECIFIC CHARACTER.

Green, above tinged with cupreous; elytra margined with bright green or bluish; four white spots and an intermediate refracted band.

DESCRIPTION.

Labrum three-toothed, white: *mandibles* black, base white: *elytra* with a white spot on the shoulder, another equidistant from the first and the band: *band* broad, arising from the middle of the margin, refracted at the centre of the elytrum, and terminated near the suture in a line with the tip of the third spot; this spot is large, orbicular, and placed near the external tip of the terminal one, which is transverse and triangular: *body* beneath green: *trochanters* and *tail* purple.

OBSERVATIONS.

The specimen from which this description and the annexed representation were taken, is a

PLATE XVIII.

female, the only one I have seen : it was caught by Mr. Nuttall, on the sandy alluvions of the Missouri, above the confluence of the river Platte.

Upper figure of the plate.

CICINDELA FORMOSA.

SPECIFIC CHARACTER.

Red cupreous, brilliant; elytra with a three branched, broad white margin.

DESCRIPTION.

Front hairy : *labrum* large, three-toothed : *elytra* with a broad white border, anterior and posterior branches short, intermediate one flexuous, nearly reaching the suture; edge of the elytra green: *body* beneath green or purple-blue, very hairy : *thighs* blue, tibia green.

Length seven-tenths, breadth one-fourth of an inch.

PLATE XVIII.

OBSERVATIONS.

A beautiful species; it was captured by Mr. Thomas Nuttall, on the sandy alluvions of the Missouri river, above the confluence of the Platte.

Lower figure of the plate.

PLATE XVIII.

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*unicinctus	- - - - -	—

LEPIDOPTERA.

Papilio philenor	- - - - -	1.
Argynnis diana	- - - - -	17.
Smerinthus *geminata	- - - - -	12.

DIPTERA.

Leptis *ornata	- - - - -	13.
*albicornis	- - - - -	—
*vertebrata	- - - - -	—
*fasciata	- - - - -	—

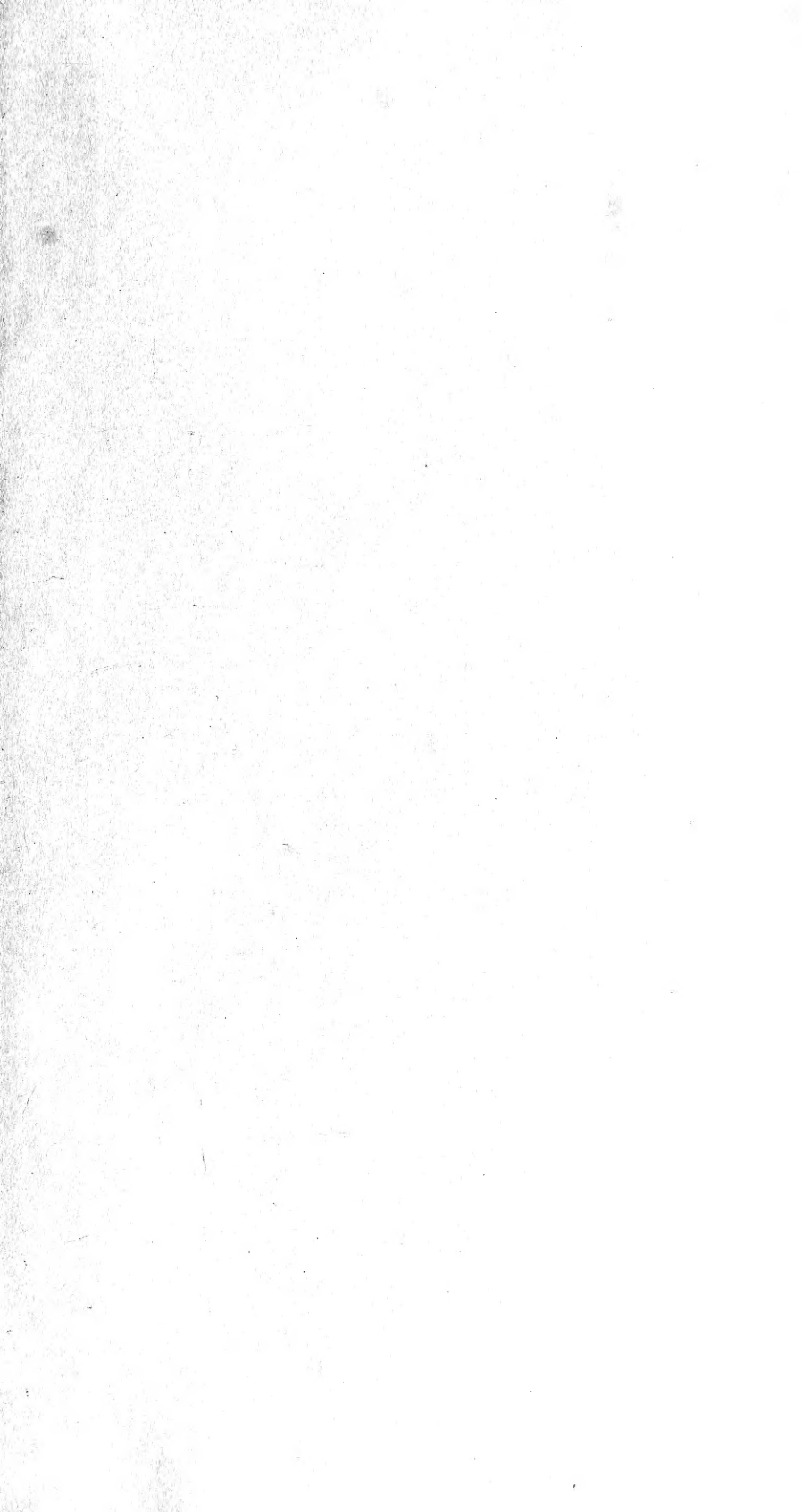
INDEX.

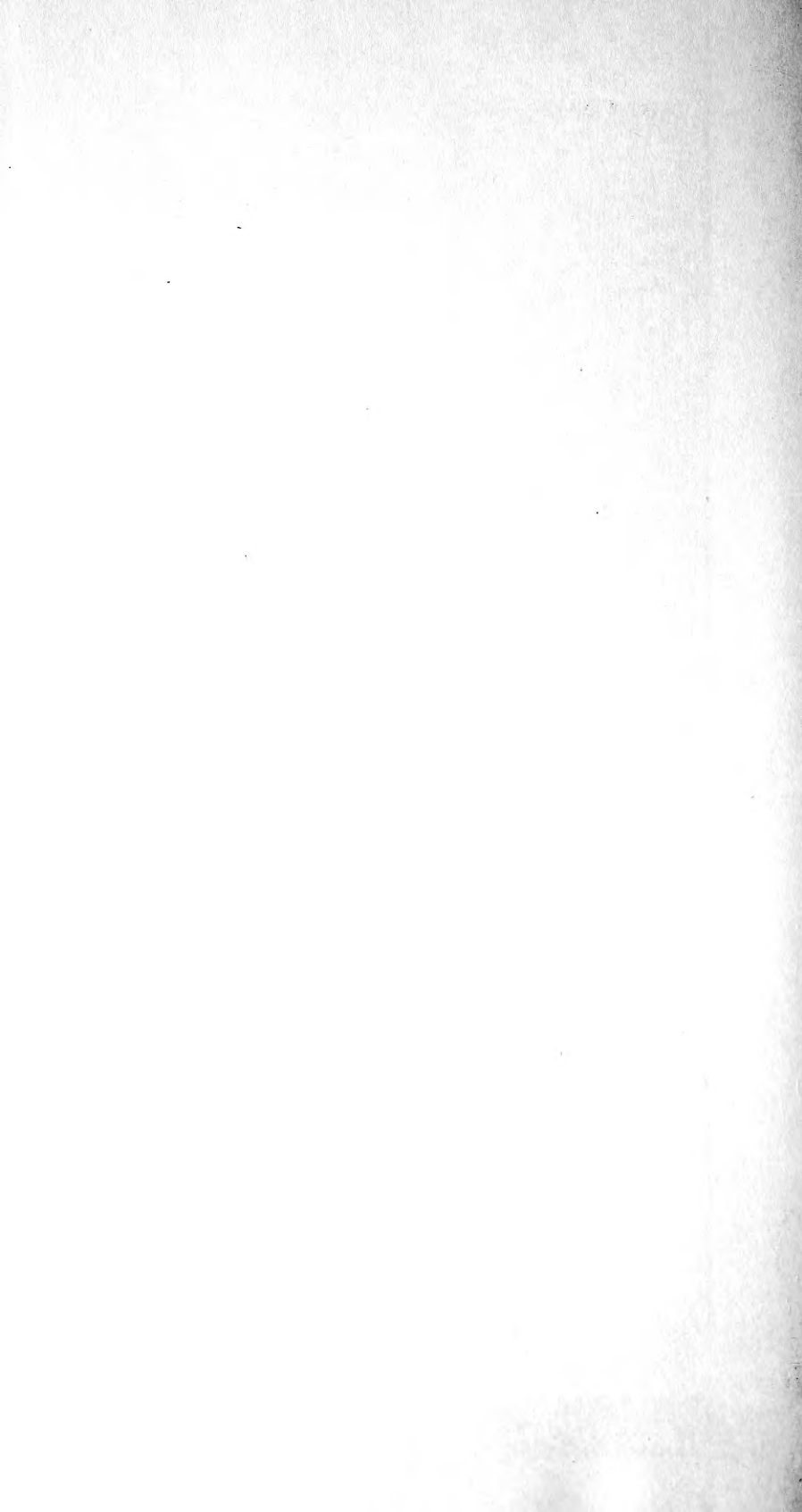
Laphria	*fulvicauda	-	-	-	-	-	-	-	PLATE 6.
	*sericea	-	-	-	-	-	-	-	—
	*dorsata	-	-	-	-	-	-	-	—
Syrphus	*cylindricus	-	-	-	-	-	-	-	11.
	*obscurus	-	-	-	-	-	-	-	—
	*obliquus	-	-	-	-	-	-	-	—
	*politus	-	-	-	-	-	-	-	—
Xylota	*quadrata	-	-	-	-	-	-	-	8.
	*ejuncida	-	-	-	-	-	-	-	—
	*proxima	-	-	-	-	-	-	-	—
	hæmatodes	-	-	-	-	-	-	-	—

In the above enumeration, asterisks are prefixed to such species as have been first described by the author.

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