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SPIDERS

OF THE

FAMILY ATTIDÆ

FROM

CENTRAL AMERICA AND MEXICO.

BY

George W. and Elizabeth G. Peckham.

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INTRODUCTION.

We have published, from time to time, in the Proceedings of the Natural History Society of Wisconsin, papers which included descriptions of Attidæ from Central America and Mexico. These papers are: "The Sub-Family Lyssomanæ," "The Ant-like Attidæ," "The Marptusa Group," "The Homalattus Group," and two short papers on "Attidæ from Guatemala." Our paper on North American Attidæ also contains a few Mexican species. In the following paper we give a number of new genera and species from the same region, the material for which has come to us from various sources. Several small collections have been sent to us by our correspondents; the late Count Keyserling sent us, at different times, a number of species, mostly from Panama; and a large part of our collection we made ourselves in Guatemala and Honduras.

The artificial key which accompanies this work includes all the species from Central America and Mexico that are known to us, the old as well as the new. It is designed to lessen, somewhat, the difficulty of determining species, but we ourselves, consider it only a partial solution of the problem.

Including this paper there have now been described about one hundred species from Central America and Mexico. A more thorough investigation of these regions will doubtless bring to light at least one hundred more, and consequently any generalizations upon geographical distribution would be scarcely satisfactory. Of the forty-three genera thus far described only thirteen are found in the United States.

The drawings for the genus *Parnænus* and some of those for *Dendryphantès* and *Habrocestum* were made by Miss Lydia Hart. All of the others were made by Mr. J. H. Emerton.

The measurements are given in millimeters.



KEY TO SPECIES
OF
CENTRAL AMERICAN AND MEXICAN ATTIDÆ,
EXCLUSIVE OF LYSSOMANÆ WHICH ARE NOT
ANT-LIKE IN FORM.

MALES.

1. Spiders ant-like in form, 2
Spiders not ant-like in form, 7
2. Eyes in four rows, *Simonella americana*.
Eyes in three rows, 3
3. Falces horizontal, parallel, long, 4
Falces vertical or inclined, 5
4. Cephalothorax without constrictions; cephalic part
occupying one-half of cephalothorax; tube of pal-
pus almost straight, *Paradamoctas formicina*.
Cephalothorax with a constriction; cephalic part occu-
ping less than one-half of cephalothorax; tube of pal-
pus coiled two or three times, *Salticus centralis*.
5. Spiders 4 to 5 mm. long; legs, 1432, *Martella Pottsii*.
Spiders about 3.3 mm. long; legs, 4132, 6
6. Cephalothorax black, *Keyserlingella cara*.
Cephalothorax reddish-brown, with eyes on black
spots, and a pair of oblique white lines on each side
of the thoracic part, *Keyserlingella perdita*.
7. Falces long, horizontal, rounded; coxa and trochanter
of first leg, looked at from above, almost as long as
femur, *Avitus diolenii* (page 58
Coxa and trochanter of first leg plainly shorter than
femur, 8

8. Clypeus very high, higher than middle eyes of first row, 9
 Clypeus lower than middle eyes, 15
9. General shape of cephalothorax square; integument of abdomen having an enamelled appearance, with a net-work of brown lines on a white ground, Titanattus sævus.
 General shape of cephalothorax rounded; abdomen without enamelled appearance, 10
10. Falces vertical, almost as long as face (clypeus and eyes), with an apophysis on the inner side of each, at front end of extremity, Amycus pacatus (page 20
 Falces plainly shorter than face, 11
11. Palpus long, about as long as femur, patella and tibia of first leg, 12
 Palpus not especially long, 14
12. Red hairs around the eyes, 13
 No red hairs around the eyes, Amycus fallax (page 22
13. Patella of palpus but little longer than tarsus, Amycus hieroglyphicus (page 23
 Patella of palpus plainly longer than tarsus, Amycus longi-palpus (page 19
14. Falces narrower than middle anterior eyes and shorter than clypeus is high, Amycus benignus (page 18
 Falces as wide as middle anterior eyes and longer than clypeus is high, Amycus marjorii (page 25
15. First legs noticeably longest,* 16
 First legs not noticeably longest, 36
16. Falces long, horizontal, 17
 Falces vertical or oblique, 19
17. Falces parallel, Anoka grenada.
 Falces diverging, 18

* This alternative gives a chance for a difference of opinion. If the spider is not run down under the first head, it will be necessary to go back and try the other.

18. Fang of falx with tooth near its insertion,
 Helorus mandibularis (page 29)
 Fang of falx without tooth, Helorus extensus (page 30)
19. Falces oblique, 20
 Falces vertical, 25
20. Falces small, round, but little wider than middle eyes,
 Bagheera Kiplingii (page 88)
 Falces stout, much wider than middle eyes, 21
21. Spiders small, about 4 mm. long; legs with a black
 longitudinal line on the anterior side, visible from
 below; coxa and trochanter of first leg visible from
 above, Zygoballus rufipes.
 Unlike the above, 22
22. Spiders 4 to 6 mm. long; falces about as wide as long,
 a little inclined (see figure), Dendryphantes ruber.
 Unlike the above, 23
23. Spiders 6 to 8 mm. long; falces long, narrowing
 toward the extremity, with a long fang,
 Dendryphantes nitidus (page 53)
 Spiders at least 9 mm. long, 24
24. Falces long, heavy, with a large triangular apophysis
 on middle of inner side of each, fang long, curved,
 Phidippus orichalceus.
 Falces long, tapering toward extremity, without any
 projection or apophysis on inner sides; fang long,
 curved, Philæus luteus (page 40)
25. More or less red on abdomen,* 26
 No red on abdomen, 29
26. Palpus with white hairs, excepting on tarsus, 27
 Palpus without white hairs, 28

* One of our three specimens of *Menemerus fannæ* has a strong red tinge in the markings, while the others would be called brown. To avoid confusion we run this species out under both heads.

27. Tarsus of palpus black; abdomen vivid red with basal and central bands white,
 *Heraclea regia* or *Heraclea sanguinea** (page 77)
 Tarsus of palpus reddish; abdomen white with two brownish-red bands, *Menemerus fannæ* (page 74)
28. Abdomen with a central white herring-bone stripe edged with red, *Heraclea rustica* (page 79)
 Abdomen without herring-bone stripe, *Hyllus pratensis*.
29. Small spiders, about 3.5 mm. long, with femur and tibia of first leg much enlarged, *Ashtabula zonura*.
 Unlike the above, 30
30. Legs, 1342, 31
 Legs, 1423, 33
31. Tibia of palpus about two-thirds as long as tarsus; cephalic plate with a bunch of hairs; abdomen light-colored, iridescent *Helorus flavens* (page 31)
 Tibia and patella of palpus together shorter than tarsus; no bunch of hairs on cephalic plate; abdomen with longitudinal white bands or with numerous spots, 32
32. Tibia of palpus with a very broad blunt apophysis; first leg dark with a fringe of hairs on the patella and tibia, abdomen marked with spots,
 *Habrocestum paratum* (page 63)
 Tibia of palpus with long pointed apophysis; first leg light-colored without fringe of hairs; abdomen white with longitudinal reddish-brown bands,
 *Menemerus fannæ* (page 74)
33. Palpus with patella and tibia together shorter than tarsus; ground color of abdomen light,
 *Akela charlottæ* (page 95)
 Palpus with patella and tibia together longer than tarsus; ground color of abdomen dark, 34

* These two species are so much alike that to distinguish between them it will be necessary to study the descriptions.

34. Spiders small, about 5 mm. long,
 *Zygodallus remotus* (page 89)
 Spiders 9 to 10 mm. long, 35
35. Cephalothorax widest in front; abdomen with six
 white spots, *Parnæus cyanidens* (page 38)
 Cephalothorax widest behind dorsal eyes; abdomen
 without six white spots, *Phileus chrysis*.
36. First leg longest, or first and third legs equally long,
 and longer than the others, 37
 Unlike the above, 48
37. Palpus with marked apophyses on both femur and
 patella (see figure), *Chapoda festiva* (page 26)
 Unlike the above, 38
38. More or less red on abdomen, 39
 No red on abdomen, 42
39. Cephalothorax long, low, flat; abdomen long and
 cylindrical; legs, 1423, *Epinga ornata*.
 Unlike the above, 40
40. Legs, 1342; abdomen marked with spots and a white
 basal band, *Cyrene aprica* (page 66)
 Unlike the above, 41
41. Legs, 1342, *Heraclea sanguinea*, var. *paradoxa* (page 79)
 Legs, 1432, *Menemerus bicolor* (page 75)
42. Femur of first leg much thickened, 43
 Femur of first leg not much thickened, 44
43. Spiders about 5 mm. long; femur, patella and tibia of
 first leg all much thickened, *Fuentes pertinax*.
 Spiders about 3 mm. long; patella and tibia of first
 leg not much thickened, *Tulpinus hilarus* (page 87)
44. Spiders very long and slender, light-colored, *Itata vadia*.
 Unlike the above, 45

45. Spiders large, hairy, with five white spots and a white basal band on abdomen, . *Phidippus Howardii* (page 34)
Unlike the above, 46
46. Legs, 1432, *Euophrys ysobolii* (page 65)
Legs, not 1432, 47
47. Spiders small, about 3 mm. long, bronze-colored with white spots, *Dendryphantes centralis* (page 49)
Spiders about 6 mm. long, not bronze-colored,
. *Balmaceda picta*.
48. Fourth legs longest, 49
Third legs longest, 51
49. Legs, 4132; abdomen cylindrical with six white spots or short bands on posterior half, . *Balmaceda punctata*.
Unlike the above, 50
50. Spiders about 5 mm. long; legs, 4312, with light fringes of hair on the first and second pairs,
. *Escambia parvula* (page 44)
Spiders about 8 mm. long; legs, 4321, with heavy fringes of hair on first and second pairs, especially on the second, *Escambia conspecta* (page 42)
51. Legs, 3142, *Hamillus sylvestris* (page 71)
Legs, 3412, 52
52. Fringes of hair on legs of first, second and third pairs; some red on abdomen, *Dynamius opimus*.
Fringes of hair on legs of first pair only; no red on abdomen, *Habrocestum mexicanum* (page 61)

FEMALES.

- | | |
|---|----|
| 1. Spiders ant-like in form, | 2 |
| Spiders not ant-like in form, | 5 |
| 2. Cephalic part occupying only two-fifths of cephalo-
thorax, on a higher plane than thoracic and sepa-
rated from it by a constriction, <i>Salticus centralis</i> .
Cephalic part occupying at least one-half of cephalo-
thorax, not separated from the thoracic, | 3 |
| 3. Quadrangle of eyes wider in front than behind; legs,
4132, <i>Martella Pottsii</i> .
Quadrangle of eyes equally wide in front and behind
or wider behind; legs, 4312 or 4132, | 4 |
| 4. Cephalic part occupying one-half of cephalothorax;
legs, 4132, <i>Paradamœtas formicina</i> .
Cephalic part occupying a little more than one-half of
cephalothorax; legs, 4312, <i>Keyserlingella perdita</i> . | |
| 5. More or less red on abdomen, | 6 |
| No red on abdomen, | 18 |
| 6. Legs, 1423, <i>Epinga ornata</i> .
Third or fourth legs longest, | 7 |
| 7. Third legs longest, | 8 |
| Fourth legs longest, | 11 |
| 8. Spiders large, 11 to 13 mm. long; abdomen red with
basal band, central longitudinal band on posterior
three-fourths, and two large spots, white; the longi-
tudinal band and spots edged with black,
. <i>Heraclea regia</i> (page 77
Unlike the above, | 9 |
| 9. Spiders about 7.5 mm. long; abdomen with ground-
color gray with white basal band, and a herring-
bone stripe edged with red on posterior half,
. <i>Heraclea rustica</i> (page 79
Unlike the above, | 10 |

10. Spiders about 10.7 mm. long; abdomen with ground-color black, and a large spot of bright red hairs on middle of anterior part, behind which is a transverse band of white hairs; in front of spinnerets two white spots, *Dynamius opimus*.
 Spiders about 8 mm. long; abdomen red with white markings edged with black, and encircled by a black band, *Cytæa concinna*.
11. Legs, 4132 or 4123, 12
 Legs, 4312, 13
12. Spiders very large, 17 mm. long; abdomen reddish-brown with gray and yellowish hairs; no distinct pattern, *Phidippus georgii* (page 34)
 Spiders about 14.5 mm. long; abdomen dull red (yellow in alcohol), with central black band on posterior half, which has, at its anterior end, two white spots, *Phidippus carneus* (page 33)
13. Abdomen with basal white band and at least one other transverse white band, 14
 Abdomen with or without white basal band, marked with spots, 17
14. Spiders 9 to 10 mm. long; abdomen with two transverse white bands, besides the one at anterior end, *Pardessus mimicus* (page 36)
 Abdomen with one transverse white band besides the one at anterior end, 15
15. Spiders with herring-bone stripe on abdomen, 16
 Spiders without herring-bone stripe,
 *Pachomius flavescens* (page 82)
16. Abdomen with a wide transverse white band across middle, *Cyrene delecta* (page 68)
 Transverse white band across middle of abdomen broken and irregular, *Cyrene aprica* (page 66)

17. Legs, $\overline{4312}$; abdomen with distinct white spots on a red ground, *Pachomius Dybowskii* (page 81)
 Legs, $\overline{4312}$; abdomen dark brown, with bands and spots of yellowish red and white,
 *Escambia alacris* (page 46)
18. Legs, $\overline{1432}$; long, slender spiders, with low cephalothorax, *Itata vadia*.
 Unlike the above, 19
19. First legs longest, 20
 Third or fourth leg longest, 27
20. Spiders stout and heavy, with high cephalothorax; at least 9 mm. long, 21
 Spiders smaller, about 7 mm. long, 22
21. Abdomen with four pairs of white dots on dorsum and several oblique white bands on each side,
 *Parnænus cyanidens* (page 38)
 Abdomen with two pairs of abbreviated white lines on each side of middle, near spinnerets,
 *Phidippus orichalceus*.
22. Quadrangle of eyes occupying more than half of the cephalothorax, 23
 Quadrangle of eyes occupying plainly less than half of cephalothorax, 24
23. Abdomen pale with two longitudinal dark bands; second, third and fourth pairs of legs pale yellow,
 *Messua desidiosa* (page 94)
 Abdomen and posterior legs mottled, *Beata magna*.
24. Cephalothorax low, flat; quadrangle of eyes occupying about one-third of cephalothorax; first pair of legs much the stoutest, 25
 Cephalothorax rather high, not flat; quadrangle of eyes occupying from two-fifths to one-half of cephalothorax; first pair of legs only a little thickened, 26

25. Both cephalothorax and abdomen very flat and thin ;
spiders about 5 mm. long, *Rudra geniculata*.
Abdomen thickened and rounded ; spiders about 7
mm. long, *Rudra polita*.
26. Abdomen with wavy bands and indistinct spots,
. *Dendryphantes centralis* (page 49)
Abdomen with four pairs of black spots edged with
white, *Dendryphantes hondurensis* (page 48)
27. Legs, 314², *Amycus benignus* (page 18)
Unlike the above, 28
28. Fourth legs longest, then first, 29
Third and fourth legs longer than first and second, 38
29. Spiders usually less than 6 mm. long ; cephalic part
as long or nearly as long as thoracic, 30
Spiders usually more than 6 mm. long ; cephalic
part plainly shorter than thoracic, 34
30. Cephalic part occupying plainly more than half of
cephalothorax, 31
Cephalic part occupying half or a little less than
half of cephalothorax, 32
31. Abdomen marked with central longitudinal band
throughout its length, *Zygoballus strenuus* (page 92)
Abdomen marked with wavy white lines,
. *Zygoballus minutus* (page 90)
32. Quadrangle of eyes plainly wider behind than in front,
. *Dendryphantes dubitabilis* (page 52)
Quadrangle of eyes equally wide in front and behind
or wider in front, 33
33. Abdomen with transverse white bands ; quadrangle
of eyes wider in front, *Hamillus radians* (page 72)
Abdomen without transverse white bands ; quad-
rangle of eyes equally wide in front and behind,
. *Tulpus hilarus* (page 87)

34. Legs of first pair much enlarged, the femur being nearly as wide as long; longitudinal markings on abdomen, Fuentes pertinax.
Unlike the above, 35
35. Spiders large, about 12 mm. long; abdomen yellow with longitudinal white bands and black dots, Plexippus puerperus.
Unlike the above, 36
36. Quadrangle of eyes wider behind than in front; white spots on abdomen, 37
Quadrangle of eyes equally wide in front and behind; herring-bone stripe on abdomen, Balmaceda picta.
37. Spiders about 6 mm. long; abdomen cylindrical, with six white marks on posterior part; no longitudinal markings, Balmaceda punctata.
Spiders 9 to 12 mm. long; abdomen not cylindrical, having two longitudinal dark bands, on which are four pairs of white spots,
. Dendryphantes nitidus (page 53)
38. Legs, 4312, cephalothorax and abdomen marked with six transverse bands of white on a black ground, Epiblemum albo-cinctum (page 84)
Unlike the above, 39
39. Abdomen marked with longitudinal bands of black and white, 40
Abdomen without longitudinal marks, 41
40. Abdomen pale with two longitudinal black bands, which join in front and behind,
. Attus infuscatus (page 73)
Abdomen dark with pale central longitudinal band, Shira designata (page 86)
41. Cephalothorax and part of abdomen covered with white scales, which form an enamelled surface;
legs, 4312, Chapoda festiva (page 26)
Unlike the above, 42

42. Legs, 3412 or 3412, 43
 Legs, 4312, 4312, 4321, or 431 $\bar{2}$, 47
43. Cephalic part as long as thoracic, 44
 Cephalic part plainly shorter than thoracic, 45
44. First row of eyes curved downward, *Pensacola signata*.
 First row of eyes curved upward, *Amycus fallax* (page 22)
45. Abdomen with white basal band and oblique white
 bands on sides, 46
 Abdomen without basal band and oblique bands on
 sides, *Habrocestum latens* (page 60)
46. Cephalothorax with three white longitudinal lines,
 *Habrocestum mexicanum* (page 61)
 Cephalothorax without white longitudinal lines,
 *Habrocestum belligerum* (page 60)
47. Spiders about 9 mm. long, 48
 Spiders not more than 7 mm. long, 49
48. Abdomen with central white longitudinal band, on
 either side of which, at posterior end, are two white
 spots surrounded with black,
 *Hasarius bellicosus* (page 56)
 Abdomen with wide white scalloped basal band, but
 no longitudinal band, *Escambia conspecta* (page 42)
49. Spiders pale in color and small, about 4.5 mm. long ;
 legs, 431 $\bar{2}$, *Nagaina incunda* (page 55)
 Unlike the above, 50
50. Abdomen with two oblique white marks on a black
 background on each side of the posterior part of
 the dorsum ; legs, 4312, *Escambia parvula* (page 44)
 Unlike the above,
51. Cephalothorax wider at dorsal eyes than behind,
 *Sidusa recondita* (page 96)
 Cephalothorax widest behind dorsal eyes,
 *Euophrys newtonii* (page 64)

AMYCUS (c. KOCH).

The cephalothorax is from moderately high to very high. It is much higher in the males than in the females. The thoracic part is wider than the cephalic, the outline usually being rounded. The sides round off from the high cephalic plate both behind and on the sides. The quadrangle of the eyes is equally wide in front and behind or wider in front; it is one-fourth wider than long and occupies about one-half of the cephalothorax—oftener more than less. The first row is straight or somewhat curved, with the middle eyes large (two or three times as large as the lateral), and projecting, especially in the males, in which sex, moreover, the clypeus is very high, often higher than the large eyes. The second row is nearer the first than the third. The third row is narrower than the cephalothorax at that place.

We use *Amycus rufifrons*, E. Simon, as typical of this genus, since we have no example of C. Koch's type, *spectabilis*. (Pl. I, figs. 1-1c.)

Our genus *Titanattus* is very close to *Amycus*, differing only in the square look of the cephalic plate, from which the sides and posterior part drop almost vertically, and in the very strong curve of the first row of eyes. The relative length of the legs of the males in *Amycus*, so far as we know, is 3142 or 1342, while in our only species of *Titanattus* it is 1423. *Titanattus sævus* was described in Proc. Nat. Hist. Society of Wisconsin, December, 1885.

In "Die Arachniden Australiens," Dr. L. Koch describes several species of Attidæ which he places in the genus *Amycus*. In referring to these species Dr. Thorell, in "Studi sui Ragni Malesi e Papuani," III., p. 467, says, that they belong in the genus *Mævia* C. K. Now C. Koch's type for the genus *Mævia* was *pencillata*, which is a synonym of *Attus niger*, Hentz, one of the commonest of our native species, and one with characteristics so different from the Australian species under discussion that it would be out of the question to place them in the same genus. We have no specimens of Dr. L. Koch's species,

but the figures given certainly bear a strong resemblance to *Amycus*. At any rate, whatever else they may be, they cannot be *Mævia*.

AMYCUS BENIGNUS, PECKHAM.

Plate I, figs. 2-2e.

♂. Length, 5.2. Length of cephalothorax, 2.3; width of cephalothorax, 1.9.

♀. Length, 6. Length of cephalothorax, 3.3; width of cephalothorax, 2.

Legs, ♂ 1342; ♀ 3412.

The quadrangle of the eyes is wider in front than behind, is one-fourth wider than long, and occupies more than half of the cephalothorax. The anterior eyes are a little separated from each other and form a straight row, the middle being just twice as large as the lateral. The second row is nearer the first than the third. In the male the clypeus is plainly wider than the large middle eyes, and is divided into two sections by a line which marks off the lower third from the upper part. The falces are short, broad, vertical and parallel. In the female the clypeus is not quite so high as the large eyes and the falces are a little inclined backward.

There is a good deal of variety in the coloring of the males. The cephalothorax is dark brown on the sides and behind. There is a central white spot on the thoracic part. Some specimens have the cephalic plate covered with brilliant red hairs, excepting a white central line, while all the eyes are surrounded by circles of short brilliant red hairs, and a ridge of long upright red hairs stands up above the first row of eyes. In others the color of the hairs is dull brownish red, while in one example there is no red at all, all of the hairs, the ridge as well as the shorter ones, being pure white. The abdomen is yellow or pale brown in the middle region with a scalloped dark band on each side. In the clear central space there are two pairs of dark dots on the posterior part and one pair in

front of the middle. This central part and the lower sides seem to have been originally covered with white hairs. Low down across the front end of the abdomen is a narrow dark band, and above this there is a curved white band. The first and second legs of the male are usually darkened, excepting the proximal end of the femoral joints; these, with the other legs and the palpi, are of a light yellowish color. One male, from Guatemala, is much darker than the others.

The females are much like the males, although the color is decidedly lighter. Some of them have red and some white hairs on the cephalothorax, but none of them have the upright ridge over the eyes. The abdomen has a white line down the middle, and has the inner edges of the dark wavy bands edged with white dashes and spots.

This species was described as *Triptolemus benignus* in Proceedings of the Nat. Hist. Society of Wisconsin, December, 1885.

We have three males and five females from Panama, and one male from Guatemala, near Ysobol.

AMYCUS LONGI-PALPUS, PECKHAM.

♂. Length, 6. Length of cephalothorax, 2.8; width of cephalothorax, 2. Length of palpus, 5.

Legs, 3412; first longer than second by the tarsus.

The quadrangle of the eyes occupies more than one-half of the cephalothorax, and is equally wide in front and behind. The middle eyes of the first row are more than twice as large as the lateral eyes. The first row is plainly curved. The second row is nearer the first than the third. The third row is narrower than the cephalothorax. The clypeus is somewhat higher than the large middle eyes. The falces project a little. They are long and slightly divergent, with a tooth on the inner side near the distal end. The fang is short. The palpus is as long as the femur, patella and tibia of the first leg, having its own tibia a little longer than the tarsus, while the patella is

nearly as long as the tibia and tarsus together. There is a strong apophysis at the distal end of the tibia, on the outer side.

When dry, the cephalothorax, legs and falces are brown. The eyes are placed on black spots, which, however, are nearly covered with white hairs, patches of which are also seen on the eye-region and in the post-ocular depression. Around the two middle anterior eyes are rings of brilliant red hairs, which grow longer, in the form of tufts, in the spaces above and between the middle and lateral eyes. The abdomen is pale brown, with a brilliant white band down the middle, on either side of which, at the posterior end, are three black spots in a longitudinal row. On each side of the abdomen are three oblique white bands, the posterior two being low down. The palpus is white (without hairs) throughout its length, only the bulb of the tarsus being darkened.

We have a single male, from the eastern part of Gautemala, which was first described in 1885, in a paper on Gautemala Attidæ in the Proceedings of the Natural History Society of Wisconsin. It is redescribed here with more detail because we have since received several other species which resemble it so closely that it is difficult to distinguish them.

AMYCUS PACATUS, SP. NOV.

Plate I, figs. 5-5c.

♂. Length, 8. Length of cephalothorax, 3; width of cephalothorax, 2.

Legs, 34 $\bar{1}$ $\bar{2}$; first but little longer than second.

This species is of about the same size and coloring as *longipalpus*, and also resembles it in having a long white palpus. It differs, however, in the higher clypeus, the larger middle eyes, the vertical falces and in some smaller details.

The quadrangle of the eyes occupies more than one-half of the cephalothorax, and is nearly equally wide in front and behind. The middle eyes of the first row are about three times

as large as the lateral. The clypeus is excessively high—plainly higher than the large middle eyes. The first row of eyes is plainly curved. The second row is nearer the first than the third. The falces are long vertical and parallel, with a strong pointed tooth at the end on the inner corner. The fang is strong and rather long. The palpus is not quite so long as the femur patella and tibia of the first leg. Its tibia is a little shorter than the tarsus and these two joints together are longer than the patella. Like *longi-palpus*, it has an apophysis at the end of the tibia.

The cephalothorax and legs are yellowish brown, the coxæ and the proximal ends of the femoral joints lighter than the rest. The anterior eyes are surrounded by circles of brilliant red hairs; just above this row, standing up stiffly, is a ridge of long, yellowish red hairs tipped with black, and in the middle line, just behind this ridge, is a patch of snow-white hairs. The anterior end of the abdomen is pale. Beginning in two dark spots in front of the middle, a brownish region runs back, on each side, to the end. On the posterior half there is a band of white hairs down the middle, and on either side of this are two large black spots, while further back is a third pair of spots, much less distinct. Although we have two specimens, both are rubbed, but there have evidently been some transverse bands and spots of white hairs on the anterior part of the abdomen. The clypeus has a strong reddish tinge on the upper half, which is also ornamented with a large central patch of white hairs. The lower half, which overlaps the falces, is black.

We have two males from Central America, the exact locality being unknown.

AMYCUS FALLAX, SP. NOV.

Plate I, figs. 3-3c.

♂. Length, 6. Length of cephalothorax, 2.5; width of cephalothorax, 2.

♀. Length, 5.5. Length of cephalothorax, 2.5; width of cephalothorax, 2.

Legs, ♂ 3124, ♀ 3412; first plainly longer than second.

This species, which also has a long white palpus, is much smaller and lighter colored than *longi-palpus* and *pacatus*.

The quadrangle of the eyes occupies more than one-half of the cephalothorax, and is nearly equally wide in front and behind. The middle eyes of the first row are a little more than twice as large as the lateral. The clypeus in the male is much higher than the large middle eyes; in the female it is scarcely half as high. The first row of eyes is curved. The second row is nearer the first than the third. The falces of the male are long, vertical, and nearly parallel, with a strong blunt tooth at the end on the inner side. The fang is strong and rather long.

The palpus of the male has the tarsus longer than the tibia, and the patella shorter than these two joints together. There is an apophysis at the end of the tibia, on the outer side. The palpus of the female is also long, white and slender.

The general color of the male is light yellow, the abdomen being paler than the cephalothorax and legs. There are white hairs around the anterior eyes and in large patches on the sides of the eye-region. The clypeus seems to be in two parts, the upper being tinged with red, while the lower is blackish. There is a central vertical band of white hairs which reaches from the eyes nearly to the lower edge. The abdomen has a band of white hairs around the anterior end, another down the middle of the posterior half, and some scattered white hairs on the lower sides. On either side of the central white band are two large black spots, and in one specimen there is a third pair of less distinct spots in front of these, and a fourth pair nearer

the spinnerets, the spots of the two longitudinal rows thus formed being connected by a brownish band.

The female is much like the male. There seem to be no hairs on the clypeus. On the anterior part of the eye-region are some light-colored slightly iridescent hairs with violet reflections. If our males ever had any such hairs they have been entirely rubbed away. The abdomen has two pairs of large brown spots just behind the middle, each of which is edged with white.

We have two males and one female from Panama, sent to us by Count Keyserling.

AMYCUS HIEROGLYPHICUS, SP. NOV.

Plate I, figs. 4-4c.

♂. Length, 6. Length of cephalothorax, 2.5; width of cephalothorax, 2.

♀. Length, 5.5. Length of cephalothorax, 2.3; width of cephalothorax, 1.8.

Legs, ♂ 314̄2, ♀ 312̄4.

This, the fourth species having a long white palpus, is small and light colored, like *fallax*, but is ornamented, in both sexes, with red hairs around the eyes, which are lacking in that species.

The quadrangle of the eyes is nearly equally wide in front and behind, and occupies more than half of the cephalothorax. The first row is curved, but not so strongly as in the related species. The middle eyes are plainly more than twice as large as the lateral. The second row is nearer the first than the third. The clypeus of the male is much lower than in *fallax*, being scarcely higher than the large middle eyes. In the female, on the contrary, it is rather higher than in the female of *fallax*, being about three-fourths as high as the large eyes. The falces in the male are long, vertical and parallel, with a long pointed tooth at the end, on the inner corner. In the female they are much shorter, without any tooth.

In the male palpus the tarsus, taken alone, is nearly as long as the patella, and is much longer than the tibia. The palpus, as a whole, is shorter than in *fallax*. The female also has a long slender white palpus.

The general color of the male is pale brown, the cephalothorax being tinged with yellow. All of the eyes are surrounded by short brilliant red hairs. The front view is very picturesque, as there is a snowy-white tuft of hairs in the middle of the front part of the eye-region, in front and on the sides of which are upright red hairs, while the clypeus has a large patch of white hairs in the middle. The lower part of the clypeus is not blackish, as in *fallax*, but is of a pale brown tint, differing from the upper part, which is tinged with red. The abdomen has a pair of round dark spots near the anterior end, just in front of which is a curved band of white hairs. On the posterior part are two pairs of angular dark spots, in front of and in line with which is a pair of white spots. The dark spots are separated by a central band of white hairs, and there are some white hairs on the lower sides. The legs and falces are yellowish, like the cephalothorax.

In the female the cephalothorax and legs are of a deeper tint than the abdomen, which is of a clear pale yellow. There are red and white hairs around all the eyes. The clypeus is yellow with a horizontal line of white hairs a little way below the eyes. The anterior part of the abdomen has two dark spots with a curved white band in front, as in the male, but the posterior part has some figures in black which are very variable in shape, sometimes consisting of a series of dashes and spots and again appearing as is shown in the figure.

We have one male and three females, sent by Count Keyserling, from Panama, *fallax* coming from the same locality.

AMYCUS MARJORII, SP. NOV.

Plate I, figs. 6-6d.

♂. Length, 6.5. Length of cephalothorax, 3.3; width of cephalothorax, 2.2.

♀. Length, 6. Length of cephalothorax, 3; width of cephalothorax, 2.8.

Legs, ♂ 1342, ♀ 431; second leg missing.

In this species the cephalothorax is longer, and the sides more nearly parallel than usual. The quadrangle of the eyes is wider in front than behind, is one-fourth wider than long and occupies more than one-half of the cephalothorax. The clypeus in the male is only a little higher than the middle eyes, which are a little more than twice as large as the lateral eyes of the first row. These four eyes are separated, and the row is slightly curved. In the female the clypeus is about one-third as high as the middle eyes, which are less than twice as large as the lateral. The second row is nearer the first than the third.

Our specimens are so much crushed and rubbed that any correct color description is impossible. Both cephalothorax and abdomen are dark, much darker than the legs, excepting those of the first pair in the male. The upper surface, in the male, has the eye-region and the anterior central part of the thorax lighter colored than the rest, and slightly tinged with yellowish. Above the first row of eyes is a row of long, reddish hairs extending forward, not upward. The abdomen is brown, with a darker line running along each side, and a pair of dark spots at about the middle point just inside of these lines.

In the female the body is of rather a dark brown color, while the legs are lighter with a tinge of yellow. The cephalothorax has a light-colored line with diverging branches, on the thoracic part. On the abdomen nothing is discernible excepting a central row of small dark chevrons on the posterior part.

We have one male and one female from the eastern part of Guatemala.

CHAPODA, GEN. NOV.

The cephalothorax is rather high. From its highest point at the dorsal eyes it slants plainly in both directions, more markedly behind than in front; after the first half the thoracic slope is still more abrupt. There is a large post-ocular depression. In the female the sides of the cephalic part are vertical, but in the male, where the cephalothorax is higher, they widen from above below, both in cephalic and thoracic parts. The narrowest point is at the front end, and the widest behind the dorsal eyes. The quadrangle of the eyes is a little wider in front than behind, is one-fifth wider than long, and occupies about two-fifths of the cephalothorax. The anterior eyes are large and form a plainly curved row; the middle eyes are close together and are plainly less than twice as large as the lateral, which are a little separated from them. The second row is half-way between the first and the third. The third row is not quite so wide as the cephalothorax at that place.

In general appearance, and in the enamelled surface of the integument, this genus resembles certain species of *Amycus*. The cephalothorax, however, is not so high, and the lateral eyes of the first row are relatively larger. It is still closer to the following genus, *Helorus*, but the spiders are smaller, with the cephalothorax lower and the quadrangle of the eyes narrower in proportion to its length.

CHAPODA FESTIVA, SP. NOV.

Plate I, figs. 7-7d.

♂. Length, 5.8. Length of cephalothorax, 2.5; width of cephalothorax, 2.

♀. Length, 5.5. Length of cephalothorax, 2; width of cephalothorax, 1.5.

Legs, ♂ 143̄2; ♀ 341̄2; first and second pairs a little the stoutest.

This is a medium-sized species with a covering of hard white scales on the eye-region and on the sides of the cephalothorax.

In the male the cephalothorax is dark brown, with a band of white hairs low down on the sides. The cephalic plate is edged with deep black, and has the central portion covered with hard white scales, which are separated by little seams and cracks. The abdomen is pale brown, with an enamelled covering of scales, which have the same crackled appearance as in the cephalothorax. This covering splits open on the anterior part of the dorsum showing a smooth and slightly depressed region between the two edges. These edges are bordered by pure white scales, which, on the posterior part of the abdomen, form a central band, extending to the spinnerets. This band is sometimes marked by a dark line down the middle. The falces are black, and are long, vertical and moderately stout. The clypeus is two-thirds as high as the middle eyes. The legs are brown, like the cephalothorax.

The most characteristic thing about the male, and the one that marks off the species at once, is the shape of the palpus. The femur bears, above, a large rosette-like mass of white hairs, while below it has a strong apophysis. The patella has black hairs on each side, is narrow at the proximal end and much widened out and flattened at the extremity, while the tibia, which is a much shorter joint, is nearly as wide as it is long at the end where it joins the patella, but is much narrower towards the tarsus.

We have a second male, which is smaller than the one described and which has all the colors much paler. In both specimens a few white hairs on the posterior sides of the abdomen indicate that there has been some pubescence which has been rubbed off.

The female is much like the male. The clypeus is not so high, the falces are yellow, and are shorter and relatively stouter. The split on the anterior part of the abdomen is narrower and the white band on the posterior part is crossed by a second band of white scales, which has at each end, near the outer side of the abdomen, a dark spot. In the four corners made by the crossing bands the integument is darkened.

The spinnerets are white, each with a delicate, black line on the outer side. The palpi and legs are yellow, barred with black or dark brown.

We have two males and one female from the eastern part of Guatemala, and one female from Chapoda, Brazil, in the Smith Collection.

HELORUS, GEN. NOV.

The cephalothorax is high. The cephalic part is inclined forward, and the thoracic falls in a steep slant from the dorsal eyes. The sides usually widen out from above below, especially in the thoracic part. The widest point is at the dorsal eyes or behind them. The width of the cephalothorax is about three-fourths of its length. The quadrangle of the eyes is wider in front than behind, is from one-fourth to one-third wider than long and occupies from two-fifths to three-fifths of the cephalothorax. The first row of eyes is straight or curved upward. The middle eyes are less than twice as large as the lateral and are close together, while the lateral are usually a little removed from them. The second row of eyes is half-way between the first and the third or is nearer the third than the first. The third row is usually narrower than the cephalothorax at that place.

This genus at once recalls *Amycus*, but the cephalothorax is not so high, and the eyes of the first row are more nearly of a size. It is still closer to *Chapoda*.

Mandibularis, the type, and *extensus* are much more closely allied to each other than to *flavens*. This species differs from the others in the shorter cephalic part, in the bulging out of the thoracic part far behind the dorsal eyes, in the short falces and in the vertical sides of the cephalic part, as well as in the fact that the palpi and the first two pairs of legs have their insertion much further back on the cephalothorax. It might have served as the type of a new genus, but as we had only a male this seemed inexpedient. It agrees with the other species in the prominent cephalic plate and in the covering of iridescent scales on the abdomen.

HELORUS MANDIBULARIS, SP. NOV.

Plate II, figs. 1-1c.

♂. Length, 9. Length of cephalothorax, 4; width of cephalothorax, 3.2.

Legs, 1342; the first pair longest, stoutest and darkest in color. Coxæ and trochanters visible from above.

Length of falces, 4.

In this species the cephalothorax is rounder than in *extensus*. The sides widen out plainly from above below, so that the third row of eyes is considerably narrower than the cephalothorax at that place. The lower outline of the sides is quite evenly curved, the widest point being a little behind the dorsal eyes. The cephalic part is convex, but is scarcely at all inclined. The thoracic rounds off from the dorsal eyes to the lower margin, not being flat, as in *extensus*. The quadrangle of the eyes is one-fourth wider than long and occupies a little more than half of the cephalothorax. The anterior eyes are close together in a slightly curved row; the middle are nearly twice as large as the lateral, neither the lateral nor the dorsal eyes being so large as in *extensus*. The clypeus is one-fourth as high as the middle eyes. The falces are horizontal and are very long and strong, with a long curved fang. On the inner edge there are three small teeth near the proximal end and two large ones at the extremity, while underneath there is one small tooth, not very far from the end. The fang also has a tooth, near its insertion. The palpus is very long and has the same crook in the femur that is seen in *extensus*, the patella and tibia, also, being at least twice as long as the tarsus. The pedicle which joins the cephalothorax and abdomen is visible from above.

The falces, first legs and cephalothorax are bright reddish brown. There are some white hairs on the sides of the cephalic part and around the anterior eyes. The other legs and the palpi are light yellow, the tarsal joint of the palpus having some whitish hairs. The abdomen is pale brown, covered with

light-colored iridescent scales, as in *extensus* and *flavens*. On the back are two pairs of dark dots.

We have a single male from Panama, sent to us by Count Keyserling.

HELORUS EXTENSUS, SP. NOV.

Plate II, figs., 2-2b.

♂. Length, 8.4. Length of cephalothorax, 3.5; width of cephalothorax, 3. A smaller male is only 6 mm. long.

Legs, 1342; the first pair plainly longest and a little stoutest. The coxæ and trochanters are somewhat elongated, so as to be visible from above.

The cephalothorax has a very round look. The sides are rounded out from above, below, so that the third row of eyes is a little narrower than the cephalothorax at that place. The cephalic part is plainly wider than the thoracic, the widest point being at the dorsal eyes. It is inclined forward and is very convex, while the thoracic falls in a steep flat slope from the dorsal eyes to the posterior margin. The quadrangle of the eyes is one-fourth wider than long and occupies about three-fifths of the cephalothorax. The lateral eyes of the first row are plainly more than half as large as the middle eyes and are a little separated from them. This row is a little curved upward. The dorsal eyes are large, equalling the lateral in size. The clypeus is one-third as high as the middle eyes. The falces vary considerably in length in different individuals. They have a vertical part near the head, and then stretch out horizontally, bearing a long fang. At the lower edge of the vertical part are some small teeth. The horizontal part has, underneath, a small tooth in the first third and a larger one near the end. The palpus has the tarsus only half as long as the patella and tibia together, and has a curious, elbow-like bend in the femur. The whole palpus is very long. The cephalothorax and abdomen do not come together, the pedicle which joins them being visible from above.

Different examples vary in color as well as in size, the smaller ones being much paler than the larger. In the large ones the cephalothorax is a bright reddish brown, with red hairs around the eyes and on the sides of the cephalic part. The abdomen is light brown. On the front part are two parallel darker streaks, and behind are two pairs of large dark spots, and, between these, a series of small dark chevrons. Around and between the darker parts is a covering of light-colored iridescent hairs. The falces are bright brown, like the cephalothorax. The palpi and legs are light yellowish brown, the femur of the palpus having, where it bends, a patch of snow-white hairs above. The first leg has the femur and the ends of the patella and tibia bright brown, contrasting strongly with the paler color, which lies next.

The first leg in the large variety is longer than in the smaller one, exceeding the third leg by the length of the tarsus and metatarsus, while in the other case it is longer by only the tarsus.

We have seven males from Panama, in the Keyserling Collection.

HELORUS FLAVENS, SP. NOV.

Plate II, figs. 3-3c.

♂. Length, 5.5. Length of cephalothorax, 2.6; width of cephalothorax, 2.

Legs, 1342; the first pair plainly longest, stoutest and darkest in color. The palpus and the first and second legs are set unusually far back.

In this species the sides of the cephalic part are vertical, the third row of eyes being as wide as the cephalothorax at that place. Behind the dorsal eyes the sides round out, quite suddenly, to their widest point, opposite the coxæ of the second pair of legs. The quadrangle of the eyes is about one-third wider than long, and occupies a little more than two-fifths of the cephalothorax. The anterior eyes are all close together, in a straight row, the middle eyes being less than twice as large as

the lateral. The clypeus is about one-third as high as the middle eyes. The falces are moderately long and stout, and are vertical. They are wider at the end than at the insertion. The lip is as wide as long. The palpus has the tarsus as long as the tibia and patella together.

The cephalothorax and the first pair of legs are bright reddish brown. The abdomen, the palpi and the other legs are pale yellow. The cephalothorax has the eyes on black spots, and seems to have been covered, on the cephalic part at least, with yellowish white, slightly iridescent hairs. On the cephalic plate, about in a line with the second row of eyes, are two tufts of dark hairs, not always present. The abdomen has sometimes two and sometimes four dark spots on the posterior half. In one of our specimens it is covered with short, greenish yellow, iridescent hairs.

We have three males from Panama, sent to us by Count Keyserling.

PHIDIPPUS (c. KOCII).

Plate II, figs. 4-4b.

Spiders above medium size, sometimes very large.

The cephalothorax is from moderately high to high; it is massive, and convex above. The sides are usually widely rounded out, especially in the male, so that it is wide in proportion to its length. The widest point is behind the dorsal eyes. The cephalic plate is inclined forward. The thoracic part falls from the dorsal eyes at first gradually, and then more steeply. The quadrangle of the eyes is from one-third to two-thirds wider than long; it is much wider behind than in front, and occupies about two-fifths of the cephalothorax. The anterior eyes usually form a curved row, the middle being less than twice as large as the lateral and a little separated from each other, while the lateral are separated from them by from one-third to two-thirds of their own diameter. The second row is about twice as far from the third as from the first row. The dorsal eyes are as large as the lateral and form a row which is narrower than the

cephalothorax at that place. All the eyes are small in proportion to the size of the spiders.

The genus *Phidippus* is represented, among our Mexican and Central American spiders, by the three new species here described, by *Phidippus mexicanus* P., N. A. Spiders of the Family Attidæ, p. 23, and by *P. orichalceus*, C. K. (See Plate II, figs. 8-8a, and Plate III, fig. 7.)

This genus, with its clearly marked characters and its numerous species, stands at the head of a large group of related genera. This group includes *Parnænus*, *Pardessus*, *Plexippus*, *Philæus*, *Thyene*, *Zenodorus*, *Escambia*, *Hasarius*, *Dendryphantes*, and many others.

We give drawings of *Phidippus morsitans* as fairly typical of the genus.

PHIDIPPUS CARNEUS, SP. NOV.

Plate II, figs. 5-5a.

♀. Length, 14.5. Length of cephalothorax, 6.5; width of cephalothorax, 5.

Legs, 4132; first pair stoutest, second next.

This is a large heavy hairy spider. The cephalothorax is very dark, almost black, with long, black hairs on the eye-region. The upper surface of the abdomen is dull red, with a covering of gray hairs; there is a wide central black band on the posterior half, which has at its anterior end two white spots. The dorsum is encircled by a black band, below which, at the anterior end of the abdomen, is a white band. The lower surface is black. The legs and palpi are of a dark reddish brown color, the first pair being darker than the rest, and clothed with long black hairs. The clypeus is narrow, and is fringed with white hairs. The falces project forward and are short and stout; they are of a dark iridescent green color.

The lateral eyes of the first row are well separated from the middle eyes and are scarcely more than one-half as large, this being proportionately smaller than in *georgii*.

We have a single female from Central America, exact locality unknown.

PHIDIPPUS GEORGI, SP. NOV.

Plate II, figs. 6-6a.

♀. Length, 17. Length of cephalothorax, 5.5; width of cephalothorax, 4.5.

Legs, 4123; first pair stoutest, second next.

This is a very large spider, but it is not so hairy, and the cephalothorax is not so large and massive as in *carneus*. The lateral eyes of the first row are not very widely separated from the middle eyes, and are plainly more than one-half as large. The cephalothorax is black, with some long white and black hairs, which stand upright all over the cephalic plate. The integument of the abdomen is of a dark reddish brown color, covered closely with short hairs of mixed gray and yellowish. There is an indistinct darker herring-bone stripe down the middle of the back. As the only specimen that we have is much distended with eggs, it may be that other markings might appear under different circumstances. The legs are all very dark brown, thinly clothed with white hairs. The palpus is a shade lighter than the legs, with yellowish hairs. The falces project forward a little. They are short and stout, and are black with a slight iridescence.

We have a single female from Mexico, sent to us by Mr. Nathan Banks.

PHIDIPPUS HOWARDII, SP. NOV.

Plate II, figs. 7-7b.

♂. Length, 9. Length of cephalothorax, 4; width of cephalothorax, 3.2.

Legs, 1423; first pair stoutest.

Cephalothorax black, with a zig-zag white band. Abdomen black, with five white spots.

This species is close to *Phidippus morsitans*, but the cephalothorax is longer in proportion to its width, and does not

bulge out so widely on the sides. It lacks, too, something of the burly look of that species, being rather more lightly and gracefully built.

The whole body is black. Across the cephalothorax is a wide zig-zag white band, which is never found in *morsitans*, a point running back behind each of the dorsal eyes and one running forward between them. On the middle of the abdomen is a large triangular white spot, behind this is a pair of oblique white bars, and still further back a pair of white dots; around the front is a white band, and on the sides are two oblique white bars, all exactly as in *morsitans*. The palpi are rufus, with rather long, black hairs, whereas in *morsitans* the hairs are short and of a brown color. The legs are rufus, barred with black, like some specimens of *morsitans*, although in that species they are more commonly black. In both *Howardii* and *morsitans* the first leg has, on the inner side, long black hairs on the femur, the tibia, and the distal part of the metatarsus, while the patella has a long brush of snowy-white hairs. The falces are short, stout, vertical and iridescent, but are blue rather than green, as in *morsitans*.

Phidippus mexicanus also has the three white spots on a black abdomen, but this species is so very much larger and hairier than *Howardii*, that there can be no confusion between them.

We have a single male, sent to us from Reynosa, Mexico, by Mr. C. H. Tyler Townsend.

PARDESSUS, GEN. NOV.

Rather large, handsome spiders, with distinct patterns.

The cephalothorax is rather high, with the upper surface level, or slightly convex. The cephalic part is slightly inclined; the thoracic falls little or not at all in the anterior half, and then slopes, not very abruptly, to the posterior margin. The thoracic plate is bluntly narrowed behind. The sides widen out gradually from the anterior end to the middle of the thoracic part, and then contract a little. They slant out-

ward so that the cephalothorax is considerably wider below than above. The highest point is at, or just behind, the dorsal eyes. The quadrangle of the eyes is less than one-fourth wider than long, is about equally wide in front and behind, and occupies two-fifths of the cephalothorax. The four anterior eyes are a little separated from each other, the space between the middle eyes being narrower than that between the middle and lateral, and form a straight row. The middle are twice as large as the lateral. The second row is a little nearer the first than the third row, and is narrower than the third, which is itself plainly narrower than the cephalothorax at that place.

Of this genus we have four species, three of which were described by C. Koch, in *Die Arachniden*, XIII. These are (*Plexippus*) *mimicus* which we make the type of *Pardessus*, (*Plexippus*) *selectus*, and (*Phiale*) *gratiosus*. The fourth species, sent to us from Trinidad, by Mr. Broadway, is still undescribed.

PARDESSUS MIMICUS, C. K.

Plate III, figs. 1-1b.

♀. Length, 9 to 10. Length of cephalothorax, 4.5; width of cephalothorax, 2.6.

Legs, ♀ 4312; first and second pairs a little the stoutest. Third and fourth much the longest.

The clypeus is a little more than one-fourth as high as the anterior middle eyes. The falces are vertical, and only moderately long and stout, with a small fang. At the extremity are three small teeth, two on the upper and one on the under edge, which are visible from the under side. The labium is short and rounded. The maxillæ are obliquely truncated. The abdomen is oval, and rather slender and graceful in form.

The cephalothorax is covered with yellowish red hairs, the cephalic plate being darker than the rest. The abdomen is bright orange red, with two large, black spots on the anterior half and two wide transverse black bands behind. There is sometimes another black band around the anterior end. The

red ground-color sometimes fades to nearly white in alcohol. The palpi are pale yellowish, with light hairs. The legs are of a lighter or darker reddish color, not very hairy, but with some pale golden scales. The color deepens, in most specimens, on the femora, the distal halves of the tibia and the tarsi. The falces are light or dark red, with white hairs along the inner sides. The extremities and the fangs are blackish.

We have four females from Chapoda, Brazil, in the Smith Collection, and a fifth from Panama, in the Keyserling Collection.

PARNÆNUS, GEN. NOV.

Large, handsome spiders, with distinct markings.

The cephalothorax is high and massive. When looked at from in front, the sides are seen to bulge out on each side of the first row of eyes. The anterior part of the cephalic plate is inclined forward. The thoracic part falls from the dorsal eye to the hinder margin, the slope being more abrupt after the first half. The lower outline of the sides is not far from circular, but there is a distinct bulge just behind the first row of eyes where the cephalothorax is widest. They round out widely from above downward, so that, although the dorsal eyes are on the sides of the upper surface, they form a row which is much narrower than the cephalothorax at that place. The quadrangle of the eyes is very slightly wider behind than in front. It is barely one-fourth wider than long, and occupies nearly one-half of the cephalothorax. All the eyes are small in proportion to the size of the spiders. The anterior row is curved. The middle eyes are slightly separated; the lateral are placed further back, with a distinct space between them and the middle eyes. The middle are nearly twice as large as the lateral. The second row is plainly nearer the first than the third row. The dorsal eyes are fully as large as the lateral.

We found this genus upon (*Phidippus*) *cyanidens*, C. K., Die Arachniden, XIII, p. 156.

This genus finds its closest relations with *Phidippus*, *Zenodorus* and *Thyene*. *Zenodorus* (which equals *Ephippus*, Thor., and

is found in Australia and the Malay Archipelago), while it bulges out in front, like *Farnænus*, has the cephalothorax excessively high, square-looking and massive, and has all the eyes much larger in proportion to the size of the spiders. In *Phidippus* the eyes are even smaller in proportion to the size of the spiders than in *Parnænus*, the widest point of the cephalothorax is not in front of the dorsal eyes, and the quadrangle of the eyes is plainly wider behind than in front. In *Thyene*, the spiders run smaller than in *Parnænus*, the cephalothorax is differently shaped, and the lateral eyes of the first row are very small, only half as large as the middle eyes.

PARNÆNUS CYANIDENS, C. K.

Plate III, figs. 2-2c.

- ♂. Length, 7 to 9. Length of cephalothorax of larger specimen, 5; width of cephalothorax of same, 4.5.
 ♀. Length, 9 to 12. Length of cephalothorax of larger specimen, 4.6; width of cephalothorax of same, 4.
 Legs, ♂ ♀ 1423; the first plainly longest and stoutest.

The clypeus is very narrow. The falces in the female are stout and moderately long and have the anterior surface convex. In the male they are longer and are directed obliquely forward, with a long fang, while on the inner face is a long, strong tooth. The sternum is long and oval. The maxillæ are long, heavy and obtusely rounded. The labium is long and slender and pointed at the extremity.

In the male the integument of the whole body is very dark, almost black, and three of our four specimens show patches of scales of a most vivid iridescent green color, which, in one case, entirely cover both cephalothorax and abdomen. In these three specimens the falces are of an iridescent bluish green color. In our fourth male the scales that are left on the cephalothorax and abdomen are iridescent red and violet (the green ones probably having been all rubbed off), and the falces are brilliant iridescent red with some greenish reflections. They all

have, on the cephalothorax, a wide band of white, low down on each side, beginning opposite the dorsal eye and extending to the point at which the abdomen overlaps the cephalothorax, and a white spot between the dorsal eyes. The one without the green scales has no marks nor spots on the abdomen, but the others have a band around the anterior part and two or three oblique bands on each side, which are white or yellowish white, while on the dorsum on each side of the middle, is a longitudinal narrow velvety black band, and on these bands are four pairs of snow-white dots. The legs and palpi are somewhat iridescent and are almost black, excepting in one specimen in which the palpi and the patellæ are reddish brown. The first pair has a fringe of black hairs on the inner side. Two of our three females are much lighter colored than the males, being of a medium brown, but the cephalothorax and abdomen have the same spots and markings that are seen in the male, and one of them has patches of the brilliant green scales. The falces are reddish brown above, and iridescent green near the fang. The legs are medium brown, but the femora are darkened and the tibia of the first is much enlarged and dark colored; with some dark hairs on the inner side. The third female differs from the others in being as dark as the male, and in having the falces entirely dark red and iridescent, with some white scales on the upper part.

We have this species from the eastern part of Guatemala, and also in the Smith Collection from Para and the Amazon.

PHILÆUS (THORELL).

Spiders above medium size.

The cephalothorax is rather high and a little longer in proportion to its width than in *Phidippus* and *Parnævus*, having less of the rounded appearance that distinguishes those genera. The cephalic plate is inclined forward. The thoracic part falls from the dorsal eyes, very gradually in the first half and then more steeply. In the male the change from the gradual to the steeper slope is more abrupt than in the female. The sides are

usually widest behind the dorsal eyes, but in some species (as in the type) they are nearly parallel from just behind the second row of eyes to just in front of the posterior border. They slant outward from above downward, more widely in the male than in the female. The quadrangle of the eyes is equally wide in front and behind or slightly wider behind, and is from one-fourth wider than long to nearly twice as wide as long. It occupies a little more than one-third of the length of the cephalothorax. The anterior eyes form a curved row; the middle being less than twice as large as the lateral. They are all separated, the lateral more widely from the middle than the middle from each other. The second row is a little nearer the first than the third row. The third row is not so wide as the cephalothorax at that place.

While this genus is closely related to *Phidippus*, the shape of the cephalothorax is somewhat different, the sides being more nearly parallel. Moreover, the quadrangle of the eyes is much wider behind in *Phidippus*. From *Plexippus* also it differs in shape, as well as in having the first row of eyes curved, while in that genus it is straight.

The genus *Phileus* is represented in Mexico and Central America not only by the species described below, but by *P. fertilis* P. and *P. mexicanus* P., from Mexico, and by *P. chrysis* Walck., from Mexico and Guatemala. These three species are described in our paper on North American Attidæ, pp. 27, 28 and 30.

PHILEUS LUTEUS, SP. NOV.

♂. Length, 9. Length of cephalothorax, 4; width of cephalothorax, 3.7.

Legs, 1423; first pair stoutest and much the longest.

This spider is a little above medium size. The first legs are long, and the falces are obliquely directed forward, and divergent, with long fangs.

The cephalothorax is high in front. It falls gradually from the dorsal eyes, and then a little more steeply toward the

hinder margin. The anterior eyes are rather larger than is usual in this genus. The second row is plainly nearer the first than the third row. The dorsal eyes are smaller than the lateral. The quadrangle of the eyes is one-fourth wider than long, and is a little wider behind than in front. The widest point of the cephalothorax is just behind the dorsal eyes. The falces are obliquely directed forward and divergent, with the fang about as long as the rest of the falx. Their color is bright reddish brown.

Our specimen is much rubbed. The cephalothorax is of a reddish brown color, which is darkest on the cephalic plate. The abdomen is of a slightly lighter brown, with a thin covering of long, dark hairs, and with patches of golden iridescent scales. It is encircled by a snow-white band, which is broken into spots toward the posterior end. On the dorsum are two pairs of white spots and two pairs of abbreviated white lines, and just at the origin of the spinnerets is a central white spot. The legs and palpi are of a medium brown, and not very hairy.

We have one male, from Spanish Honduras.

This species is very close to *Philæus chrysis*, Walck., which we have from Guatemala and from Mexico, both in shape and in markings, but it is of a lighter color, *chrysis* being black, while *luteus* is medium brown. Moreover, in *chrysis* the first leg is relatively a little longer, exceeding the second leg by the tarsus and the metatarsus, while in *luteus* it is longer only by the tarsus and about two-thirds of the metatarsus; and there is a slight difference in the falces, those of *chrysis* having a ridge on the front face, which is not present in *luteus*. In *chrysis* the second leg is slightly longer than the third, while in *luteus* the third is longer than the second.

ESCAMBIA, GEN. NOV.

The cephalothorax is moderately high and convex, and is usually not much wider in one part than in another, although some of the species (especially *conspicua*) broaden out a little behind the dorsal eyes. The sides are not far from vertical,

widening a little from above below; in the cephalic part they are sometimes slightly concave. The cephalic part is plainly inclined forward. The thoracic is sometimes very slightly inclined backward in the first half, and sometimes rounds off more decidedly behind the dorsal eyes. The quadrangle of the eyes is equally wide in front and behind, or a little wider in front; it is about one-fourth wider than long, and occupies two-fifths, or a little more, of the cephalothorax. The anterior eyes are rather large, and are usually a little separated; they most commonly form a straight or very slightly curved row, of which the middle are nearly twice as large as the lateral. The second row is about half-way between the first and the third. The third row is as wide or nearly as wide as the cephalothorax at that place. The legs are all of about the same length.

This genus presents some difficulties, as there is a good deal of variation, not only among the different species, but between the two sexes. The males fall more steeply than the females behind the dorsal eyes, and have the sides more rounded out. Among the females *conspecta* falls most abruptly, in the thoracic part, and *alacris* next, while in *parvula* the fall is very slight indeed.

Escambia bears a close resemblance to *Dynamius*, especially in some of the species, as *conspecta*. In *Dynamius*, however, the cephalothorax is flat on the upper surface for some distance behind the dorsal eyes, and the first row of eyes is plainly curved.

ESCAMBIA CONSPECTA, SP. NOV.

Plate III, figs. 3-3e.

♂. Length, 7. Length of cephalothorax, 4; width of cephalothorax, 2.7.

♀. Length, 9. Length of cephalothorax, 4.3; width of cephalothorax, 3.

Legs, 4321 in both sexes; first and second pairs stoutest, and having, in the male, heavy fringes of hair.

Both males and females vary a good deal in size.

In this species the cephalothorax widens out plainly behind the dorsal eyes, especially in the male, and the thoracic part falls in a wide and rather gradual slope in its first half, and then more abruptly to the margin. There is a distinct post-ocular depression. The anterior eyes are all separated, and the third row is quite as wide as the cephalothorax at that place in the female, not quite so wide in the male. The falces are vertical and stout, and moderately long. The clypeus is one-third as high as the middle anterior eyes. The quadrangle of the eyes is equally wide in front and behind.

The color of the cephalothorax varies from dark brown to black. The cephalic part is iridescent, and seems to have been covered with white scale-like hairs, although these are nearly all rubbed off in our examples. There is a white spot on the middle of the thoracic part, and from this two divergent white lines appear, on some specimens, running to the dorsal eyes. There are white bands on the lower sides. The abdomen is brown, with a deep black band around the anterior end, and behind this a white band, which is widest in the middle, and has its posterior edge indented. The markings are best seen under alcohol. The male has on the front part of the dorsum two pairs of white spots, which sometimes join to form two short white lines. On the middle of the back part of the dorsum is a band of white chevrons, more or less distinctly visible. The female has the same pattern a little more accentuated, the band of white chevrons being edged with black, upon which appear two pairs of white spots, the posterior pair obliquely elongated. These markings are very variable. The specimens shown in the drawings are not very good representatives of the species, so far as the pattern on the abdomen is concerned.

The palpus of the female has the femur and patella light brown, while the tibia and tarsus are black, and very stout, and are covered with thick long black hairs, intermingled with shorter white ones. In the male, the femur and patella have short white hairs, and the tibia and tarsus long black ones.

The legs are dark brown, the first and second pairs being the darkest. In the male the tibia and metatarsus of the first and second legs, especially of the second, are highly iridescent, and have, on both upper and under sides, long fringes of stiff hairs, longer on the second leg than on the first. These fringes are deep black on the first leg, and on the under side of the second, while on the upper side of the second leg they shade, through two-thirds of their length, from a light to a very dark brown, and then have the tips pure white, making a strong contrast. In one of our males this fringe has the pure white edge, but is otherwise pale brown without any shading.

We have five females, and a great many males from the eastern part of Guatemala.

ESCAMBIA PARVULA, SP. NOV.

Plate III, figs. 4-4c.

♂. Length, 5. Length of cephalothorax, 1.8; width of cephalothorax, 1.3.

♀. Length, 6. Length of cephalothorax, 2; width of cephalothorax, 1.5.

Legs, ♂ 4312; ♀ 4312; the first and second pairs in the male stoutest, and having double fringes of hair.

In this species there is a very slight broadening of the cephalothorax behind the dorsal eyes, which is more marked in the male than in the female. The upper surface, from the anterior eyes through half the thoracic part, is very gently convex, the highest point being at the dorsal eyes, from which the slope forward is a little more pronounced than behind. The final drop to the posterior margin is very abrupt but not quite vertical. The upper surface of the thoracic part just behind the dorsal eyes, which may be called the thoracic plate, is crescent shaped. The sides are vertical in the cephalic part and nearly so in the thoracic. The quadrangle of the eyes is equally wide in front and behind, is one-fourth wider than

long, and occupies a little less than one-half of the cephalothorax. The third row of eyes is as wide as the cephalothorax at that place. The clypeus is one-third the height of the middle anterior eyes. The falces are vertical and moderately stout and long, with very weak fangs.

In the female the cephalothorax is covered with yellow hairs, excepting on the sides, where there are wide white bands. Where the hairs are rubbed off on the cephalic region, the integument is seen to be dark and iridescent. The abdomen has a blackish band low down around the anterior end and above this a pure white band. The back is covered with gold-colored hairs. On each side, beginning in front of the middle, is a wide band of deep black which is crossed by two white bars. The palpus has pure white hairs on the upper surface of the patella, and longer, yellowish hairs on the tibia and tarsus. The legs are dark brown, with some short yellow and white hairs.

The cephalothorax in the male may be like that of the female, but in our examples the hairs are almost all rubbed off showing the dark, iridescent cephalic plate. Some of them have a line of white hairs running along the sides of the cephalic part and curving around the edge of the crescent-shaped thoracic plate. The abdomen is usually like that of the female, although in one or two examples the whole surface is covered with gold-colored hairs, excepting the black and white bands around the anterior end, as shown in the figure. The palpus has short white hairs on the patella, and long black hairs on the tibia and tarsus. The first and second legs are darker in color than the third and fourth and are ornamented with double fringes of hair, which, however, are not nearly so long and striking as in *E. conspecta*. The fringes on the upper edges are black, while those below are longer and of a brownish color.

We have numerous examples from the eastern part of Guatemala. The species is easily distinguished by its small size and the distinct pattern on the abdomen. In form and

general appearance it closely resembles the other species of this genus.

ESCAMBIA ALACRIS, SP. NOV.

Plate III, figs. 5-5a.

♀. Length, 7. Length of cephalothorax, 3; width of cephalothorax, 2.

Legs, $\overline{4312}$; differing but little in thickness.

This species has the cephalothorax only moderately high, the highest point being at the dorsal eyes, from which it slopes in both directions, much more steeply behind than in front. The upper surface of the anterior thoracic part forms a crescent-shaped plate as in *parvula*, and from this the drop to the margin is still more abrupt. The sides are vertical and parallel in the cephalic part, rounding out from above below and also widening somewhat in the thoracic. The first row of eyes is straight, which is unusual in this genus. The quadrangle of the eyes is a little wider in front than behind, is one-fourth wider than long, and occupies about one-half of the cephalothorax. The third row of eyes is not quite as wide as the cephalothorax at that place, and the eyes of this row are rather large. There is a distinct post-ocular depression. The falces are vertical and stout with a small fang.

The cephalothorax is dark reddish brown with white bands on the sides and a white band running from the dorsal eyes around the curved thoracic plate. The abdominal markings are best seen under alcohol, the pattern becoming indistinct when the spider is dried. The general color is dark brown. On the front end are two oblique bands of reddish yellow, almost orange color, from the inner side of each of which, behind, comes off a band which bends inward, giving somewhat the effect of a parenthesis. There is a pale band down the middle of the dorsum which widens behind and is broken into chevrons on the posterior half. Just behind the inner branches of the yellow bands is a pair of white spots, and on the posterior part, on either side of the band of chevrons, is

a blackish region, which is crossed by two larger white spots. The palpus is yellow, rather thickly covered with white hairs. The legs are yellow, with short brownish hairs.

We have a single female from the eastern part of Guatemala.

Although this species differs from the others of this genus in having the first row of eyes straight and the quadrangle occupying half of the cephalothorax, it closely resembles them in general shape, and in the pattern on the abdomen.

DENDRYPHANTES (c. КОСН).

Plate IV, figs. 3-3b.

Spiders varying from small to above medium size.

The cephalothorax is from moderately high to high. The cephalic plate is usually level in the posterior half, but is inclined in front. Behind the dorsal eyes the cephalothorax is either level or else slopes more or less, in the first part of the thorax, and then falls abruptly. The sides diverge a little from the first row of eyes, but are only a little wider than the third row at that place. Behind the dorsal eyes they are plainly widened out. The anterior eyes form a curved row, the lateral being more than one-half as large as the middle and separated from them. The second row is nearer the first than the third. The quadrangle of the eyes is one-third wider than long, is wider behind than in front, and occupies from two-fifths to nearly one-half of the cephalothorax.

The species of *Dendryphantes* that we have from Central America are *nitidus*, *lætabilis*, *hondurensis*, *dubitabilis* and *centralis*, described below; *ruber* P., described under the genus *Philæus* in our paper on *New Genera and Species of Attidæ from Guatemala*, Proc. Nat. Hist. Soc. of Wis., Dec. 1885, p. 66, and *capitatus* Hentz, described in *Spiders of United States*, and also in our paper on *North American Attidæ*.

Of these, *nitidus* is much larger than any of the others. The males of *nitidus*, *lætabilis* and *ruber* are easily distinguished

from each other and from *hondurensis* and *centralis* by their peculiar falces. *Capitatus*, *centralis*, *dubitabilis* and *hondurensis* differ from each other in the shape of the cephalothorax. (For falces of *D. ruber*, see Plate IV, fig. 9.)

DENDRYPHANTES HONDURENSIS, SP. NOV.

Plate IV, figs. 4-4a.

♀. Length, 5. Length of cephalothorax, 2; width of cephalothorax, 1.4.

The male is a little smaller, but with the same proportions.

Legs, ♂ 1432; ♀ 1423; first pair stoutest.

The shape of the cephalothorax differs a little with the sexes. In the male the upper surface is almost level, excepting a slight elevation at the dorsal eye, from the second row of eyes through half the length of the thoracic part, falling steeply both in front and behind. In the female the cephalic and thoracic parts slope in opposite directions from the dorsal eyes, at first very gradually and then more abruptly, the final fall being less steep than in the male. The falces are vertical and moderately long and stout, being stouter and more convex in front in the male than in the female, but still not visible from above as in *ruber* and *nitidus*.

The general color is brown, the male being darker than the female, and in both sexes the cephalothorax is darker than the abdomen. In the female the whole body is covered with gray hairs. On the dorsum of the abdomen are four pairs of black spots, edged with white, those of the posterior pair being indented on the inner sides. The hairs are usually all rubbed off in preserved specimens, and when this is the case the appearance of the abdomen is much changed, the integument being of a light brown color, streaked and spotted with a paler shade, with two hairs of pale colored or white spots on the anterior part, and two pairs of oblique pale bars on the posterior. The legs are light brown, barred with darker, with some close white scales.

They are not at all hairy. The palpi are brown, with gray hairs, and the falces are brownish-red.

The male has the cephalothorax almost black, with a band of white hairs on each side just below the eyes, and another low down around the margin. One of our specimens has a few iridescent red and blue scales left on the cephalic plate. On the abdomen the hairs are snowy white, but they are nearly all rubbed off excepting around the front end, the integument sometimes showing a pattern similar to that of the female, but with the pale spots elongated into wavy bands which approach each other down the middle line.

Others have a white band, which runs around the anterior end of the abdomen and is broken up into white spots on the posterior sides, while on the dark brown dorsum are two longitudinal rows of white spots. In some specimens of both males and females the darker parts predominate, the abdomen being pale yellowish brown, with three or four pairs of dark spots, which are connected with a dark marking down the middle.

We have numerous examples from Guatemala and British Honduras.

The colors and markings of the female of *hondurensis* are almost identical with those of *D. capitatus*, but in that species the female has the cephalothorax level above, and sloping abruptly before and behind.

DENDRYPHANTES CENTRALIS, SP. NOV.

Plate IV, figs. 5-5c.

♂. Length, 3.5. Length of cephalothorax, 1.8; width of cephalothorax, 1.4.

♀. Length, 5. Length of cephalothorax, 2; width of cephalothorax, 1.7.

Legs, ♂ ♀ 1423; first pair stoutest.

This species is very close to *hondurensis* and *capitatus*, the markings being very similar although not quite identical. The shape of the cephalothorax, however, is different. The

cephalic plate is level from the dorsal eyes to just above the anterior eyes, and is then inclined forward, while the thoracic part rounds off abruptly from the dorsal eyes, and then falls still more steeply in the posterior half. In *capitatus* the thorax is level for some distance behind the dorsal eyes, and in *hondurensis* it falls very gradually. The falces are vertical and moderately long and stout.

The color of the cephalothorax is dark brown, pretty well covered with yellowish gray hairs, which grow long and thick on the clypeus. The abdomen seems to have been covered with short white hairs, but as our specimens are rubbed nearly bare, it is impossible to say what the original appearance of the spider was. The integument is of a pale brownish color. On the dorsum are four pairs of dark spots. The first pair is close to the second, and the two spots are connected by a dark band which runs across the front of the abdomen. In the pale space thus marked off, are four black dots. On the posterior part of the dorsum the dark spots are connected with a dark marking down the middle, so that there are alternating pale and dark wavy bands. The palpi are light brown, with gray hairs. The femur, patella and tibia of the first leg are dark brown, deepening to black on the sides, the femur having a pale space underneath. They are thinly covered with white hairs. The metatarsus and tarsus are yellow. The femoral joints of the other legs are pale. That of the second has a large dark spot on each side at the extremity, while those of the third and fourth have a dark band. The legs are otherwise yellow, with dark rings at the ends of the joints. The falces are dark reddish-brown.

We have one male and five females from Panama.

DENDRYPHANTES LETABILIS, SP. NOV.

Plate IV, figs. 6-6b.

♂. Length, 6. Length of cephalothorax, 2.5; width of cephalothorax, 2.

Legs, $14\bar{3}2$; first pair much the longest and stoutest. Abdomen iridescent, encircled by a white band.

The cephalothorax is high and convex, falling directly behind the dorsal eyes, the slope becoming steeper after the first third of the thoracic part. It is rounded on the sides, though not so much so as in *nitidus*. The cephalic part occupies nearly one-half of the cephalothorax. The clypeus is only one-fifth as high as the anterior middle eyes. The falces are oblique and heavy, with two long stout teeth on the lower side. The fang is as long as the falx. The middle eyes of the first row are nearly twice as large as the lateral. The palpus is long and slender.

Our single specimen has been badly rubbed. Under alcohol it is black, with two patches of white hairs on each side of the cephalic part, one in front of the dorsal and one in front of the small lateral eyes, and with a white band encircling the abdomen. When dry, patches of brilliant iridescent scales appear on the cephalic plate and on the central part of the abdomen. The falces, palpi and first legs are dark bronze brown. The other legs are lighter brown, varied with yellowish, the proximal ends of the femoral joints being yellow. The sides of the face below the lateral eyes are covered with short white hairs.

We have a single male from Panama, sent to us by Count Keyserling.

DENDRYPHANTES DUBITABILIS, SP. NOV.

Plate IV, figs. 7-7a.

♀. Length, 5.9. Length of cephalothorax, 2.2; width of cephalothorax, 1.5.

Legs, 4123; those of the first pair plainly the stoutest.

The cephalothorax is high, and is widest at and just behind the dorsal eyes. The sides are vertical in the cephalic part, but broaden out a little at the lower edge, in the thoracic. The cephalic part is inclined. The thoracic falls from the dorsal eyes, gradually in the first third, and then more steeply. The quadrangle of the eyes is plainly wider behind than in front, and at its widest point is one-fourth wider than long. It occupies nearly one-half of the cephalothorax. The anterior eyes are not very large. They are a little separated and form a straight row, the middle being nearly twice as large as the lateral. The second row is nearer the first than the third. The third row is scarcely narrower than the cephalothorax. The falces are vertical, and moderately stout and long. The clypeus is one-third as high as the large middle eyes. The first legs are considerably stouter than the others.

Our specimens have been badly rubbed. The cephalothorax is black with a narrow band of white hairs around the lower margin, and patches of white and of iridescent hairs. The abdomen is brown or black, covered with hairs of a bright golden yellow color. There is a white band around the anterior end, a pair of white spots on the anterior part, and two transverse white bands on each side, behind the middle, which curve upward from the sides. The legs are dark brown, more or less banded with a lighter shade. The palpus is brown with white hairs.

We have a female and an immature male from Tahia, Mexico, sent us by Mr. Townsend.

Although this species agrees fairly well with the genus

Dendryphantes, its colors and the markings are much more like those of *Zygoballus*.

DENDRYPHANTES NITIDUS, SP. NOV.

Plate IV, figs. 8-8c.

♂. Length, 6 to 8. Length of cephalothorax, 2.9; width of cephalothorax, 2.5.

♀. Length, 9 to 10. Length of cephalothorax, 3.5; width of cephalothorax, 2.8.

Legs, ♂ 1423; first pair much the longest and stoutest; ♀ 4123.

This spider is so much larger than the other species of *Dendryphantes* that are found in Central America that it is easily distinguished from them. The cephalothorax is rounded, the outline of the sides being nearly circular in the male, though not in the female. The cephalic plate is level from the third to the second row of eyes and is then inclined forward. The thoracic part rounds off from the dorsal eyes, falling gradually at first and then more steeply. The falcæ in the male are long, obliquely directed and divergent with a long fang. In the female they are vertical, stout and long, and are very convex in front, so that they are plainly visible from above. The fang is strong. The palpus is long and slender.

The coloration at once recalls that of *D. militaris*, which is found as far south as Mexico, but differs from it in having iridescent scales on the abdomen in both sexes. The male is of a bronze brown color. The cephalothorax has a white band passing across the clypeus and around the sides, stopping behind where the abdomen overlaps. Near the lower margin is a black line upon the white. Between the dorsal eyes is a patch of snow-white hairs. The hairs around the anterior eyes are yellow. The abdomen is encircled by a white band, within which, on each side of the dorsum, is a dark longitudinal band. These dark bands are sometimes broken up

into four pairs of large dark spots. The first pair of these spots (or the corresponding parts of the bands) have on their inner side a small white spot; the space between the second pair is filled in with a large white spot; on the posterior half of the dorsum are three pairs of short transverse white bars, which separate the second and third and third and fourth pairs of dark spots, and outline the posterior end of the fourth pair. All over the rest of the dorsum, around and between the spots and bands, the abdomen seems to have been covered with beautiful iridescent scales with light green and red reflections. Of these, only patches are left in our specimens. The legs are brown barred with black, those of the first pair being much the darkest. They have a thin covering of short dark hairs, and a good many close white scales. The palpus has long dark hairs on the tarsus and white scales on the other joints. The falces are bronze brown and slightly iridescent.

The coloring of the female is essentially like that of the male. The cephalothorax is covered, except the marginal black line, with white hairs, having no yellow around the eyes. The abdomen has the encircling white band broken into oblique bars on the sides; and the dark bands are more commonly broken into distinct parts. There are long white hairs on the palpus.

We have numerous specimens, both of males and females, from Guatemala.

NAGAINA, GEN. NOV.

The cephalothorax is only moderately high. The upper surface is gently convex from the second row of eyes through two-thirds of the thoracic part, the inclination in front of and behind the dorsal eyes being about the same. The anterior end of the cephalic part is more distinctly inclined, and the posterior end of the thoracic falls abruptly. The sides are contracted in front and behind, the widest point being just back of the dorsal eyes; they are vertical in front and nearly so behind.

The quadrangle of the eyes is a little wider behind than in front, is one-fourth wider than long, and occupies nearly one-half of the cephalothorax. The anterior eyes are a little separated from each other, in a slightly curved row, the middle being nearly twice as large as the lateral. The second row is a very little nearer the first than the third. The dorsal eyes are large and prominent, and form a row which is scarcely narrower than the cephalothorax at that place.

The single individual upon which this genus rests, most strongly recalls some of the smaller species of *Dendryphantès* in the shape of the abdomen and the character of the markings, but differs from them in the nearly vertical sides of the cephalothorax.

NAGAINA INCUNDA, SP. NOV.

Plate IV, figs. 10-10c.

A small light-colored species.

♀. Length, 4. Length of cephalothorax, 1.5; width of cephalothorax, 1.

Legs, $\overline{4312}$; femur of the first enlarged.

The clypeus is one-fourth as high as the middle eyes of the first row. The falces are weak, short and vertical.

The cephalothorax is bright reddish brown with a dark line around the lower margin. The eyes are placed on black spots, and in the middle of the cephalic plate are two black dots. The abdomen has the outer sides pale yellow with some flecks of dark brown. Down the middle is a branching band of pale yellow, and on either side of this band is an irregular region of brown, which is more or less dotted with yellow. When the specimen is dried a few white scales appear both on the cephalothorax and on the abdomen.

The legs are pale yellow. The first has the joints somewhat enlarged, especially the femur, which has three stiff black hairs on the upper surface and a black spot, above, near the distal end. This black spot is repeated on the upper surface of the patella and of the tibia.

We have a single female from the east coast of Guatemala.

HASARIUS (E. SIMON).

Plate V, figs. 1-1b.

The cephalothorax is rather high and moderately long. The cephalic part is slightly inclined forward; the thoracic falls very little, or not at all, for about half its length and then more abruptly. It is more or less contracted in front, and widens out behind the dorsal eyes. The sides of the cephalic part are sometimes nearly vertical; in the thoracic they widen out distinctly from above to the lower edge. The quadrangle of the eyes is equally wide in front and behind, or a little wider in front, is from one-fourth to one-third wider than long and occupies about two-fifths of the cephalothorax. The anterior eyes form a straight or slightly curved row, the middle being subtouching or a little separated and less than twice as large as the lateral, which are more widely removed from them. The second row is about half-way between the first and the third; the third row is nearly or quite as wide as the cephalothorax at that place.

Hasarius belongs to the group of genera of which *Phidippus* is the representative, as being the strongest and most widely known. It has no very strongly marked characteristics, but it includes a considerable number of species, which are of medium size, or larger, and are widely distributed. It is, perhaps, most closely related to *Plexippus*, but is readily distinguished from that genus by the longer cephalic part and by the more nearly parallel sides of the cephalothorax. We give generic drawings of the type species, *H. Adansonii*.

HASARIUS BELLICOSUS, SP. NOV.

Plate V, figs. 2-2a.

♀. Length, 9. Length of cephalothorax, 4, width of cephalothorax, 3.

Legs, $4\overline{312}$; not differing much in length nor in thickness.

The cephalothorax is less than twice as long as wide, and

is narrowest in front. The quadrangle of the eyes is a little wider in front than behind, and is one-fourth wider than long. The anterior eyes form a very slightly curved row; the middle eyes are close together, the lateral a little separated from them. The third row is just about as wide as the cephalothorax at that place. The clypeus is about one-fourth as high as the middle anterior eyes and the falces are vertical, moderately long, and not very stout.

The cephalothorax has the cephalic part black, and the sides and thoracic part brown, with a central white band. The abdomen has a white band down the middle, on the edges of which are three pairs of white spots, and a white band on each side at the front end. On either side of the central band the color is blackish, and the outer sides are brown. The whole abdomen is covered with scanty gray hairs. The falces are brown, the palpi yellow with gray hairs, the legs brown with black spines and gray hairs, the first pair being the darkest.

We have a single female from the eastern part of Guatemala.

AVITUS, GEN. NOV.

The cephalothorax is moderately high and is one-third longer than wide. The cephalic part is slightly inclined. The thoracic falls very gradually through one-half of its length, and then more steeply. The sides widen out plainly from the first row of eyes, reaching the widest point just behind the dorsal eyes, and then contracting again. They are nowhere vertical, spreading out from above throughout their length, most widely at the widest point of the cephalothorax. The quadrangle of the eyes is slightly wider behind than in front, is one-fourth wider than long, and occupies two-fifths of the cephalothorax. The anterior eyes are in a slightly curved row, the lateral being half as large as the middle and separated from them, while the middle eyes are close together. The second row is about twice as far from the third as from the first

row. The third row is plainly narrower than the cephalothorax at that place. The first leg greatly exceeds the others through the elongation of the coxa and trochanter, which, taken together, are a little shorter than the femur, the coxa being a little longer than the trochanter. The first leg is longer than the second by the tibia, metatarsus and tarsus. The coxa of the first is nearly twice as long as the coxa and trochanter of the second taken together.

This genus belongs to Simon's "Groupe des Diolenii" (*Comptes-rendus de la Société Entomologique de Belgique, Séance du 5 Juillet, 1884*), which has hitherto been thought to be confined to the Malay Archipelago and Australia.

The form and relative length of the joints of the first leg and the length of the cephalic part distinguish it from the other genera of the group.

AVITUS DIOLENII, SP. NOV.

Plate V, figs. 3-3c.

♂. Length, 7. Length of cephalothorax, 3; width of cephalothorax, 2.2.

Falces, 2.2, without the fang, which is as long as the falx.

Legs, 1432; first pair stoutest and much the longest.

The palpus is long and slender. The clypeus is narrow. The falces are long and horizontal, as seen in Pl. V, fig. 3. In the figure which gives the front view of the face, they are shown fore-shortened.

In our specimen the hairs are nearly all rubbed off. The cephalothorax is dark brown, darkest on the cephalic plate; a few white hairs are left, on the sides and above. The abdomen is of a much lighter brown with a white band around the anterior end and along the sides, and two pairs of white spots, one on the anterior part of the dorsum and one about in the middle, the anterior two being connected by slender lines

which run obliquely forward from the spots. The hairs being nearly all gone, these spots appear dark under alcohol, as seen in the figure. The legs, palpi and falces are all dark brown.

We have a single male, from Panama, sent to us by Count Keyserling.

HABROCESTUM (E. SIMON).

The cephalothorax is convex, high and rather short, and widens out a little in the thoracic part. The cephalic part is inclined forward. The thoracic remains level or slopes very gradually for some distance behind the dorsal eyes. The sides are vertical or nearly vertical in front, and slant outward in the thoracic part. The quadrangle of the eyes is equally wide in front and behind, is one-third wider than long and occupies two-fifths of the cephalothorax. The anterior eyes are in a straight or slightly curved row, the middle being twice or nearly twice as large as the lateral, which are separated from them. The second row is usually half-way between the first and the third. The third row is as wide or nearly as wide as the cephalothorax at that place.

The females of this genus resemble each other closely. The males are more brightly colored and have a strong tendency to leg variation, the first or the third, or both the first and the third legs being often ornamented with tufts and fringes of variously colored hairs, and with apophyses. The palpi of the males are much alike, the bulb being short and almost circular in form.

Habrocestum is near *Saitis*, but the quadrangle is never wider in front than behind, and, so far as we know, the third leg is always longer than the fourth.

We consider *Habrocestum* a good representative of the group which includes *Saitis*, *Euophrys*, *Attus*, *Cyrba*, *Heliophanus* and the allied genera. The species are of medium size or smaller, and have a wide distribution. They are very numerous throughout the United States. We give a drawing of *H. auratum*, Hentz, as fairly typical of the genus. (Pl. V, figs. 4-4b.)

HABROCESTUM BELLIGERUM, SP. NOV.

Plate V, figs. 5-5a.

♀. Length, 6.5. Length of cephalothorax, 2.8; width of cephalothorax, 2.

Legs, 3412; first pair stoutest.

The clypeus is about one-half as high as the middle eyes. The falces are weak, short and vertical. The eyes of the first row are all well separated.

The cephalothorax is covered with hairs which are fawn-colored on the cephalic plate, and white or brownish-white on the sides and the thoracic part. The clypeus is covered with long white hairs. The abdomen is covered with fawn-colored hairs, the lower sides having some oblique, rather indistinct, white bands. Along the upper sides are two black scallops, more distinct in some specimens than in others. On the central posterior part are some white chevrons, outlined in black. On each side, the scalloped black line runs down and meets the black line at the sides of the chevrons, making a distinct point. Close to the spinnerets are two parallel white bars which sometimes join with the last chevron to make a somewhat horse-shoe shaped mark. The legs and palpi are reddish brown with white hairs.

We have three females, from Guatemala.

HABROCESTUM LATENS, SP. NOV.

Plate V, figs. 6-6a.

♀. Length, 5. Length of cephalothorax, 2.8; width of cephalothorax, 1.8.

Legs, 3412; the third longer than the fourth by the tarsus and longer than the second by the tarsus, metatarsus and half the tibia.

The clypeus is nearly as high as the middle eyes of the first row. The second row is half-way between the first and third. The falces are weak, short and vertical.

The cephalothorax has the hairs fawn-colored on the cephalic plate, and white on the sides and thoracic part, as in *belligerum*, but the integument is darker, being black instead of medium brown. The abdomen is covered with yellow hairs with a whitish band around the base and sides. On the posterior third of the dorsum (not the posterior half, as in *belligerum*) are some alternating black and light chevrons, and near the spinnerets, a somewhat crescent-shaped white figure, at each outer side of which is a white spot. The different parts of this figure vary in distinctness. The legs are dark reddish-brown with some short white hairs.

This species is very close to *belligerum*, but is a little larger and decidedly darker. It has not the black scalloped marks on the abdomen that appear in some examples of that species, it has the chevrons more crowded together at the posterior end, and it lacks the black point on each side of the posterior part.

We have four females from British Honduras.

HABROCESTUM MEXICANUM, SP. NOV.

Plate V, figs. 7-7e.

♂. Length, 5. Length of cephalothorax, 2; width of cephalothorax, 1.8.

♀. Length, 6. Length of cephalothorax, 3; width of cephalothorax, 2.

Legs, 3412 in both sexes; first pair stoutest.

The clypeus is about one-half as high as the middle eyes of the first row. The falces are short, weak and vertical. The eyes of the second row are very small, and are a little nearer the first row than the third.

The male has the integument of the cephalothorax black. The cephalic plate is covered with short hairs of a soft fawn-color, with some longer black hairs. The upper surface of the thoracic part seems to have been covered with pure white hairs. Around the lower edge is a narrow band of white hairs, and above this the sides seem to have been covered with short

yellow hairs. The abdomen has a white band around the base and sides and another band down the middle, which breaks up into small chevrons on the posterior part. On each side of the central band the dorsum is covered with a mixture of white and yellowish brown hairs.

The first leg has the femur and patella black on the upper surface, with a fringe of brownish hairs on each side, that on the front side being much the longer and heavier, with a pure white line running along the joints just above it. The other joints are covered with white hairs. The second leg is light colored with a black line along the upper surface of the femur, and is otherwise covered with white hairs. The third leg is also light; the femur has a black line along the upper surface on the front side and a second one, half as long, on the back side; at the end of this joint is a rounded enlargement, with a black spot in the middle; the patella has two black lines above; the tibia has a greenish color on the front face and some long white spines, and is otherwise covered with white hairs; the other joints are light with white hairs. The fourth leg has the femur light with an indistinct black line, and has the distal end darkened; the patella and tibia are light with black flecks; the other joints are light with dark hairs. The palpus has long white hairs and the clypeus is covered with short white down. The falces have some long white hairs on the front face.

The female has a dark integument entirely covered with white hairs which have a slight fawn-colored tinge. These hairs grow rather thinly over most of the surface, but thicken so as to form three distinct longitudinal bands on the cephalothorax, one down the middle, and one on each side, including the line of eyes along each side, and also to form a pair of spots on the middle of the abdomen, two triangular spots at the posterior end, and two short curved bands on each side. The clypeus is covered with long white hairs, and there are some long black hairs standing up over the first

row of eyes. The legs and palpi are light colored, with white hairs.

We have two males and several females from Reynosa and Refugio, Mexico, sent to us by Mr. C. H. Tyler Townsend.

HABROCESTUM PARATUM, SP. NOV.

Plate V, figs. 8-8b.

♂. Length, 5. Length of cephalothorax, 2.5; width of cephalothorax, 1.8.

Legs, 1342; first pair much the stoutest.

The clypeus is more than half as high as the large middle eyes and slants backward. The falces are weak and vertical. The thoracic part slopes very gradually for two-thirds of its length.

Our specimen is rather badly rubbed, but the coloring seems to be as follows: The cephalothorax covered with hairs, which are yellow on the cephalic plate, white on the sides and on the thoracic part, and bright red on the clypeus; the abdomen covered with yellow hairs excepting for three large white spots on the back and four obliquely elongated white spots on each side. Under alcohol there appears another pair of indistinct light-colored spots on the anterior part of the back. The first legs are dark brown, the femur, patella and tibia all being enlarged. On the inner edge of the tibia and the distal two-thirds of the patella is a fringe of dark colored hairs. The other legs are banded with lighter and darker brown. The falces are dark brown and on the anterior face of each are three slender longitudinal lines of white hairs.

We have a single male from the eastern part of Guatemala.

EUOPHRYS (c. КОСН).

Plate V, figs. 9-9b.

The cephalothorax is moderately high, with the sides not far from parallel, the thoracic part being but little wider than

the cephalic. The upper surface is sometimes flat for a little distance both in front of and behind the dorsal eyes, and sometimes slants from them in both directions, the posterior part of the thoracic part falling more steeply than the first half. The sides are vertical, or nearly vertical, in the cephalic part and slant outward a little in the thoracic.

The quadrangle of the eyes is equally wide in front and behind or a little wider in front, is one-fourth or one-third wider than long and occupies about two-fifths of the cephalothorax. The anterior eyes are rather large, and are close together in a straight, or a slightly curved row, the lateral being about two-thirds as large as the middle. The second row is half-way between the other two or is nearer the third row. The third row is sometimes as wide as the cephalothorax at that place and sometimes plainly narrower.

Euophrys, which has so many species in Europe, is but poorly represented in America. It has no very striking characters. The species are usually small, rarely reaching medium size. We give drawings of *E. erratica*, Wlk., as typical of the genus.

EUOPHRYS NEWTONII, SP. NOV.

Plate V, figs. 10-10a.

♀. Length, 6.5. Length of cephalothorax, 2.5; width of cephalothorax, 1.8.

Legs, $\overline{4312}$; first and second pair stoutest.

In this species the upper surface of the cephalothorax is strongly inclined in both directions from the dorsal eyes, the inclination backward and forward being about the same. The second half of the thoracic part falls a little more steeply, the slope being almost in the same direction throughout. The sides widen out very gradually as far as the middle of the thoracic part and then contract. In *erratica*, the type of *Euophrys*, the sides are pinched together in the middle of the cephalic part, and then widen out quite suddenly. The second row of eyes is nearer the third than the first. The sides slant

out a little throughout their length, especially in the thoracic part. The cephalothorax is wider than the third row of eyes. The quadrangle of the eyes is a little wider in front than behind. The dorsal eyes are large and prominent.

The falces are vertical, weak and moderately long. The clypeus is about one-third as high as the middle eyes of the first row.

The cephalothorax is reddish-brown, darkest in the cephalic region, with a black rim around the margin. Our specimen is rubbed, but there seems to have been a covering of white and reddish-yellow hairs over both cephalic and thoracic parts. There are some long red hairs over the first row of eyes. The integument of the abdomen is of a pale yellowish-brown color with a covering of short white hairs. On the back is a pattern of dark brown markings, which are shown in the figure, and which come out more distinctly under alcohol than when the spider is dry. The legs and palpi are reddish-brown with darker bands.

We have a single female from Central America, exact locality unknown.

EUOPHRYS YSOBOLII, SP. NOV.

Plate V, figs. 11-11a.

♂. Length, 5. Length of cephalothorax, 2.2; width of cephalothorax, 1.8.

Legs, 1432; first and second pairs stoutest.

The cephalothorax falls in a rounded slope, in both directions, from the dorsal eyes, the thoracic part sloping more steeply in the second half. The widest point is in the middle of the thoracic part, there being a slight gradual contraction from this point forward to the first row of eyes. The sides slant outward, especially in the thoracic part.

The quadrangle of the eyes is wider in front than behind, is one-third wider than long, and occupies two-fifths of the cephalothorax. The second row of eyes is nearer the third

than the first row. The third row is a little narrower than the cephalothorax at that place.

The clypeus and falces are inclined backward. The clypeus is one-third as high as the anterior middle eyes. The falces are weak and short.

Our only specimen has been very badly rubbed. The cephalothorax is dark reddish-brown, and seems to have been entirely covered with white hairs. The abdomen is pale with a line of dark chevrons down the middle and some dark flecks on the sides, and has some long white hairs at the front end which grow toward the cephalothorax. The first and second pairs of legs are dark reddish-brown, the third and fourth are lighter and more yellowish.

It is quite possible that this is the male of *Euophrys newtonii*.

We have a single male from Ysobel, Guatemala.

CYRENE APRICA, SP. NOV.

Plate VI, figs. 1-1a.

♂. Length, 6. Length of cephalothorax, 3; width, 2.

♀. Length, 7. Length of cephalothorax, 3; width, 2.

Legs, ♂ 1342, ♀ 4312; first and second pairs a little the stoutest.

A medium-sized species with a distinct pattern in black, white and red on the abdomen.

This species is like *delecta* in the position of the eyes and the shape of the cephalothorax, excepting that it rounds off more suddenly from the dorsal eyes, falling decidedly in the first third of the thoracic part and then still more steeply. The falces are vertical and are small in the female, while in the male they are moderately long and stout. The clypeus is inclined backward.

The cephalothorax of the female is black covered with red hairs. There are two transverse white bands, one just above the anterior eyes and the other at the dorsal eyes, and on the

central thoracic part is a large white spot. A wide white band crosses the clypeus and passes around the sides, somewhat above the lower margin, as far as the hinder corners of the thoracic part.

The pattern on the abdomen of the female is almost identical with that of *delecta*. There is a wide curved white band across the anterior end, followed by a band which, instead of being bright red, as in the other species, is made up of black with an intermingling of red hairs, resulting in a very rich, but dark shade. Behind this is a central herring-bone stripe in white with black on each side, the black being broken by two pairs of white spots and by white scallops on the lower sides. The first and largest portion of the herring-bone stripe is sometimes connected with the white which comes up over the sides from below, thus forming a second white band across the abdomen in front of the middle. The palpus is yellow, with scanty white hairs. The legs are barred or ringed with yellow and brown.

We have two males, both of which are badly rubbed. The legs, palpi and falces are all black. The cephalothorax has a black integument covered with yellowish-red hairs and is marked with white, as in the female. The abdomen is covered with yellowish-red hairs excepting a white band around the front end, two white spots on each side, and two pairs of white spots behind the middle of the back. The ground color is not so bright a red as in the female, but this may be owing to the fact that we have imperfect specimens.

We have numerous examples from Chapoda and Santarem, Brazil, and one female from Guatemala.

CYRENE DELECTA, SP. NOV.

Plate VI, figs. 2-2c.

♂. Length, 6.8. Length of cephalothorax, 3; width of cephalothorax, 2.

♀. Length, 7. Length of cephalothorax, 3; width of cephalothorax, 2.

Legs, ♂ 1342; ♀ 4312.

A handsome, medium-sized species, strikingly marked with black, white and red.

The cephalothorax is moderately high. From its highest point, at the dorsal eyes, it falls forward to the first row of eyes and backward for about two-thirds of the length of the thoracic part, the forward slope being more pronounced than the backward. The final fall to the posterior border is steep. The sides are nearly vertical and parallel in the cephalic part, but are rounded out in the thoracic, the widest point being considerably behind the dorsal eyes. The quadrangle of the eyes is about equally wide in front and behind, is one-fourth wider than long and occupies two-fifths of the cephalothorax. The first row of eyes has the tops of the middle eyes a little higher than the tops of the lateral, so that it may be said to be curved downward. The middle eyes are close together and are a little less than twice as large as the lateral, which are slightly separated from them and are directed a little sideways. The second row is half-way between the first and the third. The third row is scarcely narrower than the cephalothorax at that place. The clypeus is about half as high as the anterior middle eyes. The falces are small and are directed backward.

The cephalothorax of the female has a dark region on each side of the upper surface which usually extends, behind, to the margin, but sometimes stops a little short of this. On the sides the integument is pale, and is covered with white hairs. The central space is occupied by a white band which has on its outer sides some red hairs. Red hairs are also seen around the anterior eyes. The abdomen of the female has a

wide curved band of white hairs across the anterior end, followed by a similar band of brilliant red hairs, back of which is a second band of white, which is extended down the middle line to the spinnerets by a narrow white herring-bone stripe. On the sides of this stripe are two somewhat triangular regions covered with black hairs, with which a few red hairs are mixed, on which are two pairs of white spots. The outer sides of these black regions are scalloped with white. In one of our females the anterior white band sends a projection backward in the middle line, while the second white band widens in the middle of the dorsum and has, just at the beginning of the herring-bone stripe, a small central spot of mingled black and red hairs. The clypeus is covered with long white hairs, the tips of which meet in the middle line. Some short white hairs grow down over the falces. The palpus is yellow, with scanty white hairs. All the legs have the femoral joints pale yellow. The first and second pairs have the patella and tibia dark with a light streak above and below. The third and fourth pairs are barred with yellow and dark brown.

The male is darker colored than the female. The cephalothorax is black with wide white bands on the sides, a central white spot on the front part of the head and another behind the dorsal eyes. The abdomen, under alcohol, is like that of the female, but when dry, in two of our three specimens it is covered with red hairs excepting the anterior white band, some small white chevrons in the middle line of the posterior part, the four white spots and the white scallops on the posterior sides. In the third specimen the red hairs extend entirely over the second white band, but it is otherwise like the female. The palpus is covered with white hairs as far as the tarsus, which is black. The first and second pairs of legs are dark with some scanty white hairs growing on the under side of the femoral joints. The third and fourth pairs are barred with lighter and darker brown.

In both sexes the venter usually, but not always, shows a rectangular pale region on which is a central dark streak, and a dark band, sometimes broken into spots, on each side.

We have three males and numerous females from the eastern part of Guatemala.

The two species of *Cyrene* here published bear a strong resemblance to each other and also to the type species *decorata*, described in our paper, *St. Vincent Attidæ*, Proc. Zool. Soc. of London, Nov. 21, 1893. The red cephalic plate in *decorata* as well as the difference in the pattern on the abdomen should serve to distinguish it, even if it were found in the same locality as the other species.

HAMILLUS, GEN. NOV.

The cephalothorax is rather high; the highest place being at the dorsal eyes, from which point the upper surface slopes forward gently, and backward in a gradual rounded slope through one-third of the thoracic part, and then more steeply to the margin. The thoracic plate or upper surface of the thoracic part just behind the dorsal eyes is crescent-shaped. The cephalic part is sometimes a little wider, sometimes not quite so wide, as the thoracic. The sides are vertical in the cephalic part, the third row of eyes being as wide or nearly as wide as the cephalothorax at that place. The anterior eyes are rather large and a little separated and form a row which is straight or curves downward, the tops of the middle being higher than the tops of the lateral eyes. The middle are less than twice as large as the lateral. The second row is nearer the third than the first. The quadrangle of the eyes is wider in front than behind, is one-third wider than long, and occupies almost half of the cephalothorax.

This genus finds its nearest allies in the *Habrocestum* Group. It is close to *Prostheclina*, but has the cephalothorax wider at the dorsal eyes than in front, with the upper surface sloping more steeply behind than in front of the dorsal eyes, and the first row of eyes sometimes curved downward, in all of which particulars it differs from that genus. The shape of the cephalothorax and the curve of the first row of eyes also distinguishes it from *Agobardus*, and from *Sidusa*.

HAMILLUS SYLVESTRIS, SP. NOV.

Plate VI, figs. 3-3c.

♂. Length, 5. Length of cephalothorax, 2.3; width of cephalothorax, 1.9.

Legs, 3142; first pair a little the stoutest.

Cephalothorax broader and longer than abdomen. General color dark, except palpi, which are pale yellow.

The falces of this species are stout and rather long, and are inclined forward so that they are partly visible from above. On the upper part of the inner sides is a pair of sharp teeth, which are seen from above, projecting between the middle anterior eyes. The clypeus is narrow.

The cephalothorax is dark brown on the cephalic part and blackish on the sides and behind, with a pale streak down the middle of the thoracic part. When dry it is seen to have iridescent hairs around the eyes and on the sides of the cephalic part.

Under alcohol the abdomen is brown around the front end and pale on the dorsum. On the anterior part is a central brown band, on which is a pale spot, and two curved brown bands, one on each side. The posterior sides are brown, while the central region is occupied by a triangular pale space on which are several small brown chevrons. When dry the relative importance of the colors is reversed, so that the anterior part of the abdomen is brown with a white curved band in front, a pale spot in the middle and a pale band on each side, which branches in the anterior half, both ends reaching the curved white band and thus enclosing a brown spot. The outer spinnerets are dark, the inner ones pale. The palpi are very pale yellow with some reddish streaks on the tarsus, and are clothed with white hairs. The legs are all alike, having the femur dark brown, the patella pale brown, the tibia and metatarsus medium brown, and the tarsus pale. The falces are of a bright glistening brown.

This species differs from *radians* in having the cephalic part wider than the thoracic, the cephalothorax being a little wider at the dorsal eyes than in front, and in having the third row of eyes fully as wide as the cephalothorax at that place, and the first row curved downward.

We have a single male from the eastern part of Guatemala.

HAMILLUS RADIANS, SP. NOV.

Plate VI, figs. 4-4a.

♀. Length, 6.2. Length of cephalothorax, 2.2; width of cephalothorax, 1.5.

Legs, $\overline{4132}$; first pair a little the stoutest.

The sides of the cephalothorax are not far from parallel, but there is a slight widening from the first row of eyes to a point near the posterior end, where they begin to contract. They are vertical in front, but slant outward a little in the thoracic part. The clypeus is very narrow. The falces are vertical, rounded, short and stout.

The cephalothorax is bright brown. The cephalic part and a crescent-shaped plate behind the dorsal eyes are yellow, covered with iridescent scales. This iridescent region is bounded by a line of white hairs, which curves around outside the dorsal eyes and forms a scalloped line behind them.

The drab colored integument of the abdomen seems to have been covered with iridescent scales. Across the anterior end and around the sides is a white band which is irregularly scalloped on the inner sides. From this, behind the middle, two pairs of white bands extend upward, over the back. At the spinnerets are two white spots, joined in front by a white chevron.

The first legs are bright brown, the femoral joints being the darkest. The other legs and the palpi are light yellow. The clypeus is edged with white hairs.

We have a single female, sent to us by Count Keyserling, from Panama.

ATTUS (WLK.) INFUSCATUS, SP. NOV.

Plate VI, figs. 5-5a.

Our only specimen of this species has the front part of the cephalothorax broken so that the shape is uncertain, and we therefore have not put it into any closely defined genus. The clear marking of the abdomen, however, should make it easily recognizable.

♀. Length, 6. Length of cephalothorax, 3; width of cephalothorax, 1.8.

Legs, 4312; the first pair being a little the stoutest.

The cephalothorax is not high, and seems to have had the upper surface level from the anterior eyes through the first third of the thoracic part, with the exception of a slight hump above the dorsal eye. The anterior eyes form a straight row, the middle being twice as large as the lateral. The second row is half-way between the first and third. The third row is slightly narrower than the cephalothorax at that place. The cephalothorax is long, and the cephalic part occupies a little less than two-fifths of it.

The color of the cephalothorax is yellowish-brown, the eye-region being a little darker than the rest. There are some yellowish-white hairs on the sides below the second and third rows of eyes, and around the lower margin. The abdomen is pure white with two black longitudinal bands which meet in front and behind. On the outer side of each of these, near the posterior end, is an oblique line of white, directed backward. On the lower sides are some slender black lines formed by hairs. The first leg has the femur pale, and the other joints yellowish brown. The other legs are all pale, with fine black spines.

We have one female from Panama, sent to us by Count Keyserling.

MENEMERUS FANNÆ, SP. NOV.

Plate VI, figs. 6-6c.

♂. Length, 6.8. Length of cephalothorax, 3.2; width of cephalothorax, 2.3.

Legs, 1342; the first and second pairs a little the stoutest.

The cephalothorax is rather high, and is wide in the thoracic part. The sides begin to widen out in front of the dorsal eyes, the widest point being beyond the middle of the thorax. They are vertical at the second row of eyes, but from that point they begin to spread out below, the upper surface of the thoracic part being plainly narrower than the lower. The cephalic part is inclined forward. The thoracic falls from the dorsal eyes in a gradual slope for two-thirds of its length, and then drops steeply. The quadrangle of the eyes is wider in front than behind and occupies two-fifths of the cephalothorax. At its widest point, in front, it is but one-fifth wider than long, and behind, the width scarcely exceeds the length. The anterior eyes are a little separated from each other, and form a straight row, the middle being nearly twice as large as the lateral. The second row of eyes is half-way between the first and the third. The third row is narrower than the cephalothorax at that place. There is a large depression between the dorsal eyes.

In the figure, the first row of eyes appears to be strongly curved, owing to the fact that the spider was drawn in a tilted position.

The clypeus is more than one-half as high as the middle eyes of the first row. The falces are vertical, of nearly the same size all the way down, and notched on the lower edge.

Under alcohol, the cephalothorax is a bright reddish brown, with a wide white band extending across the clypeus and encircling the sides, the two ends almost meeting behind. There is a white band above the first row of eyes, and a central white band on the thoracic part. The abdomen is pure white with

two longitudinal, curved reddish-brown bands on the dorsum. The palpus has the patella and tibia white and the tarsus reddish with long reddish-yellow hairs, which are sometimes mingled with long white hairs. The legs are brown, those of the first and second pairs being darker than the others, with some short white hairs. The first leg has, in one example, a pale patch on the upper surface of the patella, while another has a blackish streak along the anterior face as far as the end of the tibia. The falces are bright reddish-brown with some long white hairs on their front face. When the spider is dry, short yellow hairs appear on the cephalothorax above the white bands; the abdomen is seen to be covered with hairs, the bands being of a rich reddish color which contrasts with the pure white background; and each of the bands has, in front, on the inner side, a yellowish lozenge-shaped spot without hairs, which makes the central white band considerably narrower at the anterior end. Low down on the front part of the abdomen is a short wide dark brown band extending only across the front surface. In one example the red hairs are rubbed from the bands on the abdomen, leaving them dark brown covered with small yellow speckles.

We have two males from New Grenada, sent to us by Count Keyserling, and one from Guatemala in our own collection.

MENEMERUS BICOLOR, SP. NOV.

♂. Length, 5.8. Length of cephalothorax, 2.5; width of cephalothorax, 2.

Legs, 1432; first pair but little stouter than the others.

A graceful, medium-sized species, the abdomen marked with red and white.

Although we put this species into *Menemerus* it does not conform very closely to the characteristics of that genus. The quadrangle of the eyes is wider in front than behind, is barely one-sixth wider than long, and occupies very nearly one-half of the cephalothorax. The anterior eyes are in a curved row and

are slightly separated from each other, the middle being twice as large as the lateral. The second row is plainly nearer the first than the third. The third row is narrower than the cephalothorax, the sides being nowhere vertical. The cephalothorax is not high, and is gently convex above, rising from the first to the third row of eyes and then falling a very little through the first half of the thoracic part.

The clypeus is one-fourth as high as the large middle eyes. The falces project forward; they are long and rather stout.

The cephalothorax is dark reddish-brown, darkest on the cephalic plate. There is a wide white band with a narrow black line around the margin, and a white transverse band in front of the third row of eyes. The clypeus is covered with white hairs. The falces are dark red and rugose. The abdomen is encircled by a white band. The dorsum is bright yellowish-red with a slender longitudinal white line down the middle. The palpi and legs are of rather a light brown.

We have a single male from the eastern part of Guatemala.

HERACLEA, GEN. NOV.

Rather large spiders.

The cephalothorax is from moderately high to high and is widest behind the dorsal eyes. The cephalic part is inclined; the thoracic sometimes rounds off directly behind the dorsal eyes, falling in an unbroken curve to the posterior border, and sometimes falls very slightly in its first half, and then more steeply. The whole cephalothorax is wide on the upper surface, being nearly as wide above as below. The quadrangle of the eyes is wider in front than behind, is one-fourth wider than long and occupies from two-fifths to nearly one-half of the cephalothorax. The first row of eyes is straight with the eyes all a little separated, and rather large, the lateral being more than half as large as the middle. The second row is half-way between the first and the third or a little nearer the first. The third row is narrower than the cephalothorax at that place.

This genus seems to be nearest *Epinga* P. (*Attidæ* of the

Marptusa Group, Occ. Papers Nat. Hist. Soc. of Wisconsin, Vol. II, No. 2, p. 94). The cephalothorax, however, falls more or less steeply from the dorsal eyes, even in *H. regia*, which is the flattest of the three species here described. *Heraclea*, too, lacks the low long flat look of *Epinga*, the abdomens, although rather slender, not being so long, narrow and cylindrical as in that genus.

HERACLEA REGIA, SP. NOV.

Plate III, figs. 6-6c, and Plate IV, figs. 1-1b.

♂. Length, 10. Length of cephalothorax, 4.8; width of cephalothorax, 3.8.

♀. Length, 13. Length of cephalothorax, 5; width of cephalothorax, 3.8.

Legs, ♂ 1342; ♀ 3412; first pair stouter than the others and stouter in the female than in the male.

Smaller specimens have a length of 7.5 for the male, and 11 for the female.

The colors are red, white and black.

The cephalothorax is moderately high. It slopes upward to the third row of eyes and then, in the female, falls very gradually through half of the thoracic part, the final fall being a little steeper. In the male the nearly level part just behind the dorsal eyes is shorter. The quadrangle of the eyes occupies two-fifths of the cephalothorax. The second row is half-way between the first and the third. The clypeus is about one-third as high as the large middle eyes. The falces are long, stout and vertical, with a relatively small fang.

The coloration is extremely striking. The cephalothorax of the male is jet black with wide bands on the sides, a central band on the thoracic part, and a large patch just over the first row of eyes, all of snowy white. The palpus carries out the same plan, the femur and patella being covered with snowy white hairs, and the tibia and tarsus with black hairs. The abdomen is of a very vivid red, nearly encircled by a white

band and having another white band down the middle of the back, from a point in front of the middle, to the spinnerets. The spinnerets are black, covered, in some specimens, with white hairs. The legs are black, and not at all hairy. The femoral joints of the third and fourth have a pale ring around the middle. The clypeus is covered with snow-white hairs. The falces are black.

The cephalothorax of the female is brown, with a black ring and a narrow white line around the margin. The hairs on the thoracic part are reddish-yellow, not at all like the color of the abdomen, while on the cephalic part they are somewhat iridescent. There is a small central gray patch over the anterior eyes. The abdomen is red, as in the male, but the curved white band across the anterior end extends only half-way on to the sides, the posterior sides having a blackish region upon which is a large spot, and further back, a smaller spot of white, the two sometimes being connected. The central white band either stops a little way behind the middle of the back or is continued to the spinnerets by a series of fine white chevrons. The legs are dark brown, the femoral joints all having a broad pale ring around the middle. The palpi are brown, heavily covered with gray hairs. The falces are dark brown overhung by gray hairs which grow on the edge of the clypeus.

The palpus of the male has the tibia very short and wide, with a strong apophysis on the outer side.

We have large numbers of both sexes from the eastern part of Guatemala.

HERACLEA SANGUINEA, SP. NOV.

Of this species we have only the male which, although running a little smaller than that of *E. regia*, is almost identical with it in appearance. The palpus, however, is different. Our examples of *sanguinea* lack the white hairs on the clypeus and the white patch above the first row of eyes, and in some of them the central white band on the abdomen takes the form of a slender herring-bone stripe. The legs are

not black but dark brown, the first pair being darkest, and there are no pale rings on the femoral joints of the third and fourth. The thoracic part of the cephalothorax, instead of falling very gradually for part of its length, and then more steeply, as in *regia*, rounds off broadly from the dorsal eyes to the posterior margin, with no point at which there is a distinct difference in the direction of the slope, although the fall is more abrupt toward the end. The relative length of the legs is $13\bar{2}4$; the first pair being plainly longer than the third.

We have several males from the eastern part of Guatemala.

HERACLEA SANGUINEA, VAR. PARADOXA.

This variety seems to be in all respects identical with *sanguinea* excepting that the relative length of the legs is $1\bar{3}42$. We have several males from the same region as *sanguinea* and *regia*.

HERACLEA RUSTICA, SP. NOV.

Plate IV, figs. 2-2c.

♂. Length, 9. Length of cephalothorax, 4; width of cephalothorax, 3.

♀. Length, 8. Length of cephalothorax, 3.8; width of cephalothorax, 2.9.

Legs, ♂ $14\bar{3}2$; ♀ $3\bar{4}12$; first pair stoutest in both sexes and much longer in the male than in the female.

The cephalothorax is rather high, higher than in *regia*. In the female the line of the upper surface is gently curved, the thoracic part having the same inclination as the cephalic until just in front of the posterior border, when it falls abruptly. In the male the thoracic part falls more steeply than the cephalic, making a short, rounded convex slope to the margin. The quadrangle of the eyes occupies about half the cephalothorax in the male, and a little less in the female. The second row is a little nearer the first than the third. The third row is

scarcely narrower than the cephalothorax at that place. The clypeus is one-third as high as the large middle eyes. The falces are vertical and rather long and stout.

The cephalothorax is dark, almost black, with a white band on each side, another across the cephalic part just above the first row of eyes and a white streak down the middle of the thoracic part. There are red hairs around the eyes and on the sides of the cephalic plate. The abdomen is of a grayish color, being covered with a mixture of black, white and red hairs. Down the middle is a slender white herring-bone stripe which has the edges outlined in red. In the female there is a white band around the front end, and the herring-bone stripe is found only on the posterior half of the abdomen. The legs and palpi are brown and not especially hairy. In the male the first legs, excepting the tibial joints, are much darker than the others. The second, third and fourth pairs have the femoral joints pale yellow, excepting a ring at the distal end, which is dark brown, making a strong contrast. In the female the femur of the first is dark, with a yellow spot on the upper surface; otherwise the legs are like those of the male. There are some long white hairs on the clypeus. The falces are dark brown, with white hairs on the inner sides.

We have several examples from Guatemala.

PACHOMIUS, GEN. NOV.

The cephalothorax is not very high and is plainly longer than wide, sometimes nearly twice as long. The cephalic part slants forward at the anterior end, but from the second row of eyes backward to the middle of the thoracic part the upper surface is gently convex, the dorsal eyes being at the highest point. The convexity is much more marked in the male, the female being almost flat. The sides are not far from parallel, there being a slight widening in the thoracic part. They are vertical in front, but slant outward a little behind, the third row of eyes being about as wide as the cephalothorax. The quadrangle of the eyes is a little wider behind than in front or

equally wide in front and behind, is only one-fifth wider than long and occupies from two-fifths to one-half of the cephalothorax. The anterior eyes are nearly touching, in a straight row, the middle being almost twice as large as the lateral. The second row is nearer the first than the third.

This genus belongs to the Marptusa Group. The outline of the sides resembles *Pseudicius*, and some of the species of *Balmaceda*, but it is not flat enough to be included in these genera, the contour of the upper surface being more like *Mene-merus*.

The type is (*Attus*) *Dybowskii*, Taczanowski, described in *Les Araneides de la Guyane Francaise*, p. 65. The type species was sent to us by Dr. Taczanowski, marked *Euophrys Dybowskii*.

PACHOMIUS DYBOWSKI, TACZ.

Plate VI, figs. 7-7d.

♂. Length, 6. Length of cephalothorax, 3; width of cephalothorax, 1.8.

♀. Length, 8.5. Length of cephalothorax, 3.6; width of cephalothorax, 2.

Legs, ♂ 4132; ♀ 4312; first and second pairs stoutest.

A medium-sized species, having the abdomen red, with white spots.

The clypeus is fully half as high as the anterior middle eyes. The falces are vertical and moderately stout, narrowing toward the extremity. They are as long as the face in the male, and a little shorter in the female. The legs of the male are longer than those of the female. The quadrangle of the eyes occupies two-fifths of the cephalothorax, and is a little wider behind than in front.

The cephalothorax of the male is dark brown or black. A wide white band runs around the sides and across the clypeus there is a large white spot on each side of the cephalic part between the second and third rows of eyes, and an elongated, central spot on the thoracic part. The color of the abdomen

varies from a dark rich red to a bright orange. A white band passes around the anterior end and half-way down the sides, ending in an enlargement which bends upward on to the dorsum. A little further back, on each side, is another white spot, which passes upward from the side on to the back. Down the middle is a blackish band, upon which are two large white spots, one about in the middle and one near the spinnerets. The legs are light or medium brown, the first pair being the darkest, and have patches of short white hairs. In the light specimens the fourth leg shows a black line on each side of the patella and tibia. The palpus is light brown, with the upper surface of the patella and tibia covered with snow-white hairs. The falces are dark brown.

The cephalothorax of the female is black with only a narrow white line around the sides, and with the clypeus thinly covered with white hairs. Our specimens are badly rubbed, but show some orange colored hairs on the cephalic part and around the anterior eyes. The palpi are yellow, thinly covered with white hairs. The coloration is otherwise like that of the male.

We have numerous specimens from Guatemala, New Grenada and French Guiana.

PACHOMIUS FLAVESCENS, SP. NOV.

Plate VI, figs. 11-11a.

♀. Length, 6.4. Length of cephalothorax, 3; width of cephalothorax, 2.

Legs, 4312; first and second pairs stoutest.

Length of fourth leg, 6.5.

A medium-sized species having the abdomen yellow, with white bands and spots.

The quadrangle of the eyes is equally wide in front and behind and occupies more than two-fifths of the cephalothorax. The clypeus is one-half as high as the anterior middle eyes. The falces are vertical and moderately stout and are plainly longer than the face. This species has not the rather long and

slender look which characterizes *dybowskii* and *similis*, both cephalothorax and abdomen being broader in proportion to the length. The legs are longer in proportion to the body than in *similis*, to which species it is closely related.

The cephalothorax, in our specimen, is somewhat rubbed. The integument, which is black, seems to have been covered with yellow hairs. There are white bands on the sides. The upper part has three large white spots, one on each side of the cephalic part just behind the eyes of the second row, and one on the middle of the thoracic part. The clypeus is thinly covered with white hairs. The falces are dark brown. The anterior part of the abdomen is covered with yellow hairs excepting a white band which curves around the end and extends on to the sides. An angular white band, ending, on each side, in a white spot, crosses the back, just behind the middle. Behind this is a black space and then a transverse curved yellow band, in the middle of which is a fine black chevron. The posterior end is black, with three white spots, one in the middle, and one low down on each side. The spinnerets are very short. The legs are brown, marked with black, the first pair darkest. The palpi are yellow, much lighter than the legs, and are thinly covered with white hairs.

We have a single female from Panama, sent us by Count Keyserling.

PACHOMIUS SIMILIS, SP. NOV.

♀. Length, 7. Length of cephalothorax, 3; width of cephalothorax, 1.8.

Legs, 4312; first and second pairs stoutest.

Length of fourth leg, 5.5.

This species, which is not from Central America, but from Trinidad, is described in this place because it is almost identical in color and markings with *flavescens*. The cephalothorax, however, is a little lower, the whole body is plainly longer and narrower, and the legs are both relatively and actually shorter than in that species.

The quadrangle of the eyes is equally wide in front and

behind, and occupies one-half of the cephalothorax. The clypeus is only one-fourth as high as the anterior middle eyes. The falces are vertical and moderately stout and are not so long as in *flavescens*, being scarcely longer than the face.

The cephalothorax in our specimen is badly rubbed. It does not show any of the yellow hairs that are seen in *flavescens*. There are narrow white bands low down on the sides. The cephalic part has two white spots on each side, one in front of and one behind the dorsal eye. The anterior half of the thoracic part is covered with white hairs. The clypeus has a thin covering of white hairs. The falces are dark brown. The abdomen has a curved white band around the anterior end and two elongated white spots in the middle of the anterior part, which is otherwise covered with yellow hairs. An angular white band crosses the dorsum just behind the middle. Behind this is a black space and then a wide band of yellow hairs with a small black chevron in the middle. The posterior end is black with a white spot in the middle and one on each side. The legs are brown, marked with black, the first pair darkest; all the tarsi and metatarsi are lighter colored than the other joints. The palpi are yellow, thinly covered with white hairs.

We have a single female from Trinidad, sent to us by Mr. Broadway.

EPIBLEMUM ALBO-CINCTUM, SP. NOV.

Plate VI, figs. 8-8a.

♀. Length, 4.9. Length of cephalothorax, 2.2; width of cephalothorax, 1.1.

Legs, 4312; nearly equal in thickness.

The cephalothorax is long, low and flat, and is widest at the posterior end. The sides are vertical in front, and a little rounded out behind. The first row of eyes is straight, the eyes being close together. The middle are a little less than twice as large as the lateral. The second row is slightly nearer the third than the first. The third row is scarcely narrower than the cephalothorax at that place. The clypeus is narrow. The falces are vertical, moderately long and rather stout.

The spider is black with seven transverse white bands, three on the cephalothorax and four on the abdomen. The posterior band on the cephalothorax is not so distinct as the others. The cephalothorax has also white bands on the sides. On the abdomen the edges of the bands are tinged with orange. The legs and palpi are light yellow. The falcæ are black.

We have two females, one from Refugio, Mexico, and one from La Blanca, Texas, sent to us by Mr. C. H. Tyler Townsend.

SHIRA, GEN. NOV.

Long slender spiders of medium size.

The cephalothorax is long and moderately high, and is widest behind the dorsal eyes. The upper surface is gently convex, there being a slight rounded fall both in front of and behind the dorsal eyes. After the first third the thoracic part falls more steeply. The sides are nowhere vertical, and slant outward more widely in the thoracic than in the cephalic part. The quadrangle of the eyes is a very little wider in front than behind, is scarcely wider than long, and occupies one-half of the cephalothorax. The anterior eyes are a little separated, in a straight row, the middle being more than twice as large as the lateral. The second row is plainly nearer the first than the third row. The third row is plainly narrower than the cephalothorax at that place.

This genus is related to *Anoka* and *Sadala*, but is higher and not so flat, with a longer cephalic part. *Ashtabula*, which has the cephalic part as long as the thoracic, is still lower and flatter.

We have only the species described below.

SHIRA DESIGNATA, SP. NOV.

Plate VI, fig. 12.

♀. Length, 6.9. Length of cephalothorax, 2.8; width of cephalothorax, 1.9.

Legs, 4312; the third and fourth considerably longer than the first and second. The first and second scarcely stouter than the others.

Medium sized spiders; abdomen white with two longitudinal black bands.

The clypeus is one-fourth as high as the middle eyes. The falcies are vertical, longer than the face, and moderately stout.

The cephalothorax is light yellowish-brown, with the eyes on black spots. Two wide brown bands extend throughout its length. The abdomen has, extending throughout its entire length, two black bands which, when looked at closely, are seen to be marked with fine lines and speckles of yellow. The central region and the sides are white, covered with white hairs. The central band has its edges serrated. The clypeus, falcies, legs and palpi are yellow, the clypeus covered with white hairs.

We have two females from Panama, sent to us by Count Keyserling.

TULPIUS, GEN. NOV.

Small flat spiders with the first pair of legs enlarged.

The upper surface of the cephalothorax is flat and is continuous with that of the abdomen. The posterior slope is almost perpendicular and is overlapped by the anterior end of the abdomen, which fits closely to it. The sides have their outline rounded, the widest point being just behind the dorsal eyes. They are nearly vertical in front, but slant outward in the thoracic part. The quadrangle of the eyes is about equally wide in front and behind, is only one-fifth wider than long, and occupies one-half of the cephalothorax. The first row of eyes

is straight, with the middle a very little more than twice the lateral in size, all four close together. The second row is a little nearer the third than the first. The third row is nearly as wide as the cephalothorax at that place. The cephalothorax is rather low. The abdomen is widest in front and tapers to the extremity.

This genus, from the long cephalic part and the conformation of the cephalothorax and abdomen, seems to belong to the Homalattus Group, and yet it most closely resembles *Sadala*. In *Sadala*, however, the cephalothorax is lower, with the quadrangle of the eyes occupying only two-fifths of its length, and the middle eyes of the first row are two and one-half times as large as the lateral.

We have but one species.

TULPIUS HILARUS, SP. NOV.

Plate VI, figs. 10-10a, and Plate VII, figs. 10-10a.

♀ ♂. Length, 4. Length of cephalothorax, 1.8; width of cephalothorax 1.3.

Legs, ♂ 1432; ♀ (measured with difficulty and perhaps incorrectly) 4132; the first pair much the stoutest, and darker-colored than the others.

The clypeus is about one-third as high as the large middle eyes of the first row. The falces are vertical, square, and in the male, are notched on the lower edge. (See figure.)

The cephalothorax and palpi are dark brown or black. The abdomen varies in color from light to dark brown. It has a blackish streak down the middle and is encircled by a band of white hairs. The spinnerets are black. The legs of the first pair are dark brown, excepting the tarsi, which are yellow. The others are pale yellow, the third and fourth having a black line along the posterior side, which is best seen from below. On the third leg this line is seen only on the patella and tibia, but on the fourth it extends to the end of the tarsus. The

immature males and the females have the palpi and all the legs yellow.

We have several specimens from Guatemala.

BAGHEERA, GEN. NOV.

The cephalothorax is low and rather long, with the sides vertical and nearly parallel, there being the slightest possible widening from the front end to the middle of the thorax. The cephalic part is a little inclined forward. The thoracic is flat, or perhaps falls very slightly for two-thirds of its length and then slopes abruptly to the margin. The quadrangle of the eyes is one-third wider than long, is wider behind than in front, and occupies two-fifths of the cephalothorax. The anterior eyes are a little separated and form a straight row, the middle being nearly twice as large as the lateral. The second row is a very little nearer the first than the third. The third row is as large as the cephalothorax at that place.

This genus is most like *Anoka* in general appearance and in the contour of the upper surface of the cephalothorax, but is quite different in the outline of the sides, which in *Anoka* round out widely in the thoracic part. In *Pachomius*, the sides, although they are but little widened in the thoracic part, are not vertical, and the cephalothorax is higher and more convex than in *Bagheera*.

BAGHEERA KIPLINGII, SP. NOV.

Plate VII, figs. 1-1d.

♂. Length, 4.4 Length of cephalothorax, 2; width of cephalothorax, 1.5.

Legs, 1432; first pair much the stoutest.

The clypeus is one-third as high as the middle eyes of the first row, and is a little inclined backward. The falces are directed obliquely forward. They are long and slender, with long fangs.

Our specimen has been badly rubbed. The cephalothorax is dark brown, blackish on the cephalic plate, and seems to have been covered with yellow hairs. The abdomen is of a light bronze-color, with an encircling white band. Under alcohol the back is light brown with several darker brown transverse bands which are interrupted in the middle line. The legs are brown, the first pair darker than the others, and covered with short yellow hairs. The third and fourth legs have the distal end of the femur much darker than the other parts. The palpi are broken off. The falces are dark brown.

We have a single male from the eastern part of Guatemala.

ZYGOBALLUS REMOTUS, SP. NOV.

Plate VII, figs. 2-2a.

♂. Length, 4.3. Length of cephalothorax, 2; width of cephalothorax, 1.7.

Legs, 1423; first pair stoutest.

This is a dark-colored species, with the palpi and the first pair of legs long, and the posterior three pairs of legs yellow.

The cephalothorax is high and is widest at the dorsal eyes, from which point there is a steep descent to the hinder margin. The cephalic part is slightly convex and the sides are nearly vertical. The quadrangle of the eyes is wider behind than in front and occupies more than half of the cephalothorax. The first row of eyes is straight. The middle eyes are about twice as large as the lateral, and are close together, while the lateral are separated from them. The second row of eyes is nearer the first than the third. The third row is as wide as the cephalothorax at that place. The falces are, like those of most of the males of this genus, directed obliquely forward, with a long fang, and have a vertical apophysis at the proximal end, which terminates in a sharp tooth.

The integument is smooth and is dark brown, deepening to black on the cephalothorax. The cephalothorax seems to have

been covered with white hairs. On the abdomen there is a band of white hairs around the anterior end, which extends on to the sides. The falces are smooth and dark brown. The palpi are dark with a few light short hairs. The legs of the first pair have the femur and metatarsus and the distal part of the tibia dark brown; the other parts and all the joints of the other legs are yellow, with a few very short fine black spines.

We have a single male from the eastern part of Guatemala.

ZYGOBALLUS MINUTUS, SP. NOV.

Plate VII, figs. 3-3c.

♂. Length, 3.5. Length of cephalothorax, 1.8; width of cephalothorax, 1.6.

♀. Length, 4. Length of cephalothorax, 1.8; width of cephalothorax, 1.5.

Legs, ♂ 1423; ♀ 4123; first pair stoutest in both sexes.

The falces of the male are vertical, and the abdomen has two curved transverse pale bands across the dorsum. The female is dark-colored, with a pattern of pale lines on the abdomen.

The cephalothorax is high; it is slightly convex in the cephalic part, and falls steeply from the dorsal eyes. The sides are nearly vertical, and are plainly widest at the third row of eyes. The quadrangle of the eyes is wider behind than in front, and occupies more than half of the cephalothorax. The anterior eyes form a curved row. The middle eyes are close together and are a little less than twice as large as the lateral, which are separated from them. The second row is plainly nearer the first than the third row. The third row is as wide as the cephalothorax at that place. The falces of the female are short and vertical. Those of the male are also vertical, but have a ridge at the outer side from which they slant toward each other. They have a strong tooth on the front face at the inner side, near the insertion of the fang. The fang is long.

The male has both cephalothorax and abdomen dark brown. The cephalothorax has a white band around the lower margin and some patches of white hairs are left on the other parts. The abdomen has a band of white hairs around the front end and two white curved transverse bands over the dorsum, which grow fainter in the middle line. At each side of these bands and at a little distance from them the color of the integument darkens almost to black. The falces are dark reddish-brown and are slightly iridescent. The palpi and first legs are reddish-brown, the legs having the femoral joints darker than the others, and bearing three pairs of stout black spines on the under side of the tibia. The other legs have the coxæ and trochanters and, in the case of the third and fourth pairs, the proximal ends of the femora yellow; otherwise they are reddish-brown above and yellowish below.

The female which we have has a dark brown integument, both cephalothorax and abdomen showing patches of yellowish-white hairs, which may originally have formed a complete covering. On the abdomen is a pattern of pale bands and streaks, which is shown in the figure. The first leg is dark brown to the end of the tibia, the metatarsus and tarsus being yellow. The tibia and metatarsus have strong spines. The other legs are yellow, banded at the joints, especially in the fourth pair, with black. The palpi are also yellow.

We have one male and one female from the eastern part of Guatemala.

This species is easily distinguished from the others that are found in Central America. The falces of the male are vertical, and lack the vertical apophysis that usually characterizes this genus. The female differs from that of *strenuus* in having the cephalothorax proportionately larger and the abdomen proportionately smaller than in that species.

ZYGOBALLUS STRENUUS, SP. NOV.

Plate VII, figs. 4-4a.

♀. Length, 5. Length of cephalothorax, 2; width of cephalothorax, 1.5.

Legs, 4132; first pair stoutest.

This spider has a long oval abdomen, which overlaps the cephalothorax even more than is usual in this genus, fitting closely over the thoracic part.

The cephalothorax is high and is a little wider at the dorsal eyes than in front or behind. The sides are almost vertical. The cephalic part occupies fully three-fifths of the cephalothorax and is level above. The thoracic part drops abruptly from the dorsal eyes and is overlapped by the abdomen. The quadrangle is wider behind than in front. The tops of the middle eyes of the first row are a little higher than the tops of the lateral, so that this row may be said to curve downward. The middle are nearly twice as large as the lateral. The second row is close to the first. The third row is as wide as the cephalothorax at that place. The falcies are short and vertical.

The color of the body is dark brown. The cephalothorax seems to have been covered with short white hairs, and a few slightly longer yellowish hairs grow around the eyes of the first row. The abdomen has some short white hairs standing out around the anterior end, but otherwise the integument is bare, the dark brown ground color being speckled with lighter spots and dots, with two wavy light brown streaks running throughout the length of the dorsum. The palpus is brown, with some short white hairs. The legs are almost hairless, and are of a light yellow color, streaked and spotted with black. The femur of the first is darkened; the other joints of this leg have a black band running lengthwise along the front side, and the tibia has a second black band on the upper surface. The second leg has a black band running along the anterior side of

all the joints excepting the tarsus. On the third leg a similar band extends to the extremity of the tibia, and the femur has at the extremity, on the upper side, a three-cornered black spot. The fourth leg has blackish bands running along both anterior and posterior sides, and has the tarsus and metatarsus darkened.

We have one female from the eastern part of Guatemala.

MESSUA, GEN. NOV.

Rather small spiders, with the cephalic plate occupying more than one-half of the cephalothorax, and the first legs thickened and darkened.

The cephalothorax is rather high. The cephalic part is slightly convex and is inclined forward in front of the second row of eyes. The thoracic part falls, distinctly, from the dorsal eyes, being rounded in the first third, and then sloping more steeply. The cephalothorax is plainly widest at the dorsal eyes, narrowing toward the ends. The sides slant inward a little in the cephalic part, and are vertical at and behind the dorsal eyes.

The quadrangle of the eyes is plainly wider behind than in front and occupies more than one-half of the cephalothorax. The width in front is scarcely greater than the length, but behind it is one-fourth wider than long. The anterior eyes are close together in a straight row, the middle being barely twice as large as the lateral. The second row is very much nearer the first than the third row. The third row is as wide as the cephalothorax.

This genus belongs to the Homalattus Group, and agrees closely with *Zygoballus* in most particulars, although its appearance is different. The sides of the cephalothorax do not make nearly so sharp an angle at the dorsal eyes as in most species of that genus. The most marked difference between the two genera is in the contour of the thoracic slope. In *Messua* it rounds off a little in the first third and then falls more steeply, while in *Zygoballus* there is one abrupt slant from the dorsal

eyes, nearly the whole thoracic part being overlapped by the abdomen, this latter characteristic being entirely lacking in *Messua*.

MESSUA DESIDIOSA, SP. NOV.

Plate VI, figs. 9-9a, and Plate VII, figs. 5-5a.

♀. Length, 5. Length of cephalothorax, 2; width of cephalothorax, 1.7.

Legs, 14 $\overline{23}$; first pair much the stoutest and darkest in color, but not much longer than the fourth.

The clypeus is only about one-fifth as high as the middle eyes of the first row. The falces are vertical and are rather long and stout for the size of the spider.

Our only specimen has had most of the hairs rubbed away. The cephalothorax is bronze-brown and shows patches of white hairs. The first legs and the falces are dark brown, the other legs and the palpi are yellow. Under alcohol the abdomen is white, encircled by a line of brown, and having a longitudinal brown band on each side of the middle. When dry the white parts outside the brown bands are seen to be covered with white hairs, while the central white region has patches of silvery iridescent scales.

We have a single female from Panama, sent to us by Count Keyserling.

AKELA, GEN. NOV.

Small spiders with thickened and elongated first legs, and long cephalic part.

The cephalothorax is rather high and is not much longer than wide. The sides widen out in a curved line from the second row of eyes. The thoracic part is plainly wider than the cephalic, the widest point being behind the dorsal eyes. The cephalic part is convex but not inclined. The thoracic rounds off from the dorsal eyes, falling a little more steeply after the first third. The sides are vertical in the anterior

cephalic part, but begin to slant outward just behind the second row of eyes, and in the thoracic part are plainly wider below than on the upper surface. The quadrangle of the eyes is equally wide in front and behind, is only one-fifth wider than long, and occupies a little more than one-half of the cephalothorax. The anterior eyes are close together in a straight row, the middle being twice as large as the lateral. The second row is a little nearer the third than the first. The dorsal eyes are large and prominent and form a row which is a little narrower than the cephalothorax. The legs of the first pair have all of the trochanter and a part of the coxa visible from above.

Akela belongs to the Homalattus Group. Its pale body and the thickened, elongated and dark colored first legs give it a general resemblance to *Messua*, but in that genus the quadrangle is plainly wider behind than in front, the cephalothorax is widest at the dorsal eyes, and the sides are vertical. It does not resemble any of the other genera of the group.

AKELA CHARLOTTE, SP. NOV.

Plate VII, figs. 7-7d.

♂. Length, 3.8. Length of cephalothorax, 1.7; width, 1.3.
Legs, 1423; first pair much the longest and stoutest.

A small pale species with the first legs darkened and much elongated, and the cephalic part longer than the thoracic.

The cephalothorax is about as long as the abdomen, which it overlaps.

The clypeus is only one-fourth as high as the anterior middle eyes. The falces are oblique, showing a little from above, and are divergent and moderately stout and long.

The cephalic part is very dark brown, contrasting with the thoracic, which is light reddish-yellow, with darker rays diverging from just behind the dorsal eyes. The abdomen is very pale yellow with darker streaks, which are made up of fine disconnected lines. The falces are dark brown. The palpi

are medium brown, except the tarsi, which are white. The legs of the first pair are of a dark brown, except the patella and the tarsus, which are white with a satiny lustre. The other legs are very pale yellow, like the abdomen.

We have a single male from Guatemala.

SIDUSA RECONDITA, SP. NOV.

Plate VII, figs. 6-6b.

♀. Length, 6. Length of cephalothorax, 2; width of cephalothorax, 1.5.

Legs, 4312; the first and second plainly shorter than the third and fourth and but little stouter.

The cephalothorax is high and is a little longer than wide. It is widest at the anterior end, contracts a little in the cephalic part, and widens again in the thoracic. The sides slant inward from the upper surface to the lower margin. The cephalic part slants very abruptly forward. The thoracic part has, just behind the dorsal eyes, a crescent-shaped plate which slants backward, and then falls steeply. The highest point is at the dorsal eyes.

The anterior eyes are large and form a straight row, the lateral being about two-thirds the size of the middle. The middle eyes are subtouching while the lateral are a little separated from them. When looked at from above the second row seems to be half-way between the first and the third, but from the side it appears to be nearer the third than the first.

The dorsal eyes form a row as wide as the cephalothorax at that place, and stand out prominently, marking the hinder corners of the cephalic plate.

The quadrangle of the eyes is wider in front than behind, is one-third wider than long, and occupies one-half of the cephalothorax.

The clypeus is narrow. The falces are vertical and rather long, but only moderately stout.

Under alcohol the spider presents the appearance that is given in the drawing, the abdomen having a dark region on each side, broken by white spots and bands, and a pale band down the middle which widens out behind. When dry the cephalothorax is seen to have, on the cephalic plate, and on the crescent-shaped part of the thorax, a covering of iridescent scales, while behind and on the sides it is of a bright cinnamon-brown, owing to the color of the hairs. The anterior sides have wide short bands of white hairs and there is a central white spot on the posterior thoracic part. The sides of the abdomen are of a bright rich cinnamon-brown. A central spot in front, two oblique bands on the anterior sides, two large rounded spots on the middle sides, and two smaller spots which mark off the brown region at the point where the central band widens, are all of the purest white. The central band, which widens behind more in some specimens than in others, is covered with brilliant iridescent green scales.

The legs are of a pale brown, without many hairs.

We have seven females from Panama.

This makes the second species of this genus *Sidusa*, described in our paper on the Homalattus Group, p. 175. It strikingly resembles the type, *gratiosa*, which is found on the Amazon, both in shape and in its iridescent coloring.

LYSSOMANES, HENTZ.

After more extended study of this genus, the species of which are found in North, Central and South America, we have concluded that our former division into two sub-genera is undesirable. Due to the fact that the color fades rapidly in alcohol, the species are difficult of determination. The distinctive points must be looked for in the ornamentation of the legs, the modification of the falces, the variation in size, and, most important of all, in the reproductive organs. So far we have seven species from North and Central America, four represented by both males and females, three by males alone, and

one by the female alone. The following table will be useful in distinguishing the species, so far as the males are concerned. As to the females, they resemble each other so closely (excepting that *patens* has the legs 1243 instead of 1234), that they can only be distinguished by the epigynes.

KEY FOR MALES.

1. Falces vertical or nearly vertical ; legs, 1234, 2
 Falces horizontal or nearly horizontal ; legs, 1234 or
 1243, 3
2. Falces vertical, parallel ; color of abdomen variable,
 sometimes dark, *robustus*.
 Falces not quite vertical, diverging after the first third ;
 abdomen yellow, *patens*.
3. Legs, 1243, 4
 Legs, 1234, 5
4. Marked fringe of hairs on each side of tibia and meta-
 tarsus of the first leg, and similar but less marked
 fringes on second ; no tooth on the fang of the
 falx, *jemineus*.
 Very slight fringe on metatarsus of the first leg ; a
 distinct tooth on the fang of the falx, near its in-
 sertion, *reductus*.
5. Abdomen with longitudinal black bands ; metatarsus
 of the first leg with a heavy fringe of hairs ; no
 marked tooth at end of falx ; fang nearly straight,
 *remotus*.
 Abdomen yellow, sometimes with black dots ; meta-
 tarsus of the first leg with a very slight fringe of
 hairs ; falx with two teeth at the distal end ; fang
 with a double curve, *viridis*.

LYSSOMANES PATENS, SP. NOV.

Plate VII, figs. 8-8d.

♂. Length, 6. Length of cephalothorax, 2.3; width of cephalothorax, 1.6.

Length of falx, 1.5.

Legs, 1234

♀. Length, 7. Length of cephalothorax, 2.5; width of cephalothorax, 1.9.

Legs, 1243.

The male is exceedingly slender. The eyes of the first row are twice as large as those of the second, the second row being wider than the first. The falces of the male are long and obliquely directed, diverging after the first third, with a long fang. The palpus has the tibia longer than the patella and these two joints together nearly as long as the tarsus. There is a stiff bunch of hairs on the upper side of the distal end of the tibia. The distal half of the metatarsus of the first leg is slightly darkened, and has a very scanty fringe of hairs on each side.

The female has the falces vertical and stout, with short stiff hairs growing over the front face. The fang is long and slender. The clypeus is higher than in the male.

The spider is pale yellow with a central dark line on the thoracic part. There are some red and white hairs left on the cephalic part. The clypeus is covered with red hairs in the male and with white hairs in the female. The first eyes are white, the others black.

We have a male and a female from Panama, and a female from British Honduras.

LYSSOMANES REMOTUS, SP. NOV.

Plate VII, figs. 9-9a.

- ♂. Length, 5.5. Length of cephalothorax, 2; width of cephalothorax, 1.5.
Length of falx, 1.9.
Legs, 1234; all slender.

The eyes of the first row are three times as large as those of the second and are a little nearer together. The falces are long, horizontal, and diverging, with several small teeth along the inner edge. The fang is slender and curved, and is three-fourths as long as the falx. The palpus has the tibia plainly longer than the patella, and the tibia and patella together are nearly as long as the tarsus.

The spider is pale yellow, the abdomen and legs being a shade lighter than the cephalothorax and falces. The cephalothorax has a dark central spot on the thoracic part, and on the abdomen are two longitudinal black bands extending to the end of the spinnerets. The metatarsus of the first leg has the distal third darkened and fringed on each side with stiff dark hairs. The eyes of the first row are white, and those of the others black.

We have a single male from Panama, sent to us by Count Keyserling.

LYSSOMANES REDUCTUS, SP. NOV.

- ♂. Length, 6.3. Length of cephalothorax, 2.6; width of cephalothorax, 1.8.
Length of falx, 2.1.
Legs, $\overline{1243}$; the third and fourth almost equal, and the first pair much the longest.

The eyes of the first row are three times as large as those of the second. The first and second rows are equally wide. The falces are long, horizontal, diverging, with two marked

projections at the distal end, consisting of a strong curved tooth, or apophysis, on the inner side, and a stout notched apophysis at the outer corner. The fang at first starts at a right angle to the falx, and on this part, underneath, there is a heavy curved tooth, or apophysis. It then bends so as to run in line with the falx, being about three-fourths as long. The palpus has the tibia longer than the patella, and these two joints together nearly equal to the tarsus.

The spider is pale yellow with a dark central longitudinal line on the thoracic part. The distal third of the metatarsus of the first leg is very slightly darkened, with a light-colored scanty fringe of hairs on each side. The eyes of the first row are white, the others black.

We have a single male from British Honduras.

PLATE I.

Fig. 1. *Amycus rufifrons*, dorsal view of female, x 4; 1*a*, face and falces of female; 1*b*, face and falces of male; 1*c*, side view of cephalothorax of female.

Fig. 2. *Amycus benignus*, dorsal view of male, x 4; 2*a*, dorsal view of female, x 4; 2*b*, face and falces of male; 2*c*, epigynum; 2*d* and 2*e*, male palpus.

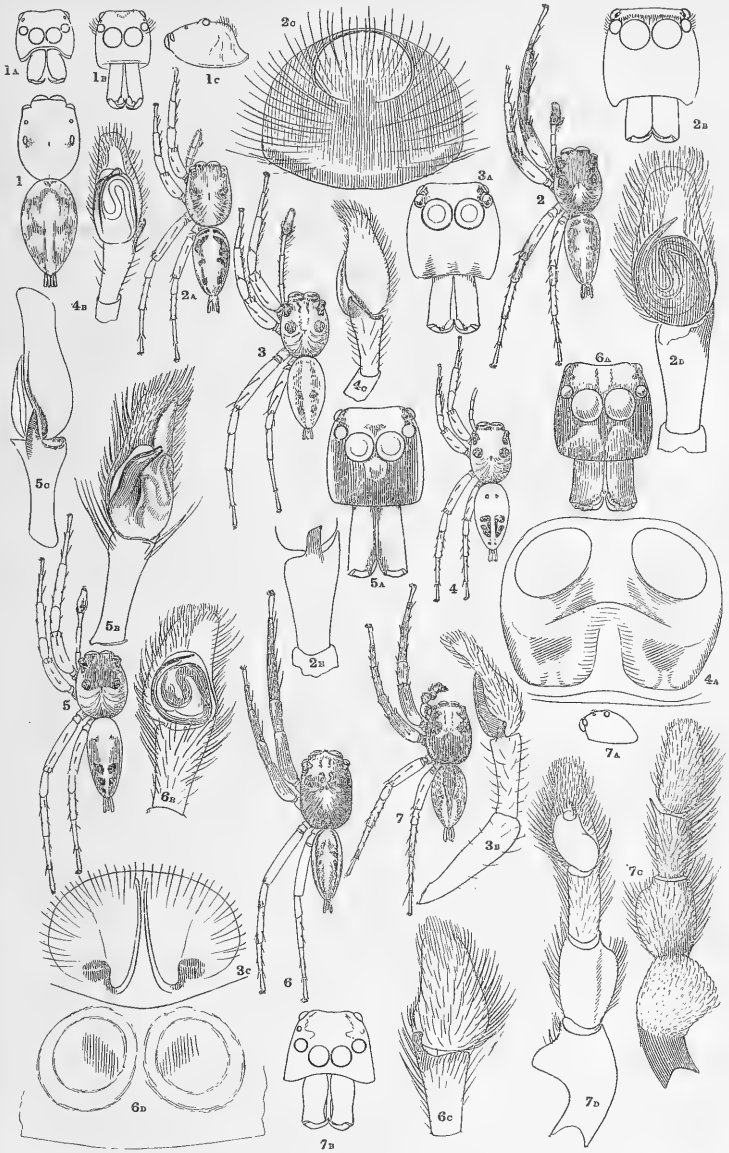
Fig. 3. *Amycus fallax*, dorsal view of male, x 4; 3*a*, face and falces of male; 3*b*, palpus of male; 3*c*, epigynum.

Fig. 4. *Amycus hieroglyphicus*, dorsal view of female, x 4; 4*a*, epigynum; 4*b* and 4*c*, male palpus.

Fig. 5. *Amycus pacatus*, dorsal view of male, x 4; 5*a*, face and falces of male; 5*b* and 5*c*, male palpus.

Fig. 6. *Amycus marjorii*, dorsal view of male, x 4; 6*a*, face and falces of male; 6*b* and 6*c*, male palpus; 6*d*, epigynum.

Fig. 7. *Chapoda festiva*, dorsal view of male, x 4; 7*a*, side view of cephalothorax of female; 7*b*, face and falces of female, drawn with the head very much tilted; 7*c* and 7*d*, palpus of male. The tibia of the palpus is drawn, relatively, a little too long.



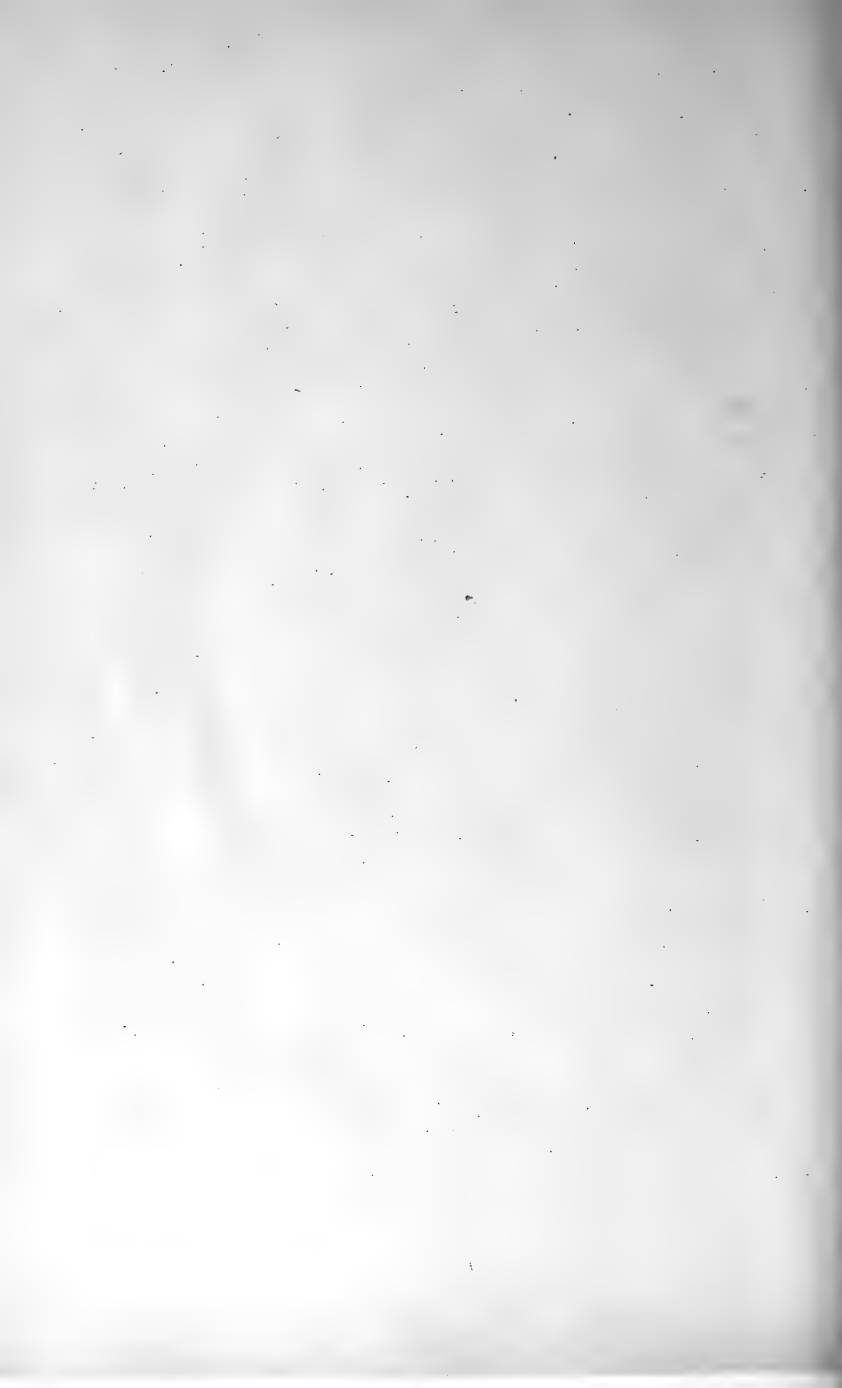


PLATE II.

Fig. 1. *Helorus mandibularis*, dorsal view of male, x 4; 1*a*, face and falces; 1*b*, side view of cephalothorax; 1*c*, palpus.

Fig. 2. *Helorus extensus*, dorsal view of male, x 4; 2*a*, dorsal view of cephalothorax of smaller male showing variation in length of falces; 2*b*, palpus.

Fig. 3. *Helorus flavens*, dorsal view of male, x 4; 3*a*, face and falces of male; 3*b* and 3*c*, palpus.

Fig. 4. *Phidippus morsitans*, dorsal view of female; 4*a*, side view of cephalothorax of female; 4*b*, face and falces of female.

Fig. 5. *Phidippus carneus*, dorsal view of female, x 4; 5*a*, epigynum.

Fig. 6. *Phidippus georgii*, dorsal view of female, x 2; 6*a*, epigynum.

Fig. 7. *Phidippus Howardii*, dorsal view of male, x 4; 7*a*, palpus; 7*b*, dorsal view of tibia of palpus.

Fig. 8. *Phidippus orichalceus*, face and falces of male; 8*a*, epigynum.

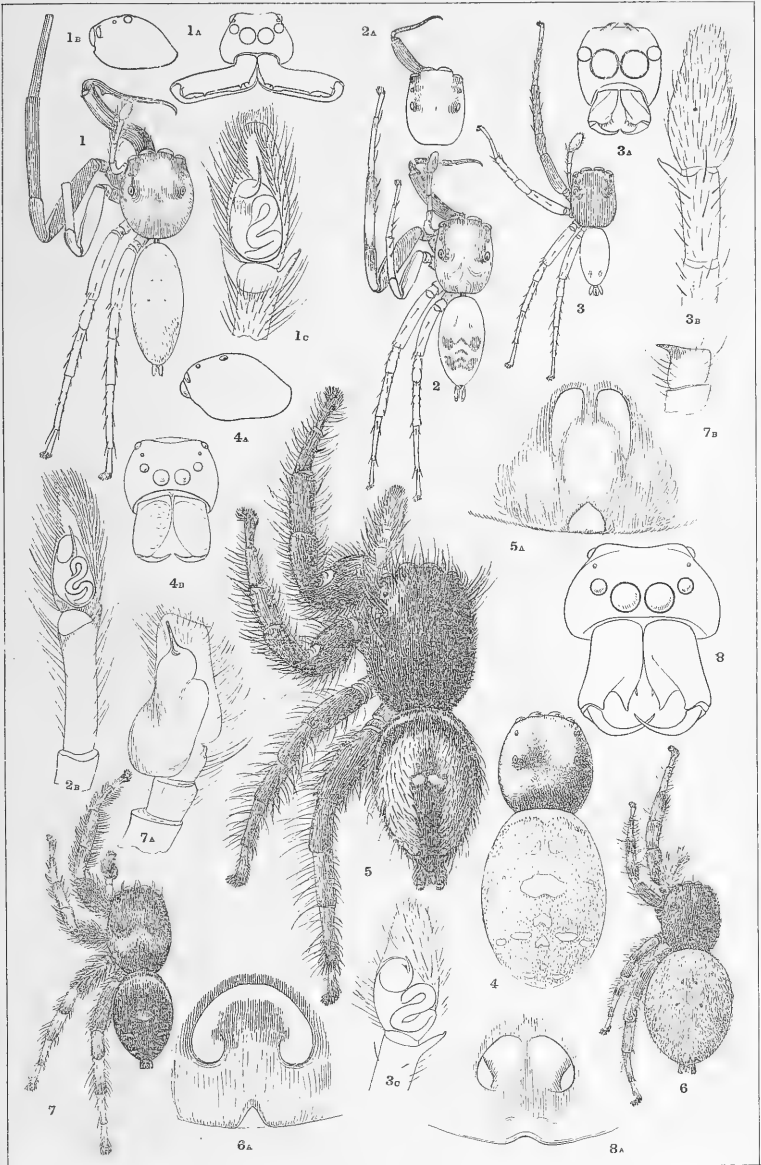




PLATE III.

Fig. 1. *Pardessus mimicus*, dorsal view of female, x 4; 1*a*, side view of cephalothorax of female, x 8; 1*b*, face and falces of female, x 8.

Fig. 2. *Parnænus cyanidens*, dorsal view of female; 2*a*, side view of cephalothorax of female; 2*b*, face and falces of female; 2*c*, male palpus. (Drawn by Miss Hart.)

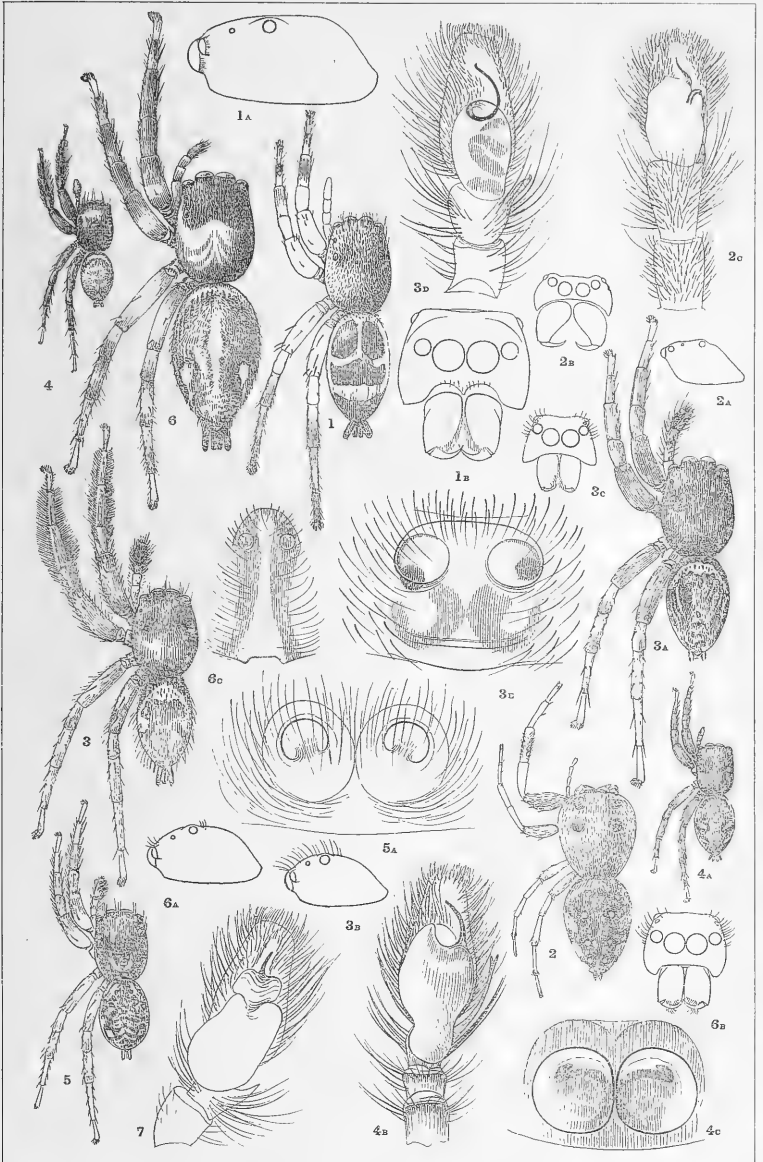
Fig. 3. *Escambia conspecta*, dorsal view of male, x 4; 3*a*, dorsal view of female, x 4; 3*b*, side view of cephalothorax of female; 3*c*, face and falces of female; 3*d*, male palpus; 3*e*, epigynum.

Fig. 4. *Escambia parvula*, dorsal view of male, x 4; 4*a*, dorsal view of female, x 4; 4*b*, male palpus; 4*c*, epigynum.

Fig. 5. *Escambia alacris*, dorsal view of female, x 4; 5*a*, epigynum.

Fig. 6. *Heraclea regia*, dorsal view of female, x 4; 6*a*, side view of cephalothorax of female; 6*b*, face and falces of female; 6*c*, epigynum.

Fig. 7. *Phidippus orichalceus*, palpus of male.



J.H. Emerton, from nature.

E. Crisand, lith., New Haven, Ct.

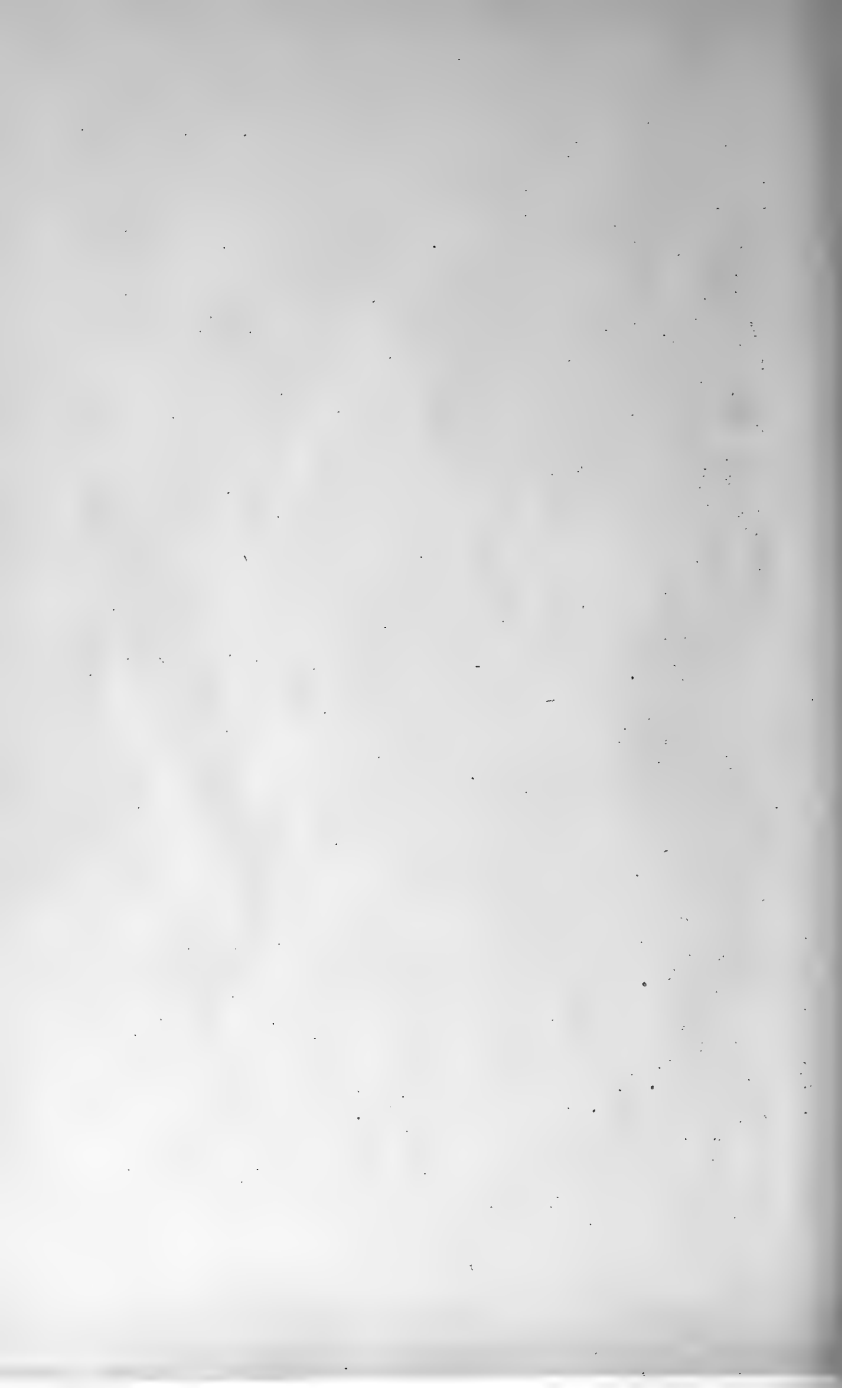


PLATE IV.

Fig. 1. *Heraclea regia*, dorsal view of male, x 4; 1*a* and 1*b*, palpus.

Fig. 2. *Heraclea rustica*, dorsal view of male, x 4; 2*a*, dorsal view of female, x 4; 2*b*, palpus of male; 2*c*, epigynum.

Fig. 3. *Dendryphantes hastatus* (the generic type), dorsal view of female, x 4; 3*a*, side view of cephalothorax; 3*b*, face and falces.

Fig. 4. *Dendryphantes hondurensis*, dorsal view of female, x 4; 4*a*, epigynum. (Drawn by Miss Hart.)

Fig. 5. *Dendryphantes centralis*, dorsal view of female, x 4; 5*a*, epigynum; 5*b* and 5*c*, palpus.

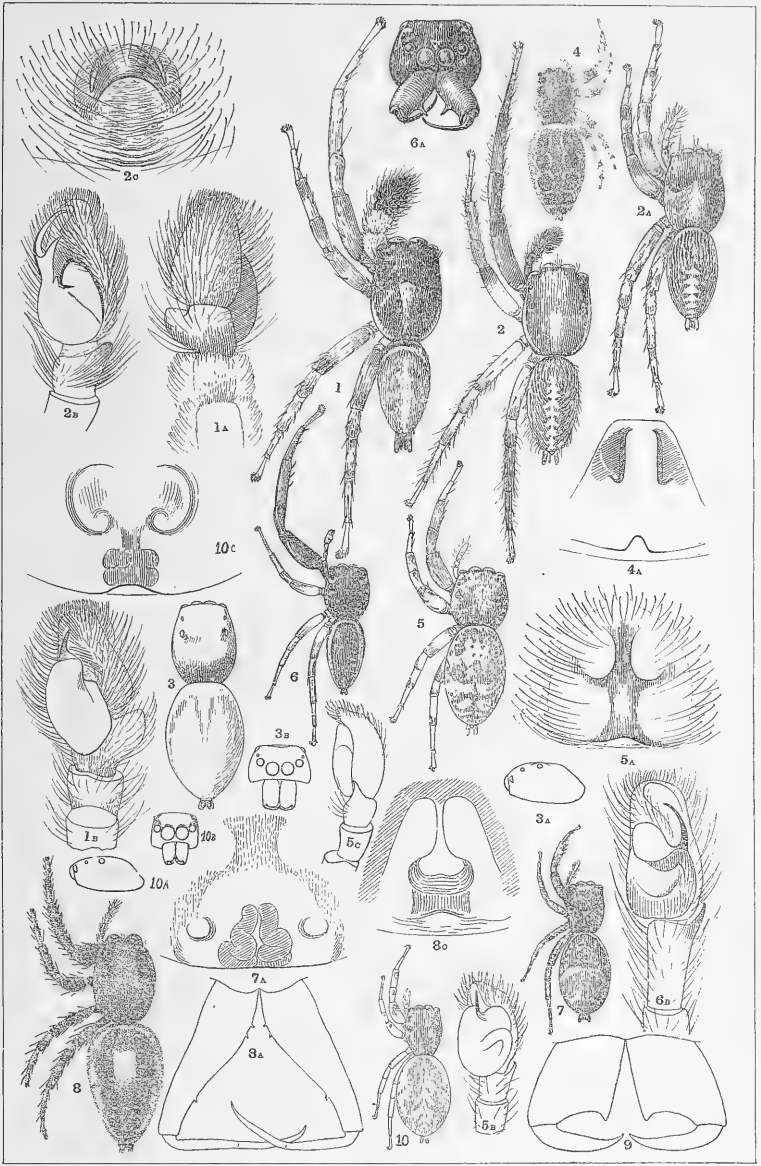
Fig. 6. *Dendryphantes lætabilis*, dorsal view of male, x 4; 6*a*, face and falces, x 8; 6*b*, palpus.

Fig. 7. *Dendryphantes dubitabilis*, dorsal view of female, x 4; 7*a*, epigynum.

Fig. 8. *Dendryphantes nitidus*, dorsal view of female, x 4; 8*a*, falces of male; 8*c*, epigynum. (Drawn by Miss Hart.)

Fig. 9. *Dendryphantes ruber*, falces of male. (Drawn by Miss Hart.)

Fig. 10. *Nagaina incunda*, dorsal view of female, x 4; 10*a*, side view of cephalothorax; 10*b*, face and falces; 10*c*, epigynum.



J.H.Emerton, from nature.

E. Crisand, lith., New Haven, Ct.

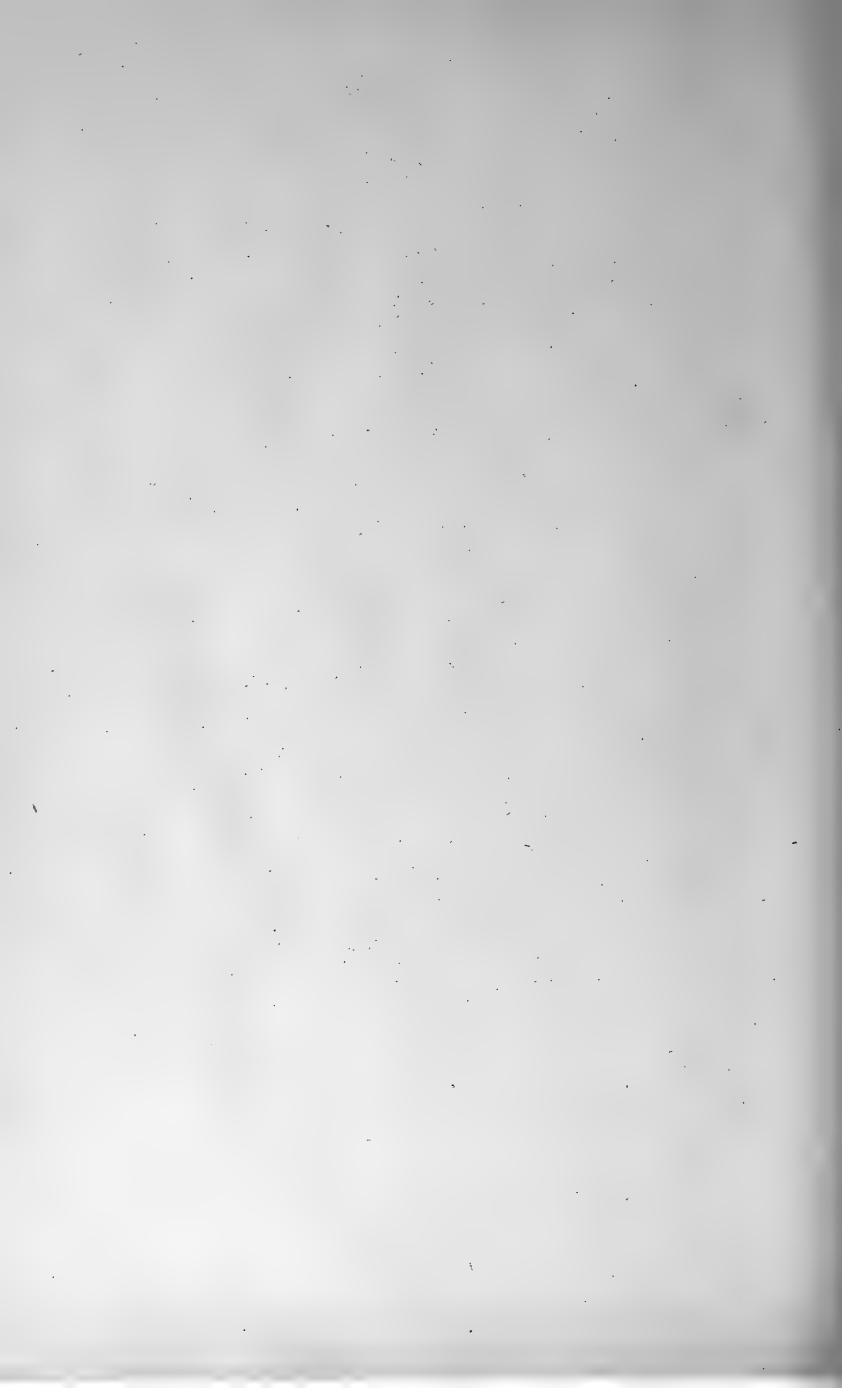


PLATE V.

Fig. 1. *Hasarius Adansoni*, dorsal view of female, x 4; 1*a*, side view of cephalothorax; 1*b*, face and falces.

Fig. 2. *Hasarius bellicosus*, dorsal view of female, x 4; 2*a*, epigynum.

Fig. 3. *Avitus diolenii*, dorsal view of male, x 4; 3*a*, side view of cephalothorax; 3*b*, face and falces, x 8; 3*c*, palpus.

Fig. 4. *Habrocestum auratum*, dorsal view of female, x 4; 4*a*, side view of cephalothorax; 4*b*, face and falces.

Fig. 5. *Habrocestum belligerum*, dorsal view of female, x 4; 5*a*, epigynum.

Fig. 6. *Habrocestum latens*, dorsal view of female, x 4; 6*a*, epigynum. (Drawn by Miss Hart.)

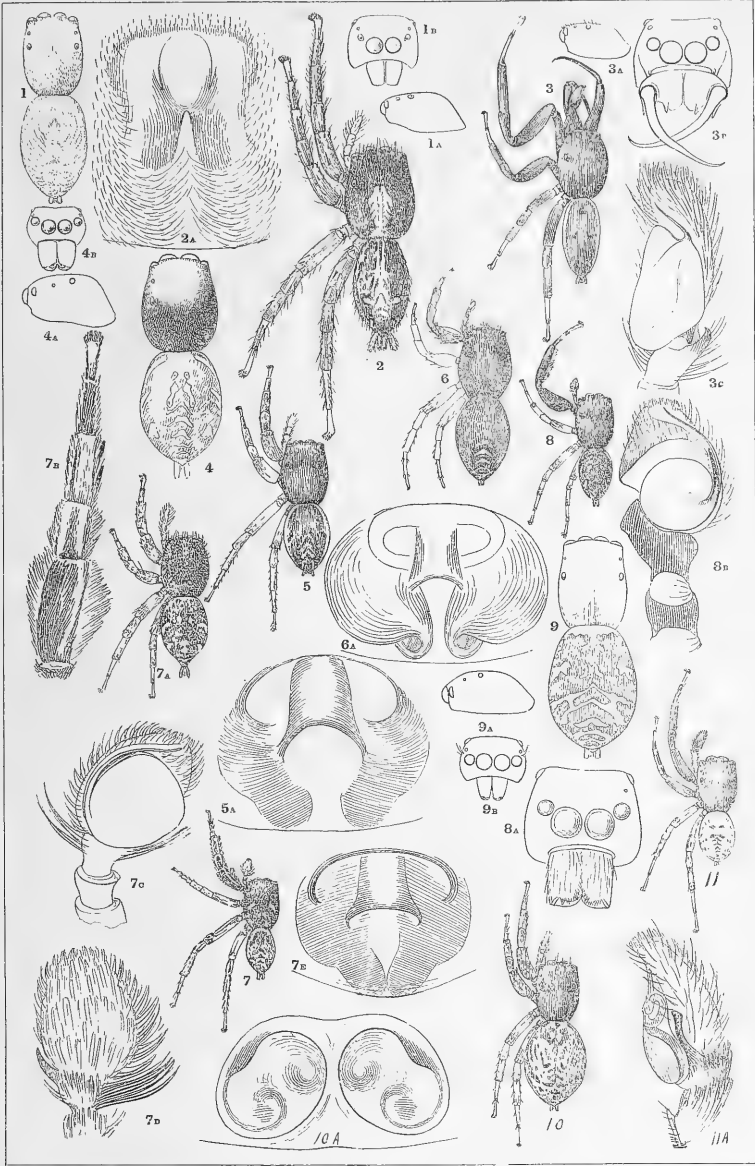
Fig. 7. *Habrocestum mexicanum*, dorsal view of male, x 4; 7*a*, dorsal view of female, x 4; 7*b*, first leg of male; 7*c* and 7*d*, palpus; 7*e*, epigynum.

Fig. 8. *Habrocestum paratum*, dorsal view of male, x 4, 8*a*, face and falces, x 8; 8*b*, palpus.

Fig. 9. *Euophrys erratica*, dorsal view of female, x 4; 9*a*, side view of cephalothorax; 9*b*, face and falces.

Fig. 10. *Euophrys newtonii*, dorsal view of female, x 4; 10*a*, epigynum.

Fig. 11. *Euophrys ysobolii*, dorsal view of male, x 4; 11*a*, palpus.



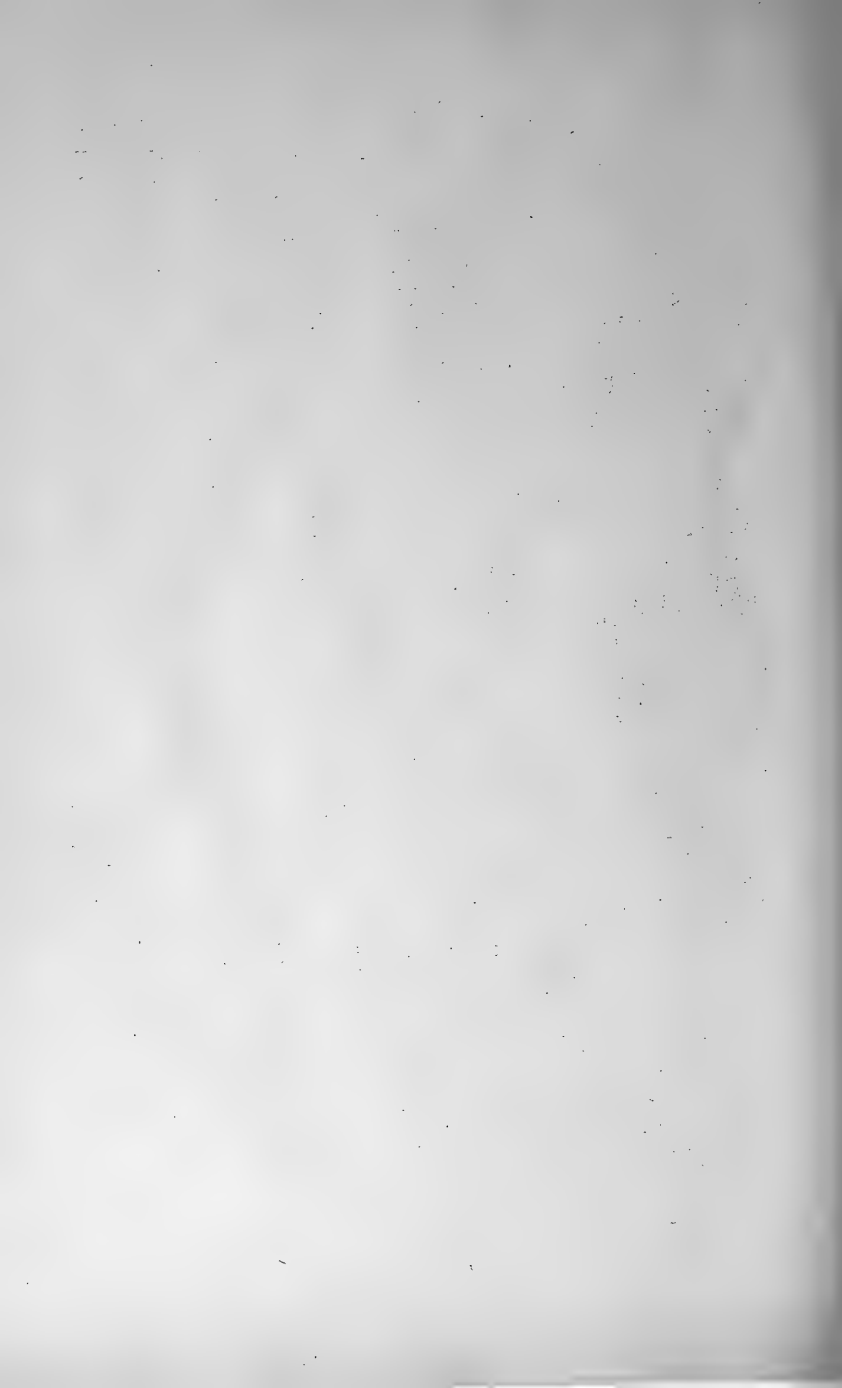


PLATE VI.

Fig. 1. *Cyrene aprica*, dorsal view of female, x4; 1*a*, epigynum.

Fig. 2. *Cyrene delecta*, dorsal view of female, x4; 2*a* and 2*b*, palpus, 2*c*, epigynum.

Fig. 3. *Hamillus sylvestris*, dorsal view of male, x4; 3*a*, side view of cephalothorax, x4; 3*b*, face and falces, x8; 3*c*, palpus.

Fig. 4. *Hamillus radians*, dorsal view of female, x4; 4*a*, epigynum.

Fig. 5. *Attus infuscatus*, dorsal view of female, x4; 5*a*, epigynum.

Fig. 6. *Menemerus fannæ*, dorsal view of male, x4; 6*a*, face and falces, x8; 6*b* and 6*c*, palpus.

Fig. 7. *Pachomius Dybowski*, dorsal view of female, x4; 7*a*, side view, x4; 7*b*, face and falces, x8; 7*c*, epigynum; 7*d*, palpus.

Fig. 8. *Epiblemum albo-cinctum*, dorsal view of female, x4; 8*a*, epigynum.

Fig. 9. *Messua desidiosa*, dorsal view of female, x4; 9*a*, epigynum.

Fig. 10. *Tulpius hilarus*, side view of cephalothorax of female, x4; 10*a*, palpus of male.

Fig. 11. *Pachomius flavescens*, dorsal view of female, x4; 11*a*, epigynum.

Fig. 12. *Shira designata*, face and falces of female.

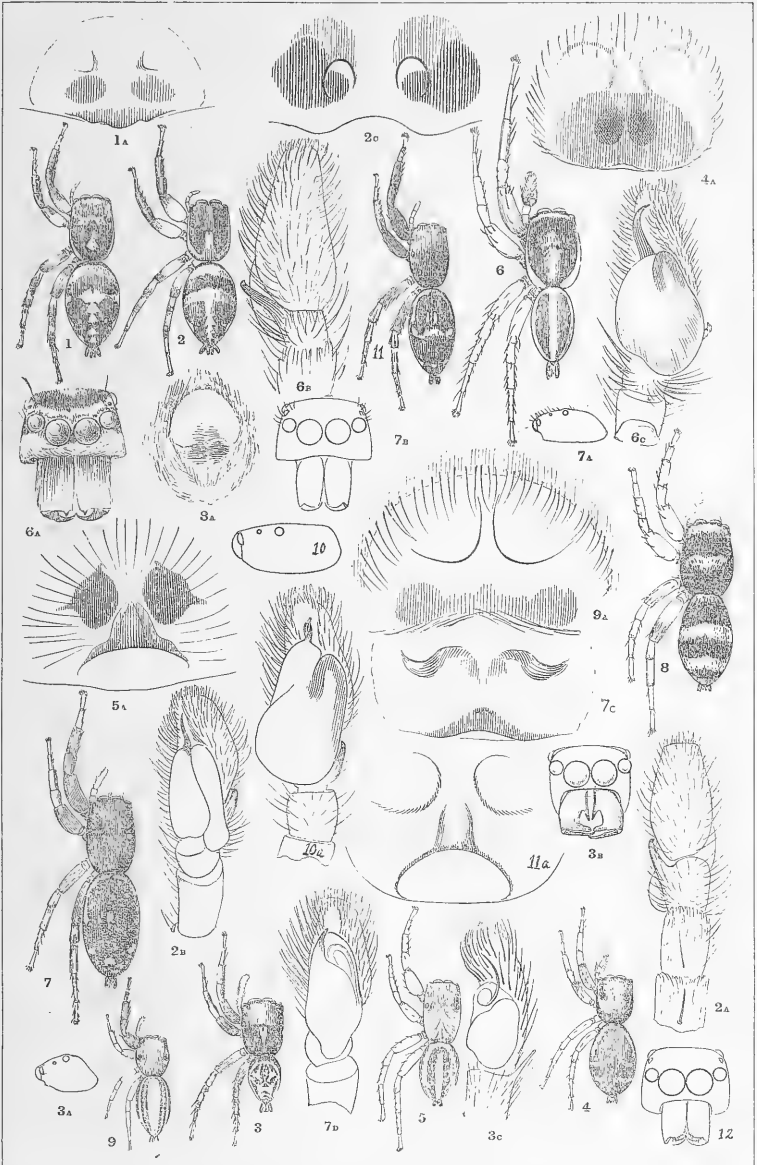




PLATE VII.

Fig. 1. *Bagheera Kiplingii*, dorsal view of male, x 4; 1*a*, side view of cephalothorax; 1*b*, face and falces, x 8; 1*c* and 1*d*, palpus.

Fig. 2. *Zygoballus remotus*, dorsal view of male, x 4; 2*a*, palpus.

Fig. 3. *Zygoballus minutus*, dorsal view of female, x 4; 3*a* and 3*b*, palpus of male; 3*c*, epigynum.

Fig. 4. *Zygoballus strenuus*, dorsal view of female, x 4; 4*a*, epigynum.

Fig. 5. *Messua desidiosa*, side view of cephalothorax of female; 5*a*, face and falces of female, x 8.

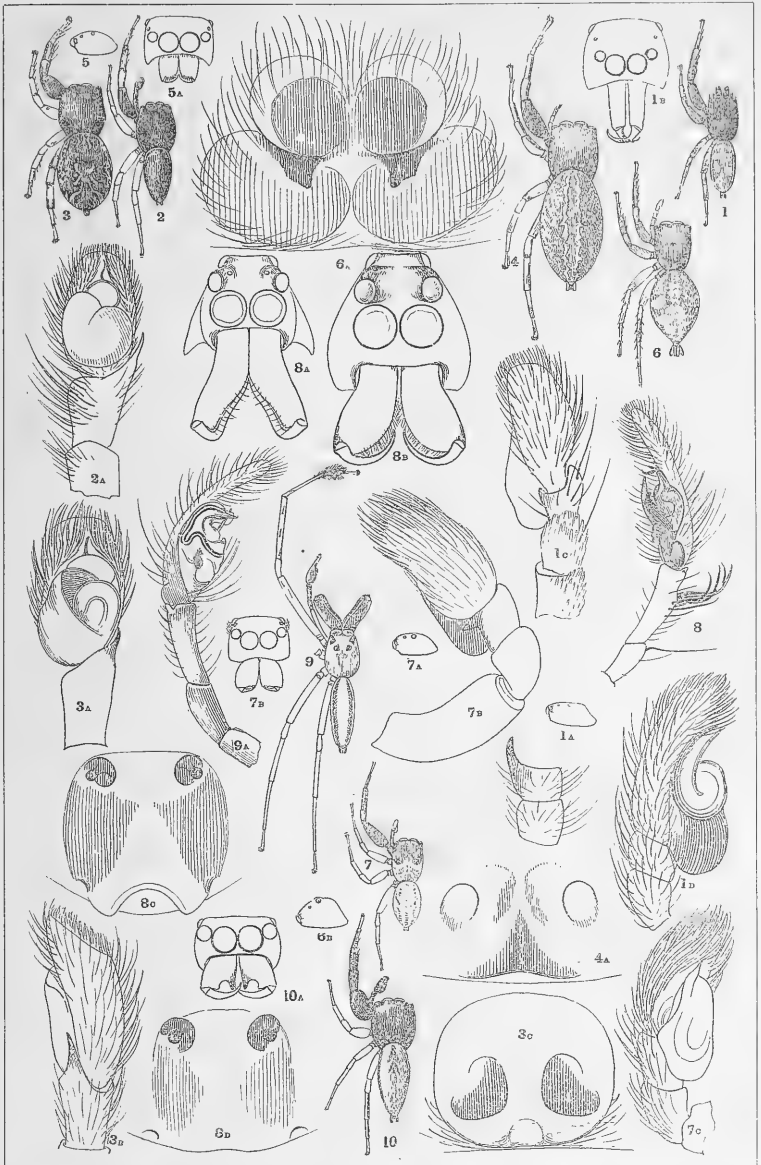
Fig. 6. *Sidusa recondita*, dorsal view of female, x 4; 6*a*, epigynum; 6*b*, side view of cephalothorax.

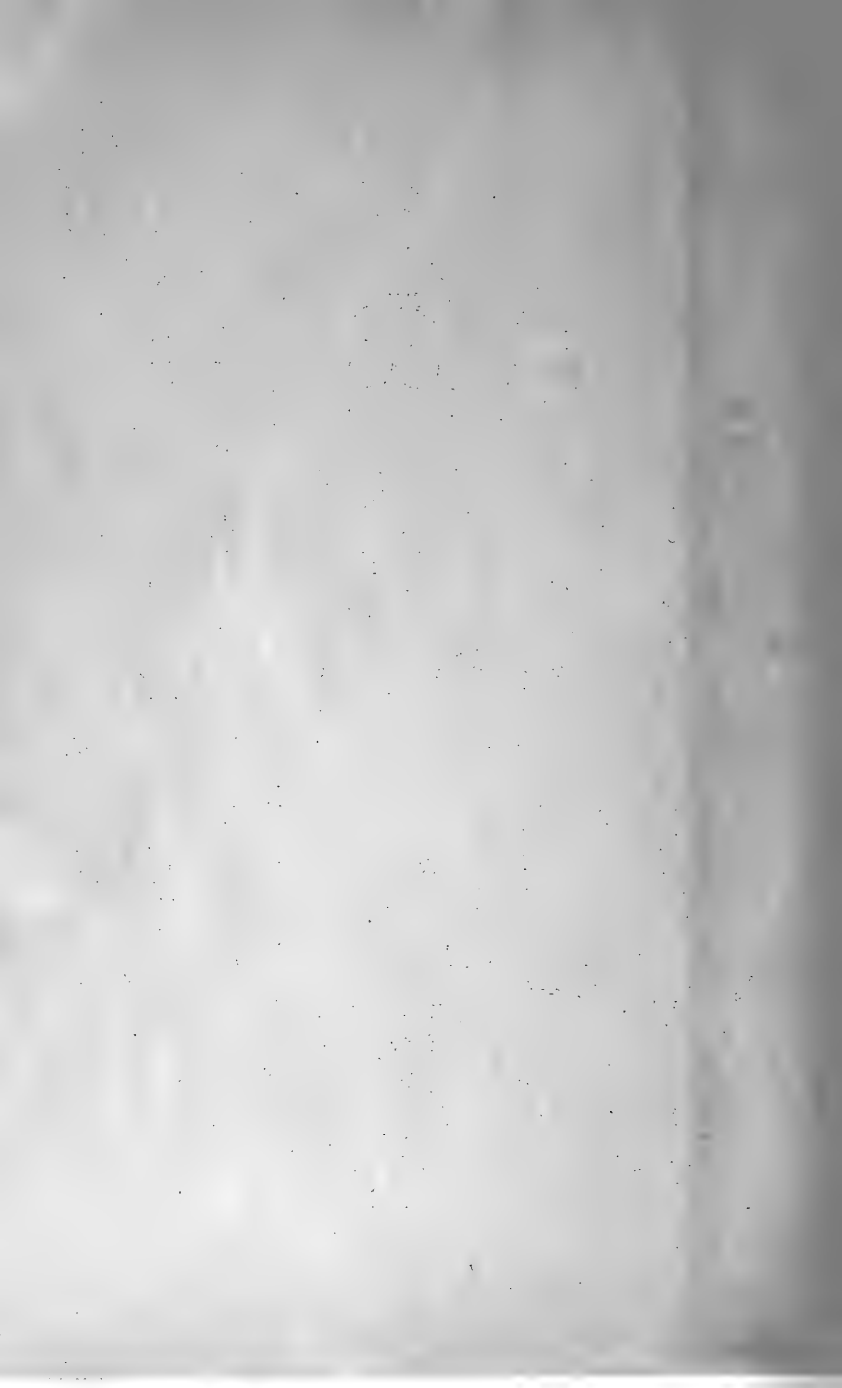
Fig. 7. *Akela charlottæ*, dorsal view of male, x 4; 7*a*, side view of cephalothorax; 7*b*, face and falces, x 8; 7*c* and 7*d*, palpus.

Fig. 8. *Lyssomanes patens*, palpus of male; 8*a*, face and falces of male; 8*b*, face and falces of female; 8*c* and 8*d*, varieties of epigynum.

Fig. 9. *Lyssomanes remotus*, dorsal view of male, x 4; 9*a*, palpus.

Fig. 10. *Tulpius hilarus*, dorsal view of male, x 4; 10*a*, face and falces.





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