
ATTIDÆ OF NORTH AMERICA.

BY

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INTRODUCTION.

On account of the habits of the Attidæ they are, in comparison with other families, poorly represented in collections. The most important contribution to the knowledge of North American species is the work of N. M. Hentz, his studies having been largely carried on in the southern states. The papers of Hentz were originally published in the Journal of the Boston Society of Natural History, from 1842-45, but are found in more convenient form in the collection made by Burgess in 1875. The works of Baron Walckenaer, 1837-47, and that part of *Die Arachniden*, by C. Koch, published in 1846, contain descriptions of many American Attidæ, but owing to the vagueness of the descriptions comparatively few can be identified with certainty. So far as Koch is concerned this is of slight importance, as his work was preceded by that of Hentz. But with Walckenaer the question of priority comes up, as doubtless many of the species commonly ascribed to Hentz were first published by him, and he should be credited with all such species as can be identified from his descriptions. The important question is, what species can be identified by Walckenaer's descriptions?

We have made a very careful study of the descriptions of Walckenaer's sixty-four species, comparing them with nearly all Hentz's species and with many others from different sources and we have been able to identify only four.

On the subject of priority we agree with Dr. Thorell that "to reject a name, as some have proposed to do, on account of *defectiveness* in the definition, would seem not to be right, as leaving room for much arbitrariness. What seems to one good enough may to another appear insufficient or faulty. *When one only knows with certainty what is to be understood by such a name*, every one can either alter or improve the characterization for himself."¹ We wish it to be understood that we reject none of Walckenaer's species on account of defectiveness of definition. We accept them whenever we are able to identify them.

Walckenaer's work on North American species was largely based on the manuscript plates of Abbot. He does not, so far as we know, state expressly that he has seen any of the specimens, but that he has examined most of them must be understood from the following statement which he makes before enumerating thirteen species. "*Les espèces suivantes n'ont pas été observées par nous, et ne sont placées dans cette section que sur les indications fournies par les figures de l'ouvrage MSS. d'Abbot, intitulé: Georgian Spiders.*"

¹ On European Spiders, I., p. 5. The italics in the concluding sentence are ours.

Had Walckenaer published Abbot's plates in connection with his descriptions it would doubtless have been easy to identify many of his species, but as the law of priority deals only with published matter, his claim to species must rest upon his descriptions alone, although Abbot's manuscript plates may be seen in the British Museum. In the event of their publication at some future time, such species as are identifiable, for the first time, through the figures, must be ascribed to Abbot at that date, and not to Walckenaer.

A good example of the difficulties of dealing with Walckenaer may be found in a species which he published in his first volume as *Attus protervus*, a black spider with black legs and palpi. In his fourth volume he refers to this species, saying: "Add to the synonymy *Plexippus undatus* Koch." Now there is no doubt that this last mentioned spider is identical with *Attus vittatus* (δ) Hentz, one of our most common species. The description and figure of Koch represent it fairly well as a dark spider with chevrons of white hair, and *yellow legs and palpi*. As a matter of fact the general appearance is very seldom so dark as would appear from Koch, who seems to have described from a single specimen. If, indeed, Walckenaer's *A. protervus* and Koch's *Pl. undatus* are identical, Walckenaer's description is absolutely false and bears no resemblance to the species. We can only suppose that Walckenaer was mistaken in thinking them identical.

We have collections from various parts of North America. Those of Count Keyserling (containing a number of type-specimens) and of Mr. Nicolas G. Pike have been of especial use to us. We are also indebted for specimens to the following persons. The locality in which each collection was made is indicated after the name of the sender.

Miss Edith Gifford, Mexico; Mr. Chas. Mann, Louisiana, Florida; Mr. Fr. Rauterberg, Texas; Miss Augusta Tovell, Texas; Mr. Thos. Gentry, North Carolina, South Carolina, Georgia; Mr. F. S. Risley, Florida; Col. J. J. Young, Pennsylvania; Mr. Philip Nell (for many specimens), Pennsylvania; Mrs. Mary B. Putnam, Iowa, Utah; Mr. Aurelius Todd, Oregon; Miss Murray, California; Mr. L. E. Ricksecker, California; Prof. J. J. Rivers, California; Mr. W. G. Harford, California, Washington Territory; Mr. W. G. Wright, California; Prof. O. B. Johnson, Washington Territory; Dr. F. Brendel, Illinois; Mr. Philip Abbot, Massachusetts; Mr. H. Van Rensselaer, Connecticut; J. B. Tyrrell, Esq. (Geol. Survey of Canada), Canada, Rocky Mountains; Rev. H. C. McCook, various parts of United States; M. E. Simon, Mexico; Dr. Ferdinand Karsch, collection of Attidæ of Royal Museum of Berlin (containing many North American specimens.)

North American Attidæ have been described by the following writers:

WALCKENAER: Hist. Nat. des Insectes Aptères, 1837?-47.

N. M. HENTZ: Occasional Papers, 1842-45.

C. KOCH: Die Arachniden, 1846.

GIEBEL: Illinois Spiders, Zeitschrift für Gesamten Naturwissenschaften, 1869.

J. BLACKWALL: Spiders from Canada, Ann. & Mag. of Nat. Hist.

T. THORELL: Spiders of Colorado, Bull. of Hayden's U. S. Survey of the Territories.

E. KEYSERLING: Neue Spinnen aus Amerika, VI.

H. C. MCCOOK: Proc. Acad. Nat. Sci. of Philadelphia, 1883.

PECKHAM: Descr. new or little known Attidæ, 1883.

The Attidæ have usually a high cephalothorax with almost vertical sides, and short and thick extremities, although there are many exceptions. Perhaps the position and relative size of the eyes—in which they most nearly approach the Lycosidæ—is of most value in defining the family. The eyes are arranged in three or four transverse rows, three in the sub-family Attinæ and four in the sub-family Lyssomanæ. In the former the first row is composed of four eyes, the middle ones being the largest; the second row is composed of two very small eyes, and the third of two of medium size. In the Lyssomanæ, the two outer eyes of the first row are placed so far back as to divide it into two transverse rows; otherwise the eyes are alike. The spiders are, many of them, very brilliantly colored—as much so as are the humming birds or beetles. As the markings are commonly formed of colored hairs or scales, they change considerably when the spider is wet, and are moreover, very easily rubbed off. The entire appearance of a spider may thus be changed, and its identification rendered difficult, if not impossible. The Attidæ, like the birds, moult frequently, and at each moult the markings may change, so that some of the older writers have formed several species for the different moults of one. These difficulties are increased by the fact that the adult males and females of a species usually differ considerably in appearance.

Although a great many species have been described, we have been able to identify but a limited number. The Attidæ live on the ground, on plants, and on trees, jumping on their prey. They form no web, but generally attach a line when they jump, to save themselves in case they miss their aim. The females place the cocoon under leaves or bark and spin some cross lines, under which they stand until the eggs are hatched.

Of the fifty-five species described by Hentz, we have identified forty-five. Of the ten remaining, probably five or six are varieties of those that we have described, but this being uncertain, we have not included them.

The key which follows is useful only in determining the species described in this paper:

KEY TO GENERA OF NORTH AMERICAN ATTIDÆ.

1. Eyes in four rowsLYSSOMANES.
2. Eyes in three rows..... 3
3. Body slender, ant-like, legs weak..... 5
4. Body not slender nor ant-like..... 9
5. Cephalic part higher than thoracic; lip much longer than wide
SALTICUS.
6. Cephalic part not higher than thoracic; lip as wide as long..... 7

7. Thoracic part divided by a marked constriction into a shorter anterior and a longer posterior portion; quadrangle of eyes wider than long.....SYNEMOSYNA.
8. Thoracic part not divided; quadrangle of eyes much longer than wide.....SYNAGELES.
9. Cephalic part at least as long as thoracic¹..... 11
10. Cephalic part shorter than thoracic..... 21
11. Cephalic part occupying $\frac{2}{3}$ of the cephalothorax.....²HOMALATTUS.
12. Cephalic part occupying plainly less than $\frac{2}{3}$ of cephalothorax..... 13
13. Spiders very small—not so much as 3 mm. long..... 15
14. Spiders³ not very small..... 17
15. Quadrangle of eyes equally wide in front and behind, legs 4, 3, 1, 2
.....⁴NEON.
16. Quadrangle of eyes wider behind, legs 4, 1, $\overline{2}$, 3:.....BALLUS.
17. Quadrangle of eyes equally wide in front and behind; first row strongly curved; cephalothorax very convex, with cephalic part strongly inclined forward, and falling steeply behind...AGOBARDUS.
18. Quadrangle of eyes wider behind; first row straight or very slightly curved; shape of cephalothorax unlike the above..... 19
19. Cephalothorax high, nearly as wide as long; dorsal eyes at widest point of cephalothorax, opposite a corner, and projecting; quadrangle of eyes, looked at from above, seeming to occupy $\frac{1}{2}$ of cephalothorax.....ZYGOBALLUS.
20. Unlike the above.....ERIS.
21. Quadrangle of eyes wider in front..... 23
22. Quadrangle of eyes wider behind, or equally wide in front and behind..... 27
23. First row of eyes straight; patella + tibia III shorter than patella + tibia IV.....ASTIA.
24. First row of eyes curved; patella + tibia III equal to patella + tibia IV..... 25
25. Dorsal eyes nearer to each other than to lateral borders; legs (δ) 1, 3, 4, 2; (φ) 4, 3, 1, 2.....PROSTHECLINA.
26. Dorsal eyes further from each other than from lateral borders; legs (δ φ) 4, $\overline{3}$, 1, $\overline{2}$⁵SAITIS.

¹ The cephalic part extends from the anterior margin of the lateral eyes of the first row to the posterior margin of the eyes of the third row.

² The only North American species of this genus yet known has metallic reflections, and when the spider is looked at from above the cephalic part seems to occupy nearly the whole cephalothorax.

³ *Zygoballus sexpunctatus* H. is only 3 mm. long, but is distinguished from *Neon* and *Ballus* by its peculiar falces, as well as by the shape, and greater height of its cephalothorax.

⁴ In *Neon* the dorsal eye is plainly larger than the anterior lateral.

⁵ In *Saitis* legs III and IV are much longer than I and II, while in *Prostheclina* the difference is not so marked.

27. ¹Cephalothorax high, massive; quadrangle of eyes plainly wider (often much wider) behind; first row of eyes usually curved; legs 1, 4, 3, 2, 1, 4, 2, 3, 4, 1, 3, 2, or 4, 3, 1, 2..... 29
28. Unlike the above..... 33
29. Legs 1, 4, 3, 2, 1, 4, 2, 3 or 4, 1, 3, 2..... 31
30. Legs 4, 3, 1, 2..... PLEXIPPUS.
31. Eyes of second row twice as far from dorsal as from lateral eyes. PHIDIPPUS.
32. Eyes of second row halfway or about halfway between lateral and dorsal eyes..... PHILÆUS.
33. Third leg longest, fourth next..... HABROCESTUM.
34. Unlike above..... 35
35. Cephalothorax convex, and high, or moderately high..... 51
36. Cephalothorax low and flat..... 37
37. Abdomen at least four times as long as wide; cephalothorax low and flat, not wider than third row of eyes; legs of first pair very long..... HYCTIA.
38. Unlike the above..... 39
38. Spines only on metatarsi of first pair..... ²ADMESTINA.
40. Legs all spined..... 41
41. Cephalothorax plainly wider than third row of eyes, quadrangle equally wide in front and behind..... 43
42. Unlike the above..... 45
43. Quadrangle of eyes $\frac{1}{4}$ wider than long, occupying $\frac{2}{3}$ of cephalothorax; lateral eyes of first row separated by not more than $\frac{1}{2}$ their own diameter from middle eyes..... MENEMERUS.
44. Quadrangle of eyes $\frac{1}{3}$ wider than long, occupying $\frac{1}{3}$ of cephalothorax; lateral eyes of first row separated by at least $\frac{1}{2}$ their own diameter from middle eyes..... MARPTUSA.
45. Middle eyes of first row three times as large as lateral eyes; quadrangle of eyes nearly twice as wide as long..... ³SADALA.
46. Middle eyes of first row about twice as large as lateral eyes; quadrangle of eyes not more than $\frac{1}{3}$ wider than long..... 47
47. Metatarsi III and IV with spines only in terminal circles; legs never (δ) 4, 1, 2, 3, nor 1, 3, 2, 4; (φ) 4, 1, 3, 2, nor 4, 3, 1, 2..... ICIOUS.
48. Metatarsi III and IV with spines throughout their length; legs (δ) 4, 1, $\overline{2, 3}$ or 1, 3, 2, 4; (φ) 4, 1, 3, 2 or 4, 3, 1, 2..... 49
49. Coxae I nearly touching; legs (δ) 4, 1, $\overline{2, 3}$; (φ) 4, 1, 3, 2; quadran-

¹ Spiders in this group except *Phidippus rufus*, *Philæus militaris*, and *Plexippus puerperus* are large, from 8 to 16 mm (commonly about 10 mm) in length. The sides of the cephalic part are usually much swollen.

² Our only species of *Admestina* is small, not more than 4 mm long.

³ *Sadala* is distinguished from *Icius* by having spines throughout the length of the metatarsi of the third and fourth legs, and by having the leg formula 1, 4, 2, 3. Our only species of *Sadala* is from Mexico.

gle of eyes $\frac{1}{2}$ wider than long; middle anterior eyes touching;
eyes of second row a little nearer the lateral than the dorsal eyes,

CYRBA.

50. Coxae I separated by width of labium; legs (δ) 1, 3, 2, 4; (φ) 4, 3, 1, 2; quadrangle of eyes less than one third wider than long; middle anterior eyes subtouching; eyes of second row halfway between lateral and dorsal eyes.....CYTÆA.
51. First row of eyes straight¹..... 35
52. First row of eyes curved..... 59
53. Middle eyes of first row touching..... 55
54. Middle eyes of first row not quite touching..... 57
55. Metatarsi III and IV with spines only in terminal circles; quadrangle of eyes equally wide in front and behind; eyes of second row half way between lateral and dorsal eyes.....EPIBLEMUM.
56. Metatarsi III and IV spined throughout their length; quadrangle of eyes wider behind; eyes of second row nearer the lateral than the dorsal eyes.....ATTUS E. S.
57. Lateral eyes of first row nearly touching middle eyes; eyes of second row nearer lateral than dorsal eyes; legs (δ) 1, 4, 2, 3; (φ) 4, 1, 3, 2.....PSEUDICIUS.²
58. Lateral eyes of first row separated by $\frac{1}{2}$ their own diameter from middle eyes; eyes of second row not nearer lateral than dorsal eyes; legs (δ) 1, 3, 4, 2; (φ) 4, 3, 1, 2.....HASARIUS.
59. Dorsal eyes nearer to each other than to lateral borders.....MÆVIA.
60. Dorsal eyes further from each other than from lateral borders.... 61
61. Quadrangle equally wide in front and behind; legs 4, 3, 2, 1..... ATTUS W.³
62. Quadrangle wider behind; legs not 4, 3, 2, 1.....DENDRYPHANTES.

The following tables are useful only for spiders described in this paper. They are designed to furnish an easy method for determining species. To use them, determine the relative length of the legs of the spider in question and find the corresponding formula in the tables. This will usually place the spider in a group of four or five genera, rendering it a comparatively easy matter to determine the genus. When the difference between two legs is extremely slight they are placed together with a dash above. The tables do not include the genera *Synemosyna*, *Synageles*, *Salticus* and *Lyssomanes*; *Dendryphantes multicolor* also does not appear since our only specimen has but three legs.

¹ It requires practice to distinguish a straight from a slightly curved row of eyes, but since these genera are only represented by three species the difficulty will be inconsiderable. *E. scenicum* is a dark spider with two oblique white bands on each side of the abdomen; *A. palustris* has two white spots near the center of the dorsum of the abdomen; *A. imperialis* has four snowy white oblique bands on the face and palces and a ring of white on the distal end of the femur of the palpus.

² Our only species of this genus is from west of the Rocky Mountains.

³ The species which we leave in *Attus Walck.* It being only represented by an immature specimen we do not determine its genus.

TABLE OF LEG FORMULÆ FOR MALES.

| | |
|---------------------------|--------------------------|
| 1 $\overline{2\ 3\ 4}$ | 1 3 4 2 |
| PLEXIPPUS puerperus. | HASARIUS hoyi. |
| | PROSTHECLINA cambridgii. |
| 1 3 $\overline{2\ 4}$ | |
| CYTÆA minuta. | |
| 1 4 2 3 | 1 4 $\overline{2\ 3}$ |
| PHIDIPPUS mexicanus. | PHIDIPPUS rufus. |
| PHIDIPPUS arizonensis. | PHIDIPPUS morsitans. |
| PHIDIPPUS insolens. | PHIDIPPUS cardinalis. |
| PHIDIPPUS johnsonii. | PHILÆUS militaris. |
| PHIDIPPUS octopunctatus. | DENDRYPHANTES elegans. |
| PHILÆUS chrysis. | MÆVIA californica. |
| DENDRYPHANTES capitatus. | EPIBLEMUM scenicum. |
| DENDRYPHANTES flavipedes. | |
| ATTUS palustris. | $\overline{1\ 4\ 2\ 3}$ |
| ATTUS imperialis. | PSEUDICIUS harfordii. |
| ICIUS albovittatus. | |
| ICIUS palmarum. | $\overline{1\ 4\ 3\ 2}$ |
| HYCTIA pikei. | ASTIA morosa. |
| MARPTUSA familiaris. | |
| MARPTUSA californica. | 3 4 1 2 |
| MENEMERUS melanagnathus. | HABROCESTUM coronatum. |
| HOMALATTUS cyaneus. | HABROCESTUM viridipes. |
| ZYGOBALLUS sexpunctatus. | HABROCESTUM peregrinum. |
| ZYGOBALLUS bettini. | HABROCESTUM auratum. |
| SADALA distincta. | HABROCESTUM hirsutum. |
| | HABROCESTUM splendens. |
| | HABROCESTUM oregonense. |
| 2 4 3 2 | |
| ICIUS piraticus. | 4 1 3 2 |
| ICIUS mitratus. | ASTIA vittata. |
| MENEMERUS paykullii. | ADMESTINA wheelerii. |
| AGOBARDUS anormalis. | |
| 4 1 $\overline{2\ 3}$ | 4 3 1 2 |
| CYRBA tæniola. | PLEXIPPUS putnamii. |
| BALLUS youngii. | NEON nellii. |
| | |
| $\overline{4\ 3\ 1\ 2}$ | 4 3 $\overline{2\ 1}$ |
| SAITIS pulex. | ATTUS cautus. |

TABLE OF LEG FORMULÆ FOR FEMALES.

| | |
|--------------------------|--------------------------------|
| 1 4 2 3 | 1 4 3 2 |
| ERIS octavus. | PHILÆUS mexicanus. |
| ERIS nervosus. | ICIUS palmarum. |
| HYCTIA pikei. | |
| 1 4 3 2 | 1 4 2 3 |
| DENDRYPHANTES flavus. | PSEUDICIUS harfordii. |
| 3 4 1 2 | 4 1 2 3 |
| HABROCESTUM cœcatum. | PHIDIPPUS morsitans. |
| HABROCESTUM viridipes. | PHIDIPPUS galathea. |
| HABROCESTUM cristatum. | PHIDIPPUS m'cookii. |
| HABROCESTUM auratum. | PHIDIPPUS opifex. |
| HABROCESTUM splendens. | DENDRYPHANTES alboimmaculatus. |
| 4 1 2 3 | ATTUS palustris. |
| ZYGOBALLUS bettini. | ICIUS lineatus. |
| 4 1 2 3 | 4 1 3 2 |
| PHIDIPPUS rauterbergii. | ICIUS mitratus. |
| PHIDIPPUS miniatus. | |
| PHILÆUS fartilis. | 4 1 3 2 |
| PHILÆUS militaris. | PHIDIPPUS rufus. |
| DENDRYPHANTES capitatus. | PHIDIPPUS obscurus. |
| CYRBA tæniola. | PHIDIPPUS insolens. |
| MARPTUSA familiaris. | PHIDIPPUS albomaculatus. |
| MARPTUSA californica. | PHIDIPPUS johnsonii. |
| BALLUS youngii. | PHIDIPPUS otiosus. |
| 4 3 1 2 | PHILÆUS farneus. |
| HASARIUS hoyi. | PHILÆUS chrysis. |
| PROSTHECLINA cambridgii. | PHILÆUS princeps. |
| ASTIA vittata. | PHILÆUS rimator. |
| CYTEA minuta. | DENDRYPHANTES elegans. |
| MENEMERUS melanognathus. | ERIS barbipes. |
| AGOBARDUS anormalis. | EPILBEMUM scenicum. |
| 4 3 1 2 | 4 3 1 2 |
| ASTIA morosa. | SAITIS pulex. |
| 4 3 1 2 | |
| PLEXIPPUS puerperus. | |

PHIDIPPUS (C. KOCH.)

Cephalothorax high and convex, contracted in front and behind, sides usually widely rounded, especially in δ , cephalic part inclined forward, and separated from the thoracic by a depression; thoracic part slanting, at first gradually and then more steeply from the dorsal eyes. Quadrangle of eyes $\frac{1}{2}$ wider than long (excepting *arizonensis*, which is $\frac{1}{2}$ wider than long, and *opifex* which is $\frac{2}{3}$ wider than long), wider behind than in front; anterior eyes small, in a curved row, the middle not more than twice as large as the lateral, and but little separated; the lateral separated from them by from $\frac{1}{2}$ to $\frac{2}{3}$ their own diameter; eyes of second row twice as far from dorsal as from lateral eyes; eyes of third row about as large as lateral eyes, at least as far from each other as from the lateral borders. Third row of eyes narrower than the cephalothorax at that place. Clypeus from $\frac{1}{2}$ to $\frac{1}{3}$ as high as large middle eyes, vertical. Falces usually stout and nearly twice as long as face. Labium longer than wide, about $\frac{1}{2}$ as long as maxillae. Sternum deep set, projecting between the anterior coxæ which are separated by width of labium or a little less. Legs (δ) 1, 4, 2, 3; (φ) 4, 1, 2, 3, or 4, 1, 3, 2; first leg stoutest, with femur and tibia enlarged and compressed, stouter than patella, and much stouter than metatarsus and tarsus. Tibia and patella of the first usually a little shorter than cephalothorax; tibia and patella of the third shorter than tibia and patella of the fourth; tibia and patella of the fourth at least as long as metatarsus and tarsus of the fourth. Femoral, tibial, metatarsal and sometimes patellary spines on the four pairs; metatarsi of the fourth, spined throughout their length.

PHIDIPPUS MORSITANS WALCKENAER.

Plate I, figures 1, 1 a. Plate II, figure 1.

Syn.: 1837. ? *ATTUS morsitans* Walck., Hist. Nat. des Insectes Aptères, I. p. 432.

- 1844. " *audax* Hentz, Journal Boston Soc. Nat. Hist., Vol. IV.
- 1845. " *tripunctatus* id., ibid., Vol. V.
- 1846. *PHIDIPPUS variegatus* C. K., Die Arachn., XIII, p. 125.
- 1846. " *purpurifer* id., ibid., XIII, p. 127.
- 1846. " *smaragdifer* id., ibid., XIII, p. 128.
- 1846. " *alchymista* id., ibid., XIII, p. 131.
- 1846. " *rustimanus* id., ibid., XIII, p. 132.
- 1846. " *lunulatus* id., ibid., XIII, p. 133.
- 1846. " *mundulus* id., ibid., XIII, p. 137.

- Syn.*: 1847. *ATTUS morsitans* Walck., Hist. Nat. des Insectes Aptères, IV, p. 419.
 1875. *ATTUS audax* HENTZ, Coll. Arachn. Writings ed. by Burgess, Boston, p. 50.
 1875. " *tripunctatus* id., ibid., p. 58.
 1883. " " Peckham, Descr. new or little known, Attidæ, p. 33.

♂. Total length 11 mm. Width of abdomen 4.3 mm.

Cephalothorax: length 5.3; width 5.1; height 2.8. Legs: 11, 9.1, 9.1, 10.7; patella and tibia of the first, 5.5; patella and tibia of the third, 3.2; patella and tibia of the fourth, 4; metatarsus and tarsus of the fourth, 4. Lateral separated from middle eyes by $\frac{3}{8}$ their diameter. Clypeus $\frac{1}{4}$ as high as large as middle eyes. Maxillæ slightly diverging, wide at extremity, with a projection at the outer corner, inner margin slanting toward labium. Labium $\frac{1}{2}$ as long as maxillæ, contracted and rounded at tip. Sternum convex, oval. Anterior coxæ separated by width of labium.

♀. Total length 15 mm. Width of abdomen 5.6 mm.

Cephalothorax: length 5.5; width 4.4; height 2.2.

Legs 10.6, 9, 9, 12.1; patella and tibia of the first, 4.2; patella and tibia of the third, 2.4; patella and tibia of the fourth, 3.2; metatarsus and tarsus of the fourth, 3.2.

Relative length of legs 4, 1, 2, 3.

Coloration. ♂. ♀. Cephalothorax black, covered with short black and gray hairs, and having some long black hairs on the sides near the small median eyes; there are sometimes white bands on the sides. Clypeus covered with white hairs. Femur of palpus reddish, with a black band on inner side, three black spines, and some black and white hairs. The falcæ are bright iridescent green, with reddish fangs. The sternum and venter are black, the venter having two whitish longitudinal bands which approach each other, but terminate near the apex without meeting. The abdomen is black, with thick, short, black hairs, and some long white hairs; at the middle point is a large, more or less triangular, white spot; posterior to this are two smaller, somewhat oblique, white spots; lower down, and nearer the apex than these, but in a line with them, are two minute white dots. The spots are formed by scales, which, through the microscope, look like grains of rice. In some specimens there are two oblique white bands on each side, and a white band at the base. Immature specimens frequently have the spots orange-colored instead of white. The legs are black and hairy, barred with rufus in young specimens; on the inner side of the patella of the first leg is a brush of white hairs.

Habitat. United States.

Although the markings of this spider are similar to those of *P. miniatus*, it has no red hairs when adult, and is thus easily distinguished from that

species. It is possible that *morsitans* grows larger in the western than in the eastern states, as Emerton gives 8.6 mm. as the total length of the ♀. A period of from fourteen to fifteen days is required for the development of the eggs of this species.

PHIDIPPUS RUFUS HENTZ.

Plate I, figure 2 a. Plate II, figure 2.

- Syn.*: 1845. *ATTUS rufus* H., Journal Boston Soc. Nat. Hist., Vol. V.
 1845. " *castaneus* id., *ibid.*, Vol. V.
 1846. *PLEXIPPUS rufus* C. K., Die Arach., XIII, p. 120.
 1846. " *bi-vittatus* id., *ibid.*, XIII, p. 120.
 1875. *ATTUS rufus* H., Coll. Arachn. Writ., ed. by Burgess, Boston, p. 60.
 1875. " *castaneus* id., *ibid.*, p. 55.
 1885. *PHIDIPPUS ruber* Keyserling, Neue Spinnen aus Amerika, VI, Verhandlungen Zoologisch—botanischen gesellschaft, p. 7.

♂. Total length 8.5 mm. Width of abdomen 3 mm.

Cephalothorax: length 4.1; width, 3.4; height 2.5.

Legs, 9.9, 7.3, 6.8, 9.2; patella and tibia of the first 4.2; patella and tibia of the third 2.4; patella and tibia of the fourth 3.4; metatarsus and tarsus of the fourth 3.

Lateral rather more than one-half as large as middle eyes, separated from these by two-thirds their own diameter. Clypeus one-fourth as high as middle eyes. Maxillæ nearly parallel, enlarged at extremity, with projection at outer corner, slanting within toward labium. Labium a little more than one-half as long as maxillæ, contracted at tip. Sternum oval, convex, nearly twice as long as wide. Anterior coxæ separated by width of labium. Legs without patellary spines.

♀. Total length 11.8 mm. Width of abdomen 4.8.

Cephalothorax: length 5; width 3.8; height 2.7.

Legs 9.4, 8.1, 8.4, 9.9; patella and tibia of the first 3.8; patella and tibia of the third 3; patella and tibia of the fourth 3.5; metatarsus and tarsus of the fourth 3.4.

Maxillæ rounded at extremity; labium two-thirds as long as maxillæ; relative length of legs 4, 1, 3, 2.

Coloration. ♂. The cephalothorax is covered with bright yellowish-red hairs, excepting the lower sides which are white; there are some long black hairs in the eye region. The face, clypeus and palpi are covered with white hairs; the falcæ are dark iridescent green; the mouth parts and coxæ are dark reddish brown; the sternum is black with white hairs; the venter is black, with two longitudinal lines of white hairs which converge behind. The abdomen is covered with

red hairs like those on the cephalothorax; it has a white basal band which extends on to the sides, and four indented dots. The legs are dark reddish brown, with many white hairs.

- ♀. The color is much less brilliant than in the ♂, being usually of a dull brick-red hue. The abdomen, besides the white basal band, has an oblique white band on each side, and two black bands on the posterior dorsal parts; these black bands reach the apex, and curve toward each other anteriorly; each has a white dot at its anterior, and one at its posterior end, and a transverse white line across the middle, where it is widest. The legs are reddish brown with black rings.

In *cardinalis*, with which it might be confused, the clypeus is one-third not one-fourth, and the lateral anterior eye is separated by one-half not two-thirds of its own diameter from the large middle eye. The second and third legs in *cardinalis* are about equal; in *rufus* the second is plainly longer than the third.

Habitat: United States.

PHIDIPPUS GALATHEA WALCK.

Plate I, figures 3, 3a.

- Syn.*: 1837. *ATTUS galathea* Walck., Hist. Nat. des Insectes Aptères, I, p. 456.
 1845. *ATTUS mystaceus* Hentz, Jour. Bost. Soc. of Nat. Hist., Vol. V.
 1846. *PHIDIPPUS asinarius* C. K., Die Arachniden, XIII, p. 139.
 1847. *ATTUS galathea* Walck., Hist. Nat. des Insectes Aptères, IV, p. 422.
 1875. *ATTUS mystaceus* Hentz. Coll. of Arachnological Writings, ed. by Burgess, p. 58.

♀ Total length 11.6 mm. Width of abdomen 4 mm.

Cephalothorax: length 5.2; width 3.8; height 2.

Legs 9.6, 8.5, 8, 10.6; patella and tibia of the first 4; patella and tibia of the third, 3; patella and tibia of the fourth, 3.9; metatarsus and tarsus of the fourth, 3.4.

Lateral separated from middle eyes by $\frac{2}{3}$ their own diameter. Clypeus $\frac{1}{2}$ as high as large middle eyes. Maxillæ widened and rounded at tip, nearly parallel. Labium $\frac{1}{2}$ as long as maxillæ, about twice as long as wide, contracted toward tip. Sternum widest in the middle. Anterior coxæ separated by scarcely the width of the labium. Relative length of legs 4, 1, 2, 3.

Coloration: Cephalothorax black, covered with heavy gray hairs, and two tufts of black hairs on each side of the eye region. Abdomen covered with gray hairs with two pairs of white spots on the anterior part of the dorsum; when somewhat rubbed a blackish, scalloped band ap-

pears which occupies the central region. Clypeus covered with white hairs; palpi, legs, sternum, and venter with gray hairs; falces iridescent green; mouth parts reddish brown.

Habitat: Eastern United States.

PHIDIPPUS CARDINALIS HENTZ.

Plate II, figure 4.

Syn.: 1844. *ATTUS cardinalis* Hentz, Journal Boston Soc. Nat. Hist., p. 386.

1875. *ATTUS cardinalis* id., Coll. of Arachn. Writ. ed. by Burgess, Boston, p. 51.

1883. *ATTUS cardinalis* Peckham, Descr. new or little known Attidæ, p. 31.

♂. Total length 9.5 mm. Width of abdomen 3 mm.

Cephalothorax: length 4.1; width 4; height 2.8.

Legs 11.1, 8.2, 8.2, 10.7; patella and tibia of the first 4.5; patella and tibia of the third, 3; patella and tibia of the fourth, 3.6; metatarsus and tarsus of the fourth, 3.3.

Lateral separated from middle eyes by $\frac{1}{2}$ their own diameter; four anterior eyes looking downward. Clypeus $\frac{1}{2}$ as high as middle eyes. Maxillæ enlarged and blunt at extremity with a projection at the outer corner, and parallel. Labium $\frac{1}{2}$ as long as maxillæ, a little longer than wide, blunt and slightly contracted at tip. Sternum, widest in middle, $\frac{1}{2}$ longer than wide. Anterior coxæ separated by scarcely the width of the labium.

Coloration: Cephalothorax, abdomen, and venter entirely covered with brilliant red hairs; there are four indented dots on the anterior part of the abdomen, and sometimes two longitudinal black bands each with two red dots, extending from the middle of the dorsum to the spinnerets, and converging a little behind.

Habitat: Southern United States.

PHIDIPPUS MINIATUS PECKHAM.

Plate I, figures 6, 6a.

Syn.: 1883. *ATTUS miniatus* P., Descr. new or little known Attidæ of U. S., p. 15.

♀. Total length 13 mm. Width of abdomen 5 mm.

Cephalothorax: length 5.9; width 5; height 3.8.

Legs 13.5, 10.7, 10.7, 13.7; patella and tibia of the first, 5.5; patella and tibia of the third, 3.8; patella and tibia of the fourth, 5.1; metatarsus and tarsus of the fourth, 4.

Large ♀. Total length 18 mm.

Anterior row of eyes very little curved; lateral $\frac{1}{2}$ as large as middle eyes separated from them by $\frac{2}{3}$ their own diameter; dorsal a little smaller than lateral eyes, a little further from each other than from lateral borders. Clypeus about $\frac{1}{2}$ as high as middle eyes. Maxillæ enlarged and rounded at extremity, diverging. Labium a little more than $\frac{1}{2}$ as long as maxillæ, contracted and truncated at tip. Sternum not so wide as anterior coxæ. Anterior coxæ separated by width of labium. Relative length of legs 4, 1, 2, 3; no patellary spines.

Coloration: The cephalothorax has the eye-region covered with short, bright red hairs, intermixed with long black hairs, the latter forming small tufts between the small median and dorsal eyes; the thoracic part and sides are covered with coarse yellowish white hairs; the narrow lower margin is black. The abdomen has a wide band of gray hairs around the base, and is otherwise covered with short bright red, and long whitish hairs; at about the middle of the dorsum is a large somewhat triangular spot, and behind this are two others, not so large and transversely elongated, all of the same bright red color, and encircled by black rings; the sides are covered with long gray hairs. In specimens which are kept in alcohol the color becomes faded, the red changing to whitish yellow. The clypeus and palpi are covered with long white hairs; the legs are blackish, excepting the metatarsi, which are reddish brown; they are covered with gray hairs; under the femur is a stout fringe of hairs which extends less heavily on to the patella and tibia; the falces are dark, but very iridescent; the mouth-parts, sternum, and coxæ are dark brown or black; the venter has a wide central, longitudinal band black, limited by the gray hairs which come low on the sides; just at the apex, between the black band and the black spinnerets, is a narrow, transverse band of gray hairs.

Habitat: Florida. Texas.

PHIDIPPUS OBSCURUS Nov. Sp.

Plate I, figure 5. Plate II, figure 5.

(♀) Total length 13 mm. Width of abdomen 5.4 mm.

Cephalothorax: length 4.8; width 4.1; height 2.4.

Legs 9.3, 7.5, 7.7, 10; patella and tibia of the first 4; patella and tibia of the third 2.8; patella and tibia of the fourth 3.9; metatarsus and tarsus of the fourth 3.4.

Lateral eyes $\frac{1}{2}$ as large as middle eyes, and separated from them by $\frac{2}{3}$ their own diameter. Clypeus $\frac{1}{2}$ as high as middle eyes. Maxillæ wide at extremity with projection at outer corner. Labium $\frac{1}{2}$ as long as maxillæ, contracted and rounded at tip. Falces rather narrower than is usual in this genus, extending, in width only to the inner

edges of the lateral eyes. Sternum oval, convex. Anterior coxæ separated by scarcely the width of the labium. Patellary spines on the second, third and fourth legs.

Coloration: Cephalothorax black, covered on the sides and above anterior row of eyes with white hairs, and having a transverse band of yellow hairs extending between the dorsal eyes. Abdomen with a dark brown band extending around the lower base and sides to apex; above this, at the base is a shorter curved pale band; central region of dorsum dark brown, changing toward the anterior portion to black, and marked, in this region with a pair of elongated white spots; behind these is a large white spot; behind this and near the apex is a pair of pale curved bands which take the form of a parenthesis, nearly meeting in the middle line. The dark central region of the dorsum surrounded excepting behind, by a pale region mottled with brown; opposite the large white spot on each side, is an oblique white band which extends downward through the encircling dark band. Legs and palpi brown, covered (especially the palpi) with white hairs. Venter pale, sternum, coxæ and mouthparts brown, all clothed with white hairs. Falces iridescent green.

The curved white bands on the posterior part of the dorsum sometimes meet anteriorly, extending a little forward to form a chevron.

Habitat: Texas.

PHIDIPPUS MCCOOKII PECKHAM.

Plate II, figure 9.

Syn.: 1883. *ATTUS McCookii* P., Descr. new or little known Attidæ of U. S., p. 16.

♀. Total length 14.4 mm. Width of abdomen 6 mm.

Cephalothorax: length 4.9; width 4.2; height 2.5.

Legs 10.7, 8, 8.2, 11; patella and tibia of the first 4; patella and tibia of the third 2.7; patella and tibia of the fourth 4.3; metatarsus and tarsus of the fourth 3.

Lateral eyes of the first row one-half as large as middle eyes, and separated from them by more than one-half their own diameter. Dorsal eyes, a little further from each other than from the lateral borders. Clypeus one-third as wide as middle eyes. Maxillæ parallel, enlarged and rounded at extremity. Labium nearly two-thirds as long as maxillæ, widest in middle, rather pointed. Sternum convex, about twice as long as wide. Anterior coxæ separated by a little less than the width of the labium. Relative length of legs 4, 1, 2, 3.

Coloration: Cephalothorax dark rufus covered with tawny hair. Abdomen golden yellow with short hairs of the same color; there are four indented dots near the base, and posterior to these two indistinct dark

bands extend to the apex; the sides are creased (the abdomen is distended with eggs in the only specimen which we have of this species). Clypeus and palpus dark rufus with long white hairs. Falces, mouth-parts, sternum and legs dark rufus, the inner edges of maxillae and tip of labium being pale, and the legs having blackish bars. Venter golden yellow with three iridescent dark bands.

Habitat: Pennsylvania.

PHIDIPPUS ARIZONENSIS PECKHAM.

Plate I, figure 10. Plate II, figure 10.

Syn.: 1883. *ATTUS arizonensis* P., Descr. new or little known Attidae of U. S., p. 13.

♂. Total length 11 mm. Width of abdomen 3 mm.

Cephalothorax: length 4.9; width 4.2; height 2.

Legs 11.4, 9.9, 9.9, 10.3; patella and tibia of the first 4.9; patella and tibia of the third 3.6; patella and tibia of the fourth 4.1; metarsus and tarsus of the fourth 3.

Cephalic part with sides very widely rounded.

Ocular area about one-half wider than long, this being relatively wider than is usual in *Phidippus*. Anterior lateral one-half as wide as middle eyes, and separated from them by their own diameter. Clypeus two-thirds as high as middle eyes. Dorsal eyes nearly twice as far from each other as from lateral borders. Maxillæ parallel, enlarged at extremity, with the outer corner sharp; labium one-half as long as maxillæ, rounded. Sternum as wide as intermediate coxæ. Anterior coxæ much stouter and longer than the others, and separated by the width of the labium. There are sometimes patellary spines on the four pairs. Abdomen long and slender, with its posterior face truncated; spinnerets turned downward.

Coloration: Cephalothorax velvety black, with two wide, white, lateral bands beginning just before and below the dorsal eyes and almost meeting in the middle of the thorax behind the depression. There is a band of grayish brown hairs above the anterior eyes, and a tuft of black hairs near each small median eye. Abdomen light brown; behind the middle is a median, longitudinal velvety black band, the truncated face, and the spinnerets being also black; in the middle of the dorsum is a pair of indented dots, and a second pair, just in front of these, is very indistinct; at the apex are two white spots one on each side of the black band; on each upper side of the abdomen is a black line extending to the apex; the under sides have wide white bands, formed of hairs directed downwards, which extend beneath on to the venter. The venter is velvety black, darkest behind, the white bands marking it off into a long triangle. Cly-

peus covered with white hairs; sternum, coxæ and mouthparts black; falces black with some white hairs on the anterior surface; palpi and legs yellowish, excepting the femur I which is black above and pale beneath; third and fourth pairs darker than first and second, and showing some reddish rings on patella and tibia. All the legs have, on the under side, long, fine, yellow hair, which is strikingly long and thick on the first pair.

The abundance of fine yellowish hairs on the undersides of the first pair of legs, together with the great distance between the anterior lateral and large middle eyes distinguishes it from all other species of this genus.

Habitat: Arizona, Texas, California.

PHIDIPPUS ALBOMACULATUS KEYS.

(Plate I, figure 13. Plate II, figure 13.)

Syn: 1885. PHIDIPPUS *albomaculatus* Keyserling, Neue Spinnen aus Amerika, vi, Verhandlungen Zoologisch-botanischen gesellschaft, p. 5 (491).

♀. Total length 13.4 mm. Width of abdomen 5.3 mm.

Cephalothorax: length 6; width 4.3; height 3.2.

Legs 13.5, 10.7, 10.6, 14; patella and tibia of the first, 5.6; patella and tibia of the third, 4; patella and tibia of the fourth, 5.3; metatarsus and tarsus of the fourth, 4.5.

Anterior lateral eyes scarcely one-half as large as middle eyes, and separated from them by two-thirds of their own diameter; dorsal eyes equally distant from each other and the lateral borders. Clypeus one-third as high as middle eyes. Maxillæ parallel, enlarged and rounded at extremity; labium a little more than one-half as long as maxillæ, oval, or a little contracted at tip. Sternum long, narrow, pointed in front, very convex. Anterior coxæ separated by less than the width of the labium. Relative length of legs, 4, 1, 3, 2; no patellary spines.

Coloration: Cephalothorax dark brown, entirely covered with short white hairs, and having some long, black and white hairs on the eye-region. Abdomen with a large, dark central region, in which is a median, forked, white band, and two pairs of white dots, while the sides have a mottled appearance, being covered with mixed white and brown hairs; usually there may be distinguished two or three oblique white bands extending downward over the sides. The pattern on the dorsum is frequently indistinct owing to the rubbing off of hairs; frequently all that appears is two dark longitudinal bands, on each of which are three or four white dots. Clypeus with a thick fringe of white hairs; falces most brilliantly iridescent; mouth-parts blackish; sternum, coxæ, and venter brown, covered with short, white hairs; palpi and legs yellowish brown, all covered with thick, long, white hair.

Habitat: United States.

PHIDIPPUS OPIFEX McCook.

Plate II, figure 11.

Syn.: 1873. *ATTUS opifex* McCook, Proc. Acad. Nat. Sci. of Philadelphia, p. 276.

♀. Total length, 15 mm. Width of abdomen, 7 mm.

Cephalothorax: length, 6.3; width, 4.9; height, 3.5.

Legs 13.3, 11.1, 10.4, 14.2; patella and tibia of the first, 5.2; patella and tibia of the third, 3.8; patella and tibia, fourth, 5.2; metatarsus and tarsus of the fourth, 4.7.

Quadrangle of eyes two-thirds wider than long. Lateral anterior eyes more than one-half as large as middle eyes, separated from them by two-thirds their own diameter. Middle eyes plainly separated. Clypeus one-half as high as middle eyes. Falces wider than the two middle eyes, three times as long as face, inclined forward, divergent. Maxillæ parallel, enlarged and blunt at extremity, slanting within toward labium. Labium one-half as long as maxillæ. Sternum projecting but little between anterior coxæ. Anterior coxæ separated by width of labium.

Coloration: Cephalothorax dark reddish, covered with white hair, and having a black marginal line. Clypeus and face covered with long white hairs. Abdomen black, covered with gray hair, with four white dots on the anterior part of the dorsum. Falces black with white hairs at base. Mouth-parts brown. Sternum, coxæ and venter covered with white hairs. Palpi light reddish brown, with long white hairs. Legs banded with black and dark reddish brown, with some white hairs, especially below. The hairs on cephalothorax, abdomen and venter are scale-like.

Habitat: California.

PHIDIPPUS JOHNSONII PECKHAM.

Plate I, figure 14. Plate II, figures 14, 14a.

Syn.: *ATTUS johnsonii* P., Descr. new or little known Attidæ of U. S., p. 22.

♂. Total length 10 mm. Width of abdomen 3.2 mm.

Cephalothorax: length 5.1; width 3.3; height 2.1.

Legs 10.9, 8.6, 8.9, 10.9; patella and tibia of the first, 4.8; patella and tibia of the third, 3.2; patella and tibia of the fourth, 4; metatarsus and tarsus of the fourth, 3.3.

Lateral eyes of first row one-half as large as middle eyes, and separated from them by half their own diameter. Clypeus half as high as middle eyes. Maxillæ parallel, with sharp outer corners, and slanting within toward the labium. Labium a little longer than wide, more than one-

half as long as maxillæ, contracted and rounded at tip. Sternum oval, half longer than wide. Anterior coxæ separated by width of labium. No patellary spines.

♀. Total length 12.2 mm. Width of abdomen 3.9 mm.

Cephalothorax: length 4.3; width 2.8; height 2.1.

Legs 10.4, 8.4, 8.4, 11.1; patella and tibia of the first, 4.3; patella and tibia of the third, 3.6; patella and tibia of the fourth, 4.5; metatarsus and tarsus of the fourth, 3.5.

Clypeus one-third as high as middle eyes. Maxillæ rounded. Sternum relatively wider than in ♂. Anterior coxæ separated by less than the width of the labium.

Coloration: ♂. Cephalothorax jet black, sometimes with a few short bright red hairs (perhaps, in a fresh state, entirely covered with these). Abdomen bright vermilion red, sometimes with a white band at base; clypeus dark with a fringe of white hairs; palpus black; falces dark but iridescent; maxillæ and labium brown; sternum black with white hairs; venter dark brown with white hairs; legs dark rufus barred with black. ♀. Abdomen with a white band at base, and a wide central longitudinal black band, upon which are three pairs of white dots.

This species is nearest *cardinalis*; it is, however, not so high; its color is crimson rather than scarlet; and on the anterior inner edge of the falx is a sharp, rather long point, which in *cardinalis* is but little developed. The cephalothorax in *cardinalis* is covered with scarlet hairs, in *johnsonii* it is jet black. The latter also has on the palpi of the first pair of legs many white, rice-like scales or hairs.

Habitat: Washington Territory.

PHIDIPPUS OCTO-PUNCTATUS PECKHAM.

Plate II, figure 15.

Syn.: 1883. *P. octo-punctatus* Peckham, Descr. new or little known Attidæ of U. S., p. 6.

♂. Total length 8 mm. Width of abdomen 2.8 mm.

Cephalothorax: length 3.1; width 3; height 2.3.

Legs 8.4, 5.6, 5.9, 7.9; patella and tibia of the first, 3.2; patella and tibia of the third, 2; patella and tibia of the fourth, 2.9; metatarsus and tarsus of the fourth, 2.8.

Lateral anterior a little more than $\frac{1}{2}$ as large as middle eyes, separated from them by $\frac{1}{2}$ their own diameter. Clypeus $\frac{1}{2}$ as high as middle eyes. Falces wider than first row of eyes, three times as long as face. Maxillæ short, truncated, with projection at outer corner, inclined toward labium. Labium $\frac{1}{2}$ as long as maxillæ, $\frac{1}{2}$ longer than wide, contracted and blunt at tip. Anterior coxæ separated by more than width of labium.

Coloration: Cephalothorax above, black covered with short white hairs, sides dark brown with some irregular whitish spots and sparse yellowish hairs, the lower margin being slightly darker; there are some long yellow hairs on the eye-region. Clypeus dark brown mottled with white, with a few yellowish hairs. Abdomen black covered with short white hairs and longer yellowish hairs; near the base is a short curved white line, posterior to which are two longitudinal rows of white spots, four spots in each row; these are divided into two anterior and two posterior pairs, the four posterior spots being obliquely elongated; on the posterior sides are two or three short oblique white lines. Falces, mouth-parts, sternum, coxæ and legs dark brown. Venter black with short yellowish hairs.

Habitat: Missouri.

PHIDIPPUS RAUTERBERGII Nov. Sp.

Plate I, figure 8. Plate II, figure 8.

♀. Total length 16 mm. Width of abdomen 7.3 mm.

Cephalothorax: length 6.2; width 5.8; height 3.8.

Legs 15.3, 11.3, 11.3, 15.2; patella and tibia of the first, 6.4; patella and tibia of the third, 4.4; patella and tibia of the fourth, 6; metatarsus and tarsus of the fourth, 5.1.

Cephalothorax nearly plane; ocular area much wider behind; anterior lateral one-half as large as middle eyes, and separated from them by a little more than one-half their own diameter; eyes of second row more than twice as far from dorsal as from lateral eyes; third row of eyes considerably narrower than the cephalothorax at that place; clypeus one-third as high as the middle eyes. Maxillæ wide, parallel, rounded. Labium one-half as long as maxillæ, but little longer than wide, blunt at tip. Sternum oval, convex in front, less than twice as long as wide, projecting but little between the anterior coxæ, which are separated by less than the width of the labium. Relative length of legs 4, 1, 2, 3; no patellary spines.

Coloration: Cephalothorax dark reddish brown, almost black in the eye-region, with some short white hairs on the sides and between the dorsal eyes. Abdomen mottled with brown and white, with two black spots on the anterior portion, and one large irregular black spot in the middle from which two black bands extend to the apex; in the middle of the black spot is a large white spot, and on the black bands, is a pair of smaller white spots; there are sometimes two white dots nearer the apex, and a white spot on the inner side of each of the black spots on the anterior part of the dorsum, while the space between the black bands is occupied by a series of white and brown chevrons. Clypeus brown; palpus brown with three white rings;

falces iridescent; mouth-parts, sternum, and coxæ reddish brown; venter with two white longitudinal bands enclosing a darker central region; legs black, barred with dark red, with short white hairs, and a heavy fringe of black hairs on the underside of the tibia of the first.

Habitat: Texas.

PHIDIPPUS MEXICANUS Nov. Sp.

Plate II, figure 7.

♂. Total length 11.4 mm. Width of abdomen 5 mm.

Cephalothorax: length 6.5; width 5; height 3.6.

Legs 16.3, 12.7, 11.2, 14.5; patella and tibia of the first, 6.7; patella and tibia of the third, 4; patella and tibia of the fourth, 5.3; metatarsus and tarsus of the fourth, 4.8.

Cephalothorax widely rounded. First row of eyes much curved; lateral separated from middle eyes by one-half their own diameter. Clypeus one-fourth as high as large middle eyes. Falces wider than first row of eyes, more than twice as long as face. Maxillæ long, widened and truncated at extremity, with projection at outer corner, cut obliquely on inner side, and excavated for labium. Labium less than half as long as maxillæ, contracted and blunt at tip. Sternum one-half longer than wide. Anterior coxæ separated by a little less than width of labium.

Coloration: Cephalothorax probably covered with snowy white hairs, excepting a dark brown band around the margin; in our specimen these hairs are largely rubbed off. Clypeus with white hairs. Abdomen black with a hairy white band at base, a large central white spot behind middle, and posterior to this an interrupted, curved, white band. Falces brilliant iridescent green. Palpi covered with white hairs. Legs very hairy; femoral and tibial joints with black, other joints with white hairs. Other parts all black.

From the collection of Count Keyserling.

Habitat: Mexico.

PHIDIPPUS INSOLENS HENTZ.

Plate I, figure 12. Plate II, figures 12, 12a.

- Syn.*: 1844. *ATTUS insolens* Hentz, Journal Bost. Soc. Nat. Hist., Vol. IV.
 1845. " *podogrosus* id., *ibid.*, Vol. V.
 1875. " *insolens* id., Coll. Arach. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 51.
 1875. " *podogrosus* id., *ibid.*, p. 61.
 1877. *PHIDIPPUS coloradensis* Thorell, Descr. Araneæ coll. in Colorado, p. 523.

♂. Total length 9.5 mm. Width of abdomen 3 mm.

Cephalothorax: length 5; width 4; height 2.4.

Legs 14, 9, 8, 10.2; patella and tibia of the first, 6.3; patella and tibia of the third, 2.8; patella and tibia of the fourth, 3.2; metatarsus and tarsus of the fourth, 3.

Small ♂. Total length 6.8 mm.

♀. Total length 12mm. Width of abdomen 4.5.

Cephalothorax: length 4.8; width 4; height 2.5.

Legs 9.2, 7.8, 8, 10; patella and tibia of the first, 4.2; patella and tibia of the third, 3; patella and tibia of the fourth, 4; metatarsus and tarsus of the fourth, 3.3.

Anterior lateral separated from middle eyes by one-half their own diameter. Middle nearly twice as large as lateral eyes, and a little separated. Clypeus one-third as high as middle eyes. Maxillæ long inner margin oblique, ♂ with marked apophysis on outer corner, ♀ enlarged and blunt at extremity. Sternum nearly twice as long as wide. Anterior coxæ separated by less than the width of the labium.

Coloration: Cephalothorax covered with bright red hairs excepting the lower margin which has a white line above a black line; the ♀ has a tuft of black hairs on the outer side of each lateral eye. Clypeus with some long white hairs. Abdomen with a silvery white band at base behind which is a deep black band; the dorsum is of a bright red color, which is interrupted in the posterior two-thirds by a central, longitudinal, angular, black band which is contracted behind, upon which, in the posterior part, are two pairs of white dots; the sides are black with two curved white bands. Palpi ♂ black, conspicuously marked by a silvery white line along the upper surface. ♀ reddish with long white hairs. Falces brilliant iridescent green, those of the ♂ with a slight brownish tinge; fang black. Mouth-parts dark brown. Sternum and coxæ black with white hairs. Venter deep black with white hairs on the sides, and, in the center, a wide somewhat triangular band (narrowing behind), of a clear silvery white color. Legs banded with black and rufus. In the ♂ the first leg has fringes of black hairs; in the ♀ the same leg is covered with long white hairs.

The hairs in this species seem to rub off even more easily than is usual with the Attidæ. When they are gone the spider appears as in Hentz's drawing.

In general appearance *insolens* is much like *Philæus rimator*, but may be distinguished by the difference in the shape of the cephalothorax, and the position of the eyes.

Habitat: Georgia, Florida, Colorado.

PHIDIPPUS OTIOSUS HENTZ.

Plate I, figure 15. Plate II, figure 15 a.

Syn.: 1845. *ATTUS otiosus* Hentz, Journal Boston Soc. Nat. Hist., Vol V.

1875. *ATTUS otiosus* id., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 59.

♀. Total length 11.5 mm. Width of abdomen 4 mm.

Cephalothorax: length 5; width 4; height 2.5.

Legs 9.6, 7.5, 8, 10; patella and tibia of the first 4; patella and tibia of the third, 3.4; patella and tibia of the fourth 4; metatarsus and tarsus of the fourth, 3.8.

Lateral eyes of first row one-half as large as middle eyes and separated from them by one-third their own diameter. Clypeus one-half as high as middle eyes. Maxillæ enlarged and rounded at extremity. Labium two-thirds as long as maxillæ. Falces nearly as wide as first row of eyes, as long as face, vertical, diverging. Sternum, very deepset, oval, projecting between the anterior coxæ which are separated by the width of the labium.

Coloration: A wide band of white hairs extends across the clypeus and on to the sides, under the eyes, nearly encircling the cephalothorax; above is a black band which occupies the cephalic part, but grows narrower on the thoracic, where the white band curves upward. On each side of the cephalothorax are two tufts of black hairs, one between the eye of the second row and the dorsal eye, and one just behind and below the anterior lateral eye. Abdomen black with a band of long white hairs at base, and several lines of white hairs on each side; on the anterior part of the dorsum are two white dots; on the middle part and nearer together, are two larger white spots; near the apex are two large curved spots of a light yellowish red color; these with the white spots, and the lines on the sides mark off a somewhat irregular black figure on the posterior part of the dorsum. Falces darkly iridescent with a fringe of white hairs at their insertion. Palpi and legs black with long white hairs. Mouth-parts, sternum, coxæ and venter black, the venter nearly encircled by white hairs which form wide white bands on the sides, and with two white spots in the middle.

This is a very hairy species, in this respect, and in its general coloring, resembling *P. galathea*.

Habitat: Georgia, Alabama.

PHILÆUS (THORELL).

Cephalothorax high and convex, contracted in front and behind, sides rounded, cephalic part inclined forward, thoracic part slanting, at first gradually, and then more steeply from dorsal eyes. Ocular area

at least one-third wider than long, wider behind than in front; anterior row of eyes more or less curved, the middle slightly separated, the lateral at least one-half as large, separated from the middle by from one-third to two-thirds their own diameter; eyes of second row very slightly nearer the lateral than the dorsal eyes; dorsal as large or nearly as large as the lateral eyes, at least as far from each other as from the lateral borders, forming a row narrower than the cephalothorax at that place. Clypeus not more than half as high as middle eyes. Labium about one-half as long as maxillæ, usually longer than wide, sometimes as wide as long. Anterior coxæ separated by width of labium or by a little less. Legs (σ) 1, 2, 4, 3. 1, 4, 2, 3. 1, 4, 3, 2; (φ) 1, 4, 2, 3. 1, 4, 3, 2. 4, 1, 3, 2; first pair stoutest, second next. Femur and tibia of the first enlarged, stouter than patella and much stouter than metatarsus and tarsus; tibia and patella of the third shorter than tibia and patella of the fourth. Femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth usually spined throughout their length.

This genus differs from *Phidippus* in having the eyes of the second row nearly half way between the lateral and dorsal eyes; the width of the ocular area, moreover, is frequently greater in proportion to its length.

PHILÆUS FARNEUS Nov. Sp.

Plate II, figure 16.

φ . Total length 9.2 mm. Width of abdomen 3.2 mm.

Cephalothorax: length 4; width 3.4; height 2.1.

Legs 8.4, 6.6, 7.2, 9.2; patella and tibia of the first, 3.6; patella and tibia of the third, 2.8; patella and tibia of the fourth, 3.6; metatarsus and tarsus of the fourth, 3.1.

Cephalic part plane, and but little inclined; thoracic convex, falling abruptly a little way behind dorsal eyes. Ocular area one-third wider than long, much wider behind than in front. Anterior eyes small, in a moderately curved row; lateral one-half as large as middle eyes, separated from them by two-thirds their own diameter; dorsal a little smaller than lateral eyes, further from each other than from lateral borders. Clypeus one-third as high as middle eyes, vertical; falces as wide as first row of eyes, twice as long as face, vertical, diverging. Maxillæ parallel, enlarged and rounded at extremity. Labium a little more than one-half as long as maxillæ, about twice as long as wide, contracted and blunt at tip. Sternum twice as long as wide, deepset, a little rounded behind. Anterior coxæ separated by less than width of labium.

Coloration: Cephalothorax black with long stiff black hairs on the eye-region, which form one or two small tufts on each side. Clypeus covered with short white hairs. Abdomen black, encircled except at

apex by a scalloped white band; on the middle of the dorsum is a large triangular white spot, in front of, and behind which are two white dots; near the apex, extending upward from the encircling band, are two short oblique white bars. Palpi reddish with long white hairs. Falces iridescent purple. Mouth-parts, sternum and coxæ dark brown. Venter black in the middle with a whitish longitudinal band on each side. Legs dark brown with long black and gray hairs.

Habitat: Texas.

PHILÆUS FARTILIS Nov. Sp.

Plate II, figure 17.

♀. Total length 10 mm. Width of abdomen 4 mm.

Cephalothorax: length 4.4; width 3.8; height 2.4.

Legs 9, 7.2, 7.3, 9.5; patella and tibia of the first, 4; patella and tibia of the third, 2.8; patella and tibia of the fourth, 3.6; metatarsus and tarsus of the fourth, 3.3.

Ocular area one-third wider than long; anterior eyes small, in a slightly curved row; middle eyes more than twice as large as lateral eyes, separated from them by one-half the diameter of the lateral; dorsal as large as lateral eyes, further from each other than from lateral borders. Clypeus one-third as high as middle eyes, vertical. Falces as wide as first row of eyes, more than twice as long as face, vertical, slightly diverging. Maxillæ divergent, enlarged and rounded at extremity, excavated on inner side for labium. Labium a little more than one-half maxillæ, one-half longer than wide, a little contracted and truncated at tip. Sternum one-half longer than wide, rather deep set. Anterior coxæ separated by less than width of labium. Legs 1, 4, 2, 8; metatarsi of the third and fourth with only terminal circles of spines.

Coloration: Cephalothorax and clypeus covered with long white hairs, the former with a black marginal line. Abdomen gray except the posterior part which is blackish; the base and anterior sides are white; there is a large irregular reddish spot on each side, and on the dorsum are indistinctly marked three pairs of white spots. Near the apex on each lower side is a wide white band, and on the upper surface is a white parenthesis, the black region enclosed having a pair of white dots. Falces black, the upper part being covered with long white hairs. Mouth-parts, sternum and coxæ, black. Venter white with a wide, central, longitudinal black band. Legs and palpi dark brown covered with long white hairs.

Habitat: Mexico.

PHILÆUS MEXICANUS Nov. Sp.

Plate I, figure 18. Plate II, figure 18.

♀. Total length 10 mm. Width of abdomen 3.1 mm.

Cephalothorax: length 4; width 3.2; height 2.

Legs 8.3, 6.4, 6.4, 7.8; patella and tibia of the first, 3.4; patella and tibia of the third, 2.8; patella and tibia of the fourth, 3.2; metatarsus and tarsus of the fourth, 2.4.

Ocular area occupying nearly two-fifths of cephalothorax, one-third wider than long; anterior row of eyes very little curved; lateral one-half as large as middle eyes, separated from them by one-half their own diameter; middle eyes sub-touching; dorsal as large as lateral eyes, equally distant from each other and the lateral borders. Clypeus a little inclined, one-fifth as high as the middle eyes. Falces stout and rather long, inclined forward, and somewhat diverging. Maxillæ parallel, enlarged and rounded at extremity; labium two-thirds as long as the maxillæ, pointed. Sternum convex, nearly as wide as long, truncated in front. Anterior coxæ separated by scarcely the width of the labium, much the stoutest and longest. First legs much the stoutest.

Coloration: Cephalothorax dark brown in the thoracic region, and blackish on the cephalic plate; the lower margin has a fine black line between two fine white lines; there is a wider band of white hairs which passes around the face and extends on the sides, below the second and third rows of eyes, to the posterior margin. Dorsum of the abdomen bronze brown; a little behind the middle are four white dots, two on each side. Around the base is a wide white band; on each side, opposite the dots, is a large white spot; on each side, near the apex, is a short, wide, ribbon-like white band, extending from below on to the dorsum, and bifurcating at the end; this makes a diamond-shaped figure of the bronze color, which connects a small bronze-colored region at the apex with the larger region of the same color on the anterior part of the dorsum. First and second pairs of legs darkest in color; all the legs brown, banded with blackish; tibia of the first leg black with a fringe of black hairs below. Clypeus covered with gray hairs. Falces dark brown. Mouthparts, coxæ, sternum, and venter, brown, thinly covered with gray hairs.

Habitat: Mexico.

PHILÆUS MILITARIS HENTZ.

Plate I, figures 19, 19a. Plate II, figures 19, 19a.

Syn.: 1844. *ATTUS militaris* H., Journal Bost. Soc. Nat. Hist., Vol. IV.1846. *ERIS aurigera* (♂) C. K., Die Arachn., XIII, p. 189.? 1846. *PHIDIPPUS asinarius* id., *ibid.*, XIII, p. 139.1875. *ATTUS militaris* H., Coll. Arachn. Writ. by N. M. Hentz, ed. by Burgess, Boston, p. 62.

♂. Total length 6 mm. Width of abdomen 1.9 mm.

Cephalothorax: length 2.1; width 1.9; height 1.8.

Legs 7.5, 3.8, 3.9, 4.6; patella and tibia of the first, 3.2; patella and tibia of the third, 2.1; patella and tibia of the fourth, 2.1; metatarsus and tarsus of the fourth, 2.1.

Falces 1.6.

Ocular area one-third wider than long; anterior eyes small, lateral more than one-half as large as middle eyes, and separated from them by one-half their own diameter; dorsal a little smaller than lateral eyes, and further from each other than from the lateral borders. Clypeus one-fourth as high as middle eyes. Falces nearly as wide as the first row of eyes, long, inclined forward, and diverging, fang long. Maxillæ narrow at base, wider at extremity, long, truncated, slanting on the inner edge, and excavated for labium; labium less than one-half as long as maxillæ, longer than wide, a little contracted and rounded at the extremity. Sternum nearly twice as long as wide, truncated in front and rounded behind. Anterior coxæ separated by scarcely the width of the labium.

♀. Total length 9.4 mm. Width of abdomen 4.1 mm.

Cephalothorax: length 3.2; width 2.4; height 1.6.

Legs 5.9, 4.7, 4.7, 5.7; patella and tibia of the first, 2.1; patella and tibia of the third, 1.8; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 1.9.

Falces parallel and vertical, shorter and less robust than in ♂; fang short.

Maxillæ enlarged and rounded at extremity; labium more than one-half as long as maxillæ, twice as long as wide.

Coloration: ♂. Cephalothorax and abdomen bright bronze brown, the former with a wide white band on each upper side, and a white spot in the middle of the eye region, the latter with a wide white band around the base and sides, and sometimes two rows of white dots on the dorsum; clypeus, falces, palpi, mouthparts and sternum dark brown; venter brown, covered with short white hairs; legs brown, with femur of the first very dark, and proximal parts of the femora of the second, third and fourth, and all the coxæ, light yellowish.

♀. Cephalothorax bronze, nearly covered with gray hairs, the abdomen with a whitish band down the middle, and four pairs of more or less elongated white spots; the lower sides are nearly white; clypeus covered with long white hairs; falces, mouthparts and sternum brown; venter brown with short white hairs and a darker central region; legs and palpi light brown, with white hairs.

Habitat: United States, Mexico.

PHILAEUS CHRYSIS WALCK.

Plate I, figure 20. Plate II, figure 20. Plate III, figure 20a.

Syn.: 1837. *ATTUS chrysis* (♂) Walck., Hist. Nat. des Insectes Aptères, I, p. 454.

1837. " *iris* (♀) Walck., id., ibid., p. 455.

1846. *PLEXIPPUS aurealceus*, C. K., Die Arachniden, XIII, p. 113.

1847. *ATTUS chrysis* Walck., Hist. Nat. des Insectes Aptères, IV, p. 422.

1847. " *iris*, id., ibid., p. 423.

♂. Total length 9 mm. Width of abdomen 2.8 mm.

Cephalothorax: length 3.9; width 3.5; height 2.8.

Legs 13.7, 9.5, 9.4, 10.9; patella and tibia of the first, 5.7; patella and tibia of the third, 3.4; patella and tibia of the fourth, 4.4; metatarsus and tarsus of the fourth, 3.2.

Falces 3 mm.

Ocular area one-third wider than long; anterior row of eyes very little curved; lateral rather more than one-half as large as middle eyes, and separated from them by one-half their own diameter; dorsal smaller than lateral eyes, and equally distant from each other and the lateral borders. Clypeus one-fourth as high as middle eyes. Falces compressed, as wide as the middle eyes, two and one-half times as long as the face, inclined forward, and diverging; the fang is two-thirds as long as the falx. Maxillæ parallel, long, truncated, with a projection at the outer corner; labium blunt, one-half longer than wide, and one-half as long as the maxillæ. Sternum truncated in front, rounded behind, one-fourth longer than wide. Anterior coxæ separated by width of labium. Relative length of legs 1, 4, 2, 3.

♀. Total length 10.9 mm. Width of abdomen 4.2 mm.

Cephalothorax: length 4.2; width 3.8; height 2.1.

Legs 9.2, 7.9, 8.1, 9.4; patella and tibia of the first, 4.1; patella and tibia of the third, 2.8; patella and tibia of the fourth, 3.5; metatarsus and tarsus of the fourth, 3.

Falces 1.9 mm.

Falces vertical, parallel, and not so long as in ♂; maxillæ rounded; labium more than one-half as long as maxillæ; anterior coxæ separated by more than the width of the labium. Relative length of legs 4, 1, 3, 2.

Coloration: As well as it can be distinguished from our badly rubbed specimens, the coloration is as follows: ♂, cephalothorax black; abdomen black, encircled, excepting at the apex, by a white band, and with two pairs of white spots, or rather of short transverse white lines, on the posterior part of the dorsum; the under side of the body, and the legs, black, or very dark brown. ♀, cephalothorax black; abdomen covered with golden scales, with a white band around the

anterior margin which extends on to the sides, a short oblique white line on each side at the termination of this band, and posterior to these lines, on each side a semi-circular band, white; the dorsum has, on the anterior part, four indented dots, and on the posterior part, opposite the oblique lines one pair of short transverse white lines like those of the δ ; the mouthparts and falces are black, the sternum and coxæ dark brown; the venter is brown with a central longitudinal white band; the legs are light brown excepting the femoral, patellary, and tibial joints of the first pair, which are black.

Habitat: Mexico, Guatemala. (South Carolina, Georgia, Walckenaer.)

PHILÆUS PRINCEPS PECKHAM.

Plate III, figure 21.

Syn.: 1883. *ATTUS princeps* P., Descr. new or little known Attidæ of U. S., p. 18.

♀. Total length 8.1 mm. Width of abdomen 3 mm.

Cephalothorax: length, 3.9; width, 3.2; height, 2.

Legs 7.1, 5.9, 6, 7.5; patella and tibia of the first, 3.4; patella and tibia of the third, 2; patella and tibia of the fourth, 2.6; metatarsus and tarsus of the fourth, 2.4.

Ocular area nearly twice as wide as long, and much wider behind; anterior row a little curved, the eyes composing it being unusually small, the lateral about one-half as large as the middle, and separated from them by nearly two-thirds their own diameter; dorsal almost as large as lateral eyes, and further from each other than from the lateral borders. Clypeus, one-third as high as middle eyes. Falces as wide as the first row of eyes, nearly twice as long as the face, vertical, slightly diverging. Maxillæ parallel, enlarged and blunt at extremity, slanting on the inner edge to the labium; labium less than one-half as long as maxillæ, as wide as long, a little contracted and truncated at tip. Sternum deep set, small, one-half longer than wide, widest in the middle. Anterior coxæ separated by less than the width of the labium. Relative length of legs, 4, 1, 3, 2.

Coloration: ♀. Cephalothorax dark rufus, covered with short yellowish white hairs, and having some long black hairs on the eye region; abdomen covered with coarse tawny and gray hairs, with a whitish band at base, and two gray spots, one on either side of the middle point of the dorsum. Clypeus with thick white hairs; falces darkly iridescent; mouthparts brown; maxillæ tipped with white; sternum black; venter with grayish yellow hairs; legs, palpi, and spinnerets bright reddish brown, the legs and palpi with white hairs.

Habitat: Pennsylvania.

PHILÆUS RIMATOR WALCK.

Plate I, figure 22.

Syn.: 1837. ? *ATTUS rimator* Walck., Hist. Nat. des Insectes Aptères, I, p. 446.

1846. *PHIDIPPUS auctus* C. K., Die Arachniden, XIII, p. 148.

1847. *ATTUS rimator* Walck., His. Nat. des Insectes Aptères, IV, p. 422.

1883. " *formosus* Peckham, Descr. new or little known Attidæ, of U. S., p. 23.

♀. Total length 8.4 mm. Width of abdomen 2.9 mm.

Cephalothorax: length 4; width 2.9; height 2.

Legs 7, 5.2, 4.9, 7.5; patella and tibia of the first, 3; patella and tibia of the third, 1.7; patella and tibia of the fourth, 2.7; metatarsus and tarsus of the fourth, 2.

Ocular area one-third wider than long; anterior row of eyes slightly curved; lateral rather more than one-half as large as middle eyes, and separated from them by two-thirds their own diameter; eyes of this row unusually small; eyes of second row very minute; dorsal eyes a little smaller than the lateral, and placed further from each other than from the lateral borders. Clypeus one-half as high as middle eyes. Falces as wide as the first row of eyes, once and one-half as long as the face, vertical and a little divergent. Maxillæ parallel, enlarged and blunt at extremity, cut a little on the inner edge; labium one-half as long as maxillæ, twice as long as wide, contracted and rounded at tip. Sternum deepset, oblong, narrow in front, one-half longer than wide. Anterior coxæ separated by scarcely the width of the labium.

Coloration: ♀. Cephalothorax and abdomen covered with bright red hairs, the abdomen with a white band around the base, and a wide, central, longitudinal, black band which begins in front of the middle of the dorsum and extends around the lower, posterior sides; upon this band are three pairs of white dots. Clypeus and palpi covered with red hairs; falces brilliant green; mouthparts, sternum and coxæ varying from brown to black; venter black; legs brownish with some red hairs.

Habitat: Pennsylvania, Florida, Iowa.

PLEXIPPUS PUERPERUS HENTZ.

Plate I, figures 23, 23a. Plate II, figure 23a. Plate III, figure 23b.

- Syn.*: 1845. *ATTUS puerperus* Hentz, Journal Boston Soc. Nat. Hist., Vol. V.
 1845. " *sylvanus* id., *ibid.*, Vol. V.
 1846. *ALCMENA pallida* C. K., Die Arachn., XIII, p. 179.
 1874. *ATTUS branickii* Tacz., Les Araneides de la Guyane française, Horæ Soc. Entomol. Ross. T., VIII, p. 94.
 1875. *ATTUS puerperus* Hentz, Coll. Arachn. Writ. Ed. by Burgess, p. 64.
 1879. *MARPISSA branickii* Tacz., Les Aranéides du Pérou. Bull. Soc. Imp. des Nat. de Moscou. T. LIII, p. 227.
 1883. *ATTUS agrestis* Peckham, Descr. new or little know Attidæ of U. S., p. 12.
 1885. *PLEXIPPUS puerperus* id., Proc. Nat. Hist. Soc. of Wisconsin, p. 68.

As Dr. Taczanowski has kindly sent us specimens of his *Attus branickii* we have been able to compare them with *puerperus* Hentz. They are undoubtedly identical. We have the same spider in our own collection, from Central America.

♂. Total length¹ 11 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 4; width 2.4; height 2.8.

Legs 12.3, 10.3, 10.5, 10.8; patella and tibia of the first 5.4; patella and tibia of the third 3.9; patella and tibia of the fourth, 3.8; metatarsus and tarsus of the fourth, 3.9.

♀. Total length 13.6 mm. Width of abdomen 4.7 mm.

Cephalothorax: length 4.8; width 4.2; height 2.8.

Legs 10.6, 9.1, 10.4, 11.7; patella and tibia of the first, 4.8; patella and tibia of the third, 3.9; patella and tibia of the fourth, 4.1; metatarsus and tarsus of the fourth, 4.3.

Cephalothorax high, rounded on the sides and widest behind the dorsal eyes. The cephalic part occupies two-fifths of the cephalothorax; it is nearly plane and slightly inclined. The thoracic part is somewhat rounded but falls steeply from the dorsal eyes. The ocular area is one-fourth wider than long and is a little wider behind than in front. The anterior row is moderately curved: the middle eyes are sub-touching and are scarcely twice as large as the lateral eyes, the lateral being separated from the middle by one-third their own diameter. The eyes of the second row are placed not quite as far from the dorsal as from the lateral eyes. The dorsal eyes are a little smaller than the lateral eyes and are placed by more than their own diameter in-

¹ The size of the male is very variable, ranging from 5.6 mm., total length, to 11 mm.

side the margin: they are further from each other than from the lateral borders. The clypeus is one-third as high as the large middle eyes. The falces are stout, being a little wider than the first row of eyes, and are flattened in front; they are nearly twice as long as the face, parallel and vertical. The fang is short. The maxillæ are long and parallel, enlarged and slightly rounded at the extremity. The labium is but little longer than wide, a little more than one-half the maxillæ, contracted and rounded at the tip. Sternum one and one-half times as long as wide, truncated in front and rounded behind. It projects between the anterior coxæ which are separated by the width of the labium. Legs, relative stoutness, first, second, third, fourth, the fourth being plainly more slender than the third. There are femoral, patellary, tibial and metatarsal spines on the four pairs, those on the tibiæ and metatarsi of the third and fourth being found both above and below, and those on the metatarsi extending to the base. The ♀ has no patellary spines on the first and second pairs.

Coloration: (♂.) The cephalothorax varies from reddish brown to black and has on the dorsum a central spot of white, two white lines on each side near the posterior border, running upward from the lower margin, and just behind and below each dorsal eye two short parallel white lines; the abdomen varies from light testaceous to dark brown and has on the dorsum two longitudinal white bands; on each side of the bands are some scattered black dots. The legs and falces are dark brown; the clypeus is dark brown above with a pale band just over the falces; on the upper portion two lines of white hairs beginning between the middle eyes run obliquely outward to the insertion of the palpi; the palpus is brown, with a white line above, meeting that on the clypeus. The sternum, coxæ and mouthparts vary from light testaceous to dark brown; the venter is brown with a longitudinal white line on each side. (♀) The cephalothorax is yellow, darkest in the eye region, the eyes are jet black, the small middle eye is on a black spot, thus offering a striking contrast to the light yellow of the cephalothorax; there is a brown spot just above the anterior middle eyes; the abdomen is light yellow with three longitudinal white bands, the middle band often less distinct, and many black dots. The legs, palpi, falces and clypeus are yellow, the sternum, coxæ and venter pale brown, the venter having a line of white hairs on each side.

Habitat: California, Florida, Texas, Georgia (Gentry collection), Mexico, Guatemala, New Grenada (in collection of Count Keyserling), Brazil.

PLEXIPPUS PUTNAMII PECKHAM.

Plate III, figure 24.

Syn.: 1883. *ATTUS putnamii* P., Descriptions of new or little known Attidæ, p. 1.

♂. Total length 9 mm. Width of abdomen 2.6 mm.

Cephalothorax: length 4.5; width 3.3; height 2.3.

Cephalothorax high, convex, widest just behind dorsal eyes; cephalic a little shorter than thoracic part; rounded on the sides and slanting abruptly behind. Ocular area nearly twice as wide as long; wider behind than in front; anterior row of eyes a little curved; lateral $\frac{1}{2}$ as large as middle eyes, and separated from them by $\frac{2}{3}$ their own diameter, while the middle eyes are slightly separated from each other; eyes of the second row a very little nearer the lateral than the dorsal eyes; dorsal nearly as large as lateral eyes, further from each other than from the lateral borders, forming a row which is a little narrower than the cephalothorax at that place. Clypeus $\frac{1}{2}$ as high as middle eyes. Falces extending in width to inner edges of lateral eyes, square, $1\frac{1}{2}$ times as long as the face, vertical, parallel; fang small. Maxillæ parallel, truncated at tip, cut obliquely on the inner edges; labium $\frac{1}{2}$ as long as maxillæ, as wide as long, pointed. Sternum very deep-set, oval, projecting between the anterior coxæ, which are separated by less than the width of the labium. Relative length of legs 4, 3, 1, 2; first and second pairs stoutest. Femur of the first rather short, narrow at the ends, and much enlarged below, in the middle. All the legs have femoral, tibial and metatarsal spines, and there are patellary spines on the third and fourth; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax reddish brown; there is a large white spot just behind the dorsal eyes, and a short white band on each side of the eye-region extending from the smaller median to the dorsal eyes; just back of the small median eye is a tuft of black hairs; there are thick, light brownish hairs above the anterior row of eyes. Abdomen light reddish brown, encircled by a white band; near the apex two short, transverse, parallel, white bars, on each side, extend from the encircling band toward the middle of the abdomen; at about the middle point of the dorsum is a large white spot, and near the base are two small, indistinct, white spots formed by a few white hairs. Clypeus covered with short red and long white hairs. Palpus brownish, with black and white hairs. Mouthparts, sternum and coxæ dark brown, sternum and coxæ covered with white hairs. Venter covered with whitish hairs, with a central, longitudinal, darker band. Legs brownish red with many long white hairs.

Habitat: Iowa.

DENDRYPHANTES CAPITATUS HENTZ.

Plate I, figures 25, 25a. Plate III, figure 25a.

- Syn.*: 1844. *ATTUS capitatus* H., Journal Bost. Soc. Nat. Hist., Vol. IV.
 1845. *ATTUS parvus* (♀) id., ibid., Vol. V.
 1875. *ATTUS parvus* (♀) id., Coll. Arachn. Writ. by N. M. Hentz.
 Ed. by Burgess, Boston, p. 62.
 1875. *ATTUS capitatus* id., ibid., p. 51.
 1883. *ATTUS æstivalis* Peckham, Descr. new or little known Attidæ
 of U. S., p. 2.

♂. Total length 4.8 mm. Width of abdomen 1.4 mm.

Cephalothorax: length 2.1; width 1.5; height 1.2.

Legs 4.1, 3, 2.6, 3.9; patella and tibia of the first, 1.9; patella and tibia of the third, 9; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 9.

Cephalothorax high, convex, slightly dilated behind dorsal eyes; cephalic part inclined, but little shorter than thoracic. Ocular area one-third wider than long, a little wider behind than in front; first row of eyes a little curved; lateral a little less than one-half as large as middle eyes, and slightly separated from them; middle eyes sub-touching; eyes of second row a very little nearer lateral than dorsal eyes; dorsal eyes further from each other than from lateral borders. Clypeus one-third as high as middle eyes, retreating. Falces extending to inner edges of lateral eyes, flattened, once and a half as long as face, vertical, somewhat diverging; fang moderately long and stout. Maxillæ parallel, long, enlarged and rounded at extremity, with a projection at the outer corner; labium less than half as long as maxillæ, contracted and rounded at tip. Sternum oval, twice as long as wide, narrow at both ends. Anterior coxæ separated by a little more than the width of the labium; considerably longer than the others. Legs relatively long; first pair stoutest. Femoral, tibial and metatarsal spines on the four pairs; on the metatarsi of the fourth throughout their length.

♀. Total length 6.2 mm. Width of abdomen 2.3 mm.

Cephalothorax: length 2; width 1.5; height 8.

Legs 3.5, 2.8, 2.5, 4.3; patella and tibia of the first, 1.3; patella and tibia of the third, 9; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 9.

Middle anterior only twice as large as lateral eyes; lateral not so much separated from middle eyes as in ♂. Falces parallel, fang short and weak. Maxillæ parallel, without projection at outer corner; labium more than once and one-half as long as maxillæ. Anterior coxæ separated by scarcely the width of the labium and not so long as in ♂.

Coloration: ♂. Cephalothorax bronze brown with three longitudinal white bands on each side; the highest of these is much the widest and ex-

tends from the anterior lateral eye to the posterior border; the middle band has its origin on the upper surface of the caput and passing down between the middle and lateral eye of the first row curves backward and extends along the side of the cephalothorax through about half its length; the lowest of the bands is the narrowest; it begins opposite the origin of the palpus, and passes backward just above the lower border, terminating a little beyond the middle band. A wide vertical white band passes between the anterior middle eyes from the upper surface of the caput to the origin of the falces. Abdomen bronze brown, nearly encircled by a white band which extends around the base and sides and ends abruptly just above and in front of the spinnerets. Clypeus, falces, mouthparts and sternum brown; venter brown with three white bands, one on each side, and one connecting these at the apex.

- ♀. Cephalothorax brown with short white hairs. Abdomen very variable; sometimes pinkish with white bands at base and on the sides, and four pairs of white spots; sometimes brown with many pale spots and curved bands; sometimes brown with four pairs of black spots (resembling *E. octavus*); sometimes bronze with white hairs at base and on the sides, and two longitudinal black bands upon which are three or four pairs of white dots (resembling *P. militaris*). Clypeus white. Other parts varying between light and dark brown.

This species is much like *P. militaris*, but is easily distinguished from it by the difference in size, *P. militaris* being considerably larger. The male sometimes retains the markings of the female, these being proper to it in the immature stage. It was a male of this kind that we described as new under the name of *A. æstivalis*.

Habitat: United States. Mexico.

DENDRYPHANTES ELEGANS HENTZ.

Plate III, figures 26, 26a, 26b. Plate IV, figure 26c.

- Syn.*: 1845. *ATTUS elegans* H. (♀), Jour. Bost. Soc. Nat. Hist., Vol. V.
 1845. " *superciliosus* id. (♂), *ibid.*, Vol. V.
 1848. *MAEVIA cristata* C. K. (♂), Die Arachn., XIV, p. 70.
 1875. *ATTUS elegans* H. (♀), Coll. Arachn. Writ. by N. M. Hentz, Ed. by Burgess, Boston, p. 56.
 1875. " *superciliosus* id. (♂), *ibid.*, p. 68.
 1883. " *tibialis* Peckham (♂), Descr. new or little known Attidæ of U. S., p. 11.

♂. Total length 4.3 mm. Width of abdomen 1.1 mm.

Cephalothorax: length 1.9; width 1.2; height .8.

Legs 5.4, 3.2, 3.2, 5; patella and tibia of the first, 2; patella and tibia of the third, 1.2; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 1.6.

♀. Total length 5.5 mm. Width of abdomen 2 mm.

Cephalothorax: length 2.1; width 1.2; height 1.

Legs 3.7, 3.1, 3.4, 4.3; patella and tibia of the first, 1.3; patella and tibia of the third, 1.1; patella and tibia of the fourth, 2; metatarsus and tarsus of the fourth, 1.6.

Cephalothorax moderately high, convex, dilated behind dorsal eyes; sides nearly vertical in cephalic, rounded in thoracic part; cephalic part inclined, especially in ♂; thoracic part slanting gradually for the first three-fifths of its length, then steeply. Ocular area occupying about two-fifths of cephalothorax, one-fourth wider than long, slightly wider behind than in front; first row of eyes on a ridge, curved (more in ♂ than in ♀); middle eyes sub-touching; lateral one-half as large as middle eyes, separated from them by one-half their own diameter; eyes of second row halfway between dorsal and lateral eyes; ♂ with two ridges of stout hairs oblique and converging, extending from eyes of second row to anterior middle eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as the cephalothorax at that place. Clypeus vertical, scarcely one-fourth as high as the middle eyes. Falces (♂) extending to inner edges of lateral eyes, (♀) nearly as wide as first row, a little longer than face, parallel, vertical; fang weak; maxillæ parallel, enlarged and (♂) truncated, (♀) rounded at extremity; labium about one-half as long as maxillæ, as wide as long, rounded and much contracted at tip; sternum one and one-half times as long as wide, truncated in front, contracted and rounded behind; anterior coxæ separated (♂) by width of labium, (♀) by less; legs all fine and glabrous, first a little the stoutest; femur of the third long; very weak tibial and metatarsal (and in ♂ femoral) spines on the four pairs; on metatarsi of the third and fourth only in terminal circles.

Coloration: ♂. Cephalothorax black in eye region, reddish on sides and thoracic part, entirely covered with light green iridescent scales, excepting a narrow black line between two white lines around the margin; two whitish tufts of hairs above anterior eyes. Abdomen and venter covered with green iridescent scales. Clypeus iridescent; falces brown; sternum black with white hairs; mouthparts and coxæ brown; palpi and legs light brown, legs with a black longitudinal line above, first and second darker than third and fourth; tibia of the first black at distal end, with a strong black spine and a brush of black hairs. ♀. Cephalothorax dark, covered with iridescent scales, excepting marginal lines as in ♂. Abdomen dark and highly iridescent, with a whitish band around base and anterior sides. Clypeus iridescent; falces, palpi, mouthparts, sternum and coxæ as in ♂. Venter iridescent; legs pale with black lines as in ♂, excepting femur of the first which is dark.

Habitat: Middle, Eastern and Southern United States.

DENDRYPHANTES FLAVUS NOV. SP.

Plate I, figure 27. Plate III, figures 27, 27 a.

♀. Total length 6.2 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.7; width 2; height 1.2.

Legs 4.6, 3.5, 3.8, 4; patella and tibia of the first, 2; patella and tibia of the third, 1.6; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.2.

Cephalothorax not high, convex, dilated at the dorsal eyes, with sides rounded more widely behind than in front; cephalic part inclined. Ocular area occupying a little more than one-third of cephalothorax, one-third wider than long, wider behind than in front; anterior eyes looking downward, in a slightly curved row; middle eyes sub-touching; lateral less than one-half as large as middle eyes, separated from them by one-half their own diameter; eyes of second row a little nearer the lateral than the dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as the cephalothorax at that place. Clypeus only a line. Falces nearly as wide as first row of eyes, two and one-half times as long as face, a little inclined forward, parallel; fang short. Maxillæ parallel, one-half as long as falces, enlarged and rounded at extremity. Labium a little more than one-half as long as maxillæ, longer than wide, rounded. Sternum deep set, twice as long as wide, truncated in front, rounded behind. Anterior coxæ separated by width of labium; coxæ of the first and second much the stoutest. Legs of the first and second stoutest, with femoral joints compressed, and having a single row of spines above, and several at the extremity; there are femoral, tibial, metatarsal, and sometimes small patellary spines on all the legs; metatarsi of the fourth spined to the base.

Coloration: Cephalothorax covered with yellow hairs, with a transverse brown band at dorsal eyes, and, around the margin, a white line between two black lines. Clypeus covered with white hairs. Abdomen covered by yellow hairs which have a somewhat metallic lustre, and having two longitudinal black bands, on each of which are three white dots. Falces, mouthparts and sternum dark brown, with some white hairs. Coxæ light brown. Palpi covered with gray hairs. Legs brown with gray hairs, and tipped with black. Venter brown with gray hairs.

Habitat: New York.

DENDRYPHANTES MULTICOLOR HENTZ.

Plate III, figures 28, 28a.

Syn.: 1844. *ATTUS multicolor* H., Jour. Bost. Soc. Nat. Hist., Vol. IV.
 1875. " " id., Coll., Arachn. Writ. by N. M. Hentz.
 Ed. by Burgess, Boston, p. 53.

♀. Total length 6.8 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 3; width 2.5; height 1.5.

Legs 6.1, —, 4.9, 6.1; patella and tibia of the first, 2.7; patella and tibia of the third, 1.9; patella and tibia of the fourth, 2.2: metatarsus and tarsus of the fourth, 2.1.

Cephalothorax high, convex, a little dilated behind dorsal eyes, with sides rounded more widely behind than in front, cephalic part inclined; thoracic part falling slightly in the first half, and much more steeply in the second. Ocular area occupying nearly one-half the cephalothorax, one-third wider than long, wider behind than in front. First row of eyes on a ridge, slightly curved; middle eyes sub-touching; lateral one-half as large as middle eyes, separated from them by nearly one-half their diameter; second row a little nearer lateral than dorsal eyes; dorsal nearly as large as lateral eyes, further from each other than from lateral borders, forming a row a little narrower than the cephalothorax at that place. Clypeus one-fifth as high as middle eyes, vertical. Falces extending to inner edges of lateral eyes, twice as long as face, vertical, parallel; fang short. Maxillæ parallel, dilated and rounded at extremity. Labium one-half as long as maxillæ, a little longer than wide, contracted and rounded at tip. Sternum nearly twice as long as wide, a little more contracted behind than in front, narrowest in the middle. Anterior coxæ separated by nearly the width of the labium. Legs of the first stoutest, with femoral joints enlarged and compressed. Femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Our single specimen of this species being badly injured, we quote the following description from Hentz:

"Cephalothorax black, with a pale, irregular band each side of the disc; abdomen metallic green, with a band at base, and a diagonal spot each side, orange, and with eight small white spots; underneath obscure gray, with inflections of green on the pectus; feet rufous or pale, varied with piceous $\overline{1.4.2.3.}$ This species is related to *A. otiosus* and *mystaceus*, but distinct from both by the absence of the tufts of hair on the cephalothorax, and other characters. The palpi are pale yellow, and there is a black band more or less visible on each side of the abdomen."

Habitat: Pennsylvania, Alabama.

DENDRYPHANTES ALBO-IMMACULATUS PECKHAM.

Plate III, figure 29.

Syn.: 1883. *ATTUS albo-immaculatus* P., Descr. new or little known *Attidæ* of U. S., p. 5.

♀. Total length 5 mm. Width of abdomen 2 mm.

Cephalothorax: length 1.8; width 1.3; height .8.

Legs 3.2, 2.6, 2.4, 3.9; patella and tibia of the first, 1.1; patella and tibia of the third, 8; patella and tibia of the fourth, 1.4; metatarsus and tarsus of the fourth, 1.3.

Cephalothorax rather low, slightly convex, a very little dilated at dorsal eyes, sides almost vertical, posterior margin truncated; cephalic part slightly inclined; ocular area occupying two-fifths of cephalothorax, nearly one-third wider than long, wider behind than in front. Anterior eyes small, in a slightly curved row; middle eyes touching; lateral a little less than one-half as large as middle eyes, separated from them by one-half their own diameter; eyes of second row very small, slightly nearer the lateral than the dorsal eyes; dorsal a little larger than lateral eyes, further from each other than from lateral borders, forming a row as wide as the cephalothorax at that place. Clypeus vertical, one-third as high as middle eyes. Falces as wide as first row of eyes, twice as long as face, vertical, parallel; fang short. Maxillæ parallel, long, enlarged and rounded at extremity; labium one-fourth longer than wide, one-half as long as maxillæ, contracted and rounded at tip. Sternum twice as long as wide, contracted and truncated in front. Anterior coxæ separated by nearly the width of the labium. Femur, patella and tibia — especially tibia — of the first enlarged; femur with a row of short and strong black hairs near the middle of the lower border; patella with two circles of white hair separated by a hairless median part; the tibia has, on the upper border, a short ridge of strong black hairs, and on the lower border a longer ridge, the hairs below being as long as the articulation is thick; metatarsus and tarsus slender. Weak femoral, tibial and metatarsal spines on the four pairs, on the metatarsi of the third and fourth only in terminal circles.

Coloration: Cephalothorax and abdomen closely covered with short white hairs, with a few, scattered, long black hairs; clypeus, falces, palpi, sternum, coxæ and venter covered with white hairs; mouth-parts pale; first leg brown, excepting the tibia, which is black; other legs light brown with longitudinal lines of white hairs.

Habitat: Iowa, New York.

DENDRYPHANTES FLAVIPEDES Nov. Sp.

Plate III, figure 29a.

♂. Total length 4.6 mm. Width of abdomen 2 mm.

Cephalothorax: length 2; width 1.4; height 1.

Legs 4, 3, 2, 8, 3, 4; patella and tibia of the first, 1.5; patella and tibia of the third, 1; patella and tibia of the fourth, 1.4; metatarsus and tarsus of the fourth, 1.

Cephalothorax moderately high, slightly convex; a little dilated behind dorsal eyes, with sides nearly vertical in front and rounded behind; cephalic part a little inclined forward; thoracic part falling a very little in the first half, then more steeply. Quadrangle of eyes occupying two-fifths of cephalothorax, one-quarter wider than long, and a little wider behind than in front. First row of eyes bent; middle eyes sub-touching; lateral more than one-half as large as middle eyes, and separated from them by one-fourth their own diameter. Eyes of second row half way between lateral and dorsal eyes. Dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus vertical, one-third as high as middle eyes. Falces as wide as the two middle eyes, once and a half as long as face, vertical, parallel; fang weak. Maxillæ blunt, cut on inner margins toward labium. Labium a little longer than wide, less than one-half as long as maxillæ. Sternum oval, one-third longer than wide, projecting between anterior coxæ. Anterior coxæ separated by width of labium, stouter and longer than the others. Legs of the first pair much the stoutest and longest, with femoral joints compressed and enlarged. Femoral, tibial and metatarsal spines on the four pairs, only in terminal circles on metatarsi of the third and fourth.

Coloration: Cephalothorax dark brown, with the eyes on a black band, a black line around the lower margin, and some white hairs on the sides. Abdomen dark brown with six impressed dots on the anterior, and several darker chevrons on the posterior part. Legs light brown, tipped with black, and having a black line along the anterior faces of the femur, patella and tibia of the first and second. Palpi light brown, excepting the tarsus, which is black. Face, falces, mouth-parts and coxæ, light brown; sternum and venter a little darker.

Habitat: Canada.

ATTUS PALUSTRIS PECKHAM.

Plate I, figure 30. Plate III, figures 30, 30a.

Syn.: 1888. *ATTUS palustris* P., Descr. new or little known Attidæ of U. S., p. 25.

♂. Total length 5 mm. Width of abdomen 2 mm.

Cephalothorax: length 2.7; width 1.6; height 1.

Legs 4.6, 3.6, 3.4, 4.4; patella and tibia of the first, 1.9; patella and tibia of the third, .9; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.3.

♀. Total length 5.3 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 2.1; width 1.8; height 1.2.

Legs 3, 2.7, 2.5, 4.2; patella and tibia of the first, 1.1; patella and tibia of the third, .9; patella and tibia of the fourth, 1.5; metatarsus and tarsus of the fourth, 1.4.

Cephalothorax moderately high, and convex, very slightly dilated behind dorsal eyes, with sides nearly vertical in front, rounded behind; cephalic part inclined; thoracic part falls gradually in the first half, then steeply. Ocular area occupying two-fifths of cephalothorax, nearly twice as wide as long, a little wider behind than in front. Anterior eyes on a ridge, in a straight row; middle eyes touching; lateral one-half as large as middle eyes, separated from them by one-half their own diameter; eyes of second row slightly nearer lateral than dorsal eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus one-half as high as middle eyes, inclined backward. Falces extending to inner edges of lateral eyes, twice as long as face, flat, vertical, divergent; fang weak. Maxillæ parallel, short, enlarged and rounded at extremity. Labium a little more than one-half as long as maxillæ, as wide as long, (♀) rounded, (♂) more pointed. Sternum oval, not one-half longer than wide. Anterior coxæ separated by more than width of labium. Legs of the first pair a little stoutest; femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration.: ♂. Cephalothorax dark brown, reddish toward eyes, nearly black behind; three white lines begin at the posterior end and run forward; the median line ends before reaching the anterior eyes; the lateral lines pass just outside the dorsal eyes and inside the small median eyes, and are connected by a transverse white line which crosses the eye region just above the anterior eyes; there is sometimes a less distinct white line behind the dorsal eyes, which, with the median longitudinal line, forms a white cross; the margin has a narrow line of white hairs which appear to be combed upward. Clypeus brown

except a white line just under the eyes, and a fringe of white hairs. Abdomen with a narrow central longitudinal brown band, on either side of which the dorsum is black; in the center of the dorsum are two transverse white bars or large spots, one on each side, in front of which are one or two dots on each side, while behind them, in the middle line are two indistinct light dots, one behind the other; just above the apex are two white bars corresponding to the middle bars but narrower; the lower sides are light brown or gray, and the base is sometimes whitish. Falces, mouthparts and coxæ dark brown. Sternum black. Venter gray with two longitudinal brown bands. Palpi and legs dark brown. ♀. Cephalothorax gray with a white cross behind dorsal eyes and a white band low on each side. Clypeus covered with white hairs. Abdomen gray at base, white at apex; near the base and close together are two large black spots, in the middle of each of which is a white dot; continuous with these spots are two narrow black bands, which curve outward and then inward, enlarging into two posterior spots, which are joined in the middle by a short black band which curves forward; the central region thus enclosed is white with a dark spot in the middle; behind, in the middle line and decreasing in size as they approach the apex, are several short transverse black bands. These markings are somewhat variable but the species is easily distinguished. Palpus pale with white hairs. Legs light brown with dark rings. Otherwise like ♂.

Habitat: Wisconsin, Michigan.

ATTUS IMPERIALIS Nov. Sp.

Plate III, figures 31, 31a.

♂. Total length 4 mm. Width of abdomen 2 mm.

Cephalothorax: length 2; width 1.7; height 1.2.

Legs 4.8, 3.1, 2.8, 4.2; patella and tibia of the first, 2; patella and tibia of the third, 9; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.3.

Cephalothorax moderately high, slightly convex, a little dilated behind dorsal eyes, with sides nearly vertical; cephalic part slightly inclined; thoracic part slanting gradually in the first two-thirds, then abruptly. Ocular area occupying a little less than one-half cephalothorax, one-third wider than long, wider behind than in front. First row of eyes very slightly curved; middle eyes sub-touching; lateral rather more than one-half as large as middle eyes, separated from them by two-thirds their own diameter; eyes of second row very slightly nearer lateral than dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as the cephalothorax at that place. Clypeus one-fourth

as high as middle eyes, vertical; falces extending to inner edges of lateral eyes, as long as face, vertical, divergent; fang short, rather stout. Maxillæ parallel, enlarged and truncated at extremity, with projection on outer corner. Labium scarcely one-half as long as maxillæ, but little longer than wide, contracted at tip. Sternum less than one-half longer than wide, truncated in front, narrow behind. Anterior coxæ separated by more than width of labium. Legs, first and second stoutest, with femoral joints enlarged and compressed. Femoral, tibial and metatarsal spines on the four pairs; femoral spines weak; tibial and metatarsal spines of the first and second in two inferior rows, on the third and fourth very weak; on the metatarsi irregularly on the body of the articulation as well as in terminal circles.

Coloration: Cephalothorax dark reddish brown with a white band on each upper side, and, on the face, two snowy white bands which begin on each side between the middle and lateral eye and extend obliquely downward and backward to the cephalic margin. Parallel with these are two equally wide and white bands which cover the anterior faces of the falces. These bands make the appearance of the spider from in front very striking and characteristic. Abdomen reddish brown in the middle, with a longitudinal black band on each side; on each of these bands, near the apex, is a white dot, and below, the sides and base are encircled by a white band. Palpus brown with a ring of white hairs at the distal end of the femur. Mouthparts, sternum and venter dark brown. Coxæ light brown. Legs dark brown with femoral joints nearly black.

Habitat: California.

ICIUS LINEATUS C. K.

Plate I, figure 32. Plate III, figures 32, 32 a., 32 b.

Syn: 1848. *MÆVIA lineata* C. K., Die Arachn., XIV, p. 77.

1883. *ATTUS quadrilineatus* Peckham, Descr. new or little known Attidæ of U. S., p. 19.

♀. Total length 5.3 mm. Width of abdomen 2 mm.

Cephalothorax: length 2; width 1.5; height 8.

Legs 3.4, 2.4, 2.2, 3.9; patella and tibia of the first, 1.6; patella and tibia of the third, 8; patella and tibia of the fourth, 1.5; metatarsus and tarsus of the fourth, 1.2.

Cephalothorax low, flat, a very little dilated behind dorsal eyes, with sides nearly vertical in front, rounded behind; cephalic part inclined; thoracic part falling slightly in first half, then more steeply. Ocular area occupying two-fifths of cephalothorax, one-fourth wider than long, very slightly wider behind. First eyes sub-touching, in a straight

row, all small, projecting, lateral about one-half as large as middle eyes; eyes of second row a little nearer the dorsal than the lateral eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, in a row as wide as the cephalothorax at that place. Clypeus one-fourth as high as middle eyes, vertical. Falces but little wider than the two middle eyes, a little longer than the face, vertical, parallel; fang very weak, maxillæ parallel, a little enlarged and blunt at extremity. Labium one-third as long as maxillæ, as wide as long, truncated. Sternum pointed in front and behind, nearly as wide as long. Anterior coxæ separated by a little less than width of labium. Legs of the first pair stoutest; femoral, tibial and metatarsal spines on the four pairs, metatarsi of the third and fourth with only terminal circles.

Coloration: Eye region black covered with yellowish hair, thoracic region testaceous with sparse yellow hair, lower margin black; abdomen (dry) blackish, with some yellow hairs; four slender lines of white hairs begin at the base; the two middle lines start from the same point; and separating a little pass out on each side of the middle to the spinnerets; the lateral lines extend along the sides from base to apex, and are not visible from above. Clypeus covered with white hairs; falces, mouthparts, sternum and coxæ all brown; palpi pale; legs brown, first pair darkest with black hairs; venter pale with irregular, dark, longitudinal lines.

Habitat: Pennnsylvania, Wisconsin, Georgia (Gentry Coll).

ICIUS PALMARUM HENTZ.

Plate I, figure 32. Plate III, figures 33, 33a.

- Sym.:* 1832. *EPIBLEMUM palmarum* H., Am. Jour. Sci. and Arts, art. 21, p. 108.
 1845. " " id., Journal Bost. Soc. Nat. Hist., vol. V.
 1875. " " id., Coll. Arachn. Writ. by N. M. Hintz, ed. by Burgess, Bost., p. 71.
 1883. " " Peckham, Descr. new or little known Attidæ of U. S., p. 28.

♂. Total length 5.5 mm. Width of abdomen 1.1 mm.

Cephalothorax: length 2.1; width 1.8; height 1.

Legs 6.1, 4.2, 3.5, 4.2; patella and tibia of the first, 2.9; patella and tibia of the third, 1.4; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.2.

♀. Total length 1.6 mm. Width of abdomen 1.2 mm.

Cephalothorax: length 1.6; width 1.4; height 8.

Legs 4.5, 2.7, 2.8, 3.5; patella and tibia of the first, 1.5; patella and tibia of the third, 1; patella and tibia of the fourth, 1.3; metatarsus and tarsus of the fourth, 1.

Cephalothorax moderately high, nearly plane, a very little dilated behind dorsal eyes, with sides nearly vertical in front and rounded behind; cephalic part very slightly inclined; thoracic part with the first half falling gradually and the second steeply. Ocular area occupying (δ) two fifths, (φ) less than two-fifths of cephalothorax, one-third wider than long, wider behind than in front. First row of eyes straight; middle eyes sub-touching; lateral one-half as large as middle eyes, and a little separated from them; eyes of second row a little nearer lateral than dorsal eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral border, forming a row which is narrower than the cephalothorax at that place. Clypeus a little more than one-fourth as high as middle eyes. Falces compressed, parallel, extending to inner edges of lateral eyes, (δ) three times as long as face, horizontal, (φ) as long as face, vertical; fang (δ) as long as falx, (φ) short. Maxillæ long, enlarged at extremity, (δ) with projection at outer corner, and excavated for labium; (φ) rounded, not excavated. Labium two-thirds as long as maxillæ, nearly twice as long as wide, contracted and rounded at tip. Sternum oval, one-half longer than wide, scarcely projecting between anterior coxæ. Anterior coxæ separated by scarcely the width of the labium. Legs of the first pair much the longest and stoutest, especially in δ , with femoral joints enlarged and compressed in both sexes; femoral, tibial and metatarsal spines on the four pairs, on metatarsi of the third and fourth, only in terminal circles.

Coloration: δ . Cephalothorax bronze-brown, with short golden down, lighter in eye region; lower margin black; a wide white band passes around the clypeus and upper sides, just below the eyes, and just behind the dorsal eye, on each side, curves upward over the thorax, ending near the posterior margin; the eyes are surrounded with bright red hair. Abdomen bronze-brown, covered with golden down; there are white bands on the sides from base to apex, which do not meet at base, where there is a tuft of black hairs. Clypeus covered with long, snowy white hairs; falces dark rufus, with lines of white hairs on their outer edges; mouthparts almost black; sternum rufus; palpi and legs of the first pair (including coxæ) dark rufus; legs of the second, third and fourth (including coxæ), pale, tipped with black. Venter, rufus, edged with white. φ . Cephalothorax, rufus, covered with white hairs, with lower margin black; there are two dark spots in the eye region, behind the middle anterior eyes, and some long black hairs outside the lateral eyes. Abdomen pale, covered with white hairs, and having a tuft of white hairs at base; there is a central, longitudinal, branching, rufus band, made up of many dots,

spots and lines, which is indistinctly visible through the white hairs. Clypeus with white hairs; palces, dark rufus; palpus, pale with three rufus bars, mouthparts very dark, sternum and coxæ, light rufus; legs of the first pair light rufus, the others pale, tipped with black. Venter covered with white hairs.

Habitat: New York, North Carolina, South Carolina, Alabama, Florida.

ICIUS MITRATUS HENTZ.

Plate I, figure 34. Plate III, figure 34a. Plate IV, figure 34.

Syn.: 1845. *ATTUS mitratus* (♂) H., Journal Bost. Soc. Nat. Hist., Vol. V.
1845. " *morigerus* (♀) id., ibid.

? 1848. *MÆVIA pallida*, C. K., Die Arachn. XIV, p. 79.

1875. *ATTUS mitratus* H., Coll. Arachn. Writings by N. M. Hentz
ed. by Burgess, Boston, p. 68.

1875. " *morigerus* id., ibid., p. 69.

♂. Total length 4.7 mm. Width of abdomen 1 mm.

Cephalothorax: length 1.9; width 1.3; height .7.

Legs 5.6, 3.5, 3.2, 4; patella and tibia of the first, 2.2; patella and tibia of the third, 1.2; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.6.

♀. Total length 5 mm. Width of abdomen 1.5 mm.

Cephalothorax: length 2; width 1.4; height .8.

Legs 3.2, 3, 2.2, 3; patella and tibia of the first, 1.5; patella and tibia of the third, .9; patella and tibia of the fourth, 1.4; metatarsus and tarsus of the fourth, 1.4.

Cephalothorax rather low, slightly convex, a little dilated behind dorsal eyes, with sides nearly vertical in front, and rounded behind; cephalic part inclined; thoracic part falling gradually in the first half, then steeply. Ocular area occupying about two-fifths of cephalothorax, one-third wider than long, slightly wider behind than in front. First row of eyes straight; middle eyes sub-touching; lateral about one-half as large as middle eyes, separated from them by one-fourth their own diameter; eyes of second row half way between lateral and dorsal eyes; dorsal not quite so large as lateral eyes, further from each other than from lateral borders, forming a row slightly narrower than the cephalothorax at that place. Clypeus vertical, one-half as high as middle eyes. Palces a little wider than middle eyes, slightly longer than face, parallel, vertical; fang small. Maxillæ long, rounded and a little enlarged at the extremity; labium twice as long as wide, two thirds as long as maxillæ, a little rounded at tip, mouthparts longer and narrower in ♂ than in ♀. Sternum contracted in front, rounded behind, (♂) nearly twice as long as wide

(♀) one-half longer than wide. Anterior coxæ separated (♂) by width of labium, (♀) by scarcely so much. Legs of the first pair stoutest, and in ♂ very long. Femoral, tibial and metatarsal spines on the four pairs, on metatarsi of the third and fourth only in terminal circles.

Coloration: Cephalothorax reddish, covered with silvery down; eyes on black spots, a black line around margin, and (♀) two or three stout black hairs on each side below the eyes of the second row. Abdomen (♂) covered with white down with an encircling white band, and three, short, transverse dark bars on the dorsum; (♀) covered with down as in ♂, with three pairs of dark spots. Clypeus covered with white hairs which extend downward over the reddish falces. Mouth-parts and sternum reddish brown. Coxæ pale; palpi and legs pale tipped with black. Venter covered with silvery down.

Habitat: Wisconsin, Pennsylvania, North Carolina, Alabama, Georgia, Florida.

ICIUS PIRATICUS Nov. Sp.

Plate I, figure 35. Plate IV, figures 35, 35a.

♂. Total length 7 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 3.9; width 2; height 1.3.

Legs 5.9, 3.5, 4.9, 5.2; patella and tibia of the first, 2.5; patella and tibia of the third, 1.8; patella and tibia of the fourth, 1.8; metatarsus and tarsus of the fourth, 1.6.

Cephalothorax low, flat, narrow in front, dilated behind dorsal eyes, with sides nearly vertical in front and rounded behind; cephalic part plane, slightly inclined; thoracic falling a very little in the first half, then more steeply. First row of eyes straight; middle eyes touching, lateral sub-touching, one-half as large, and placed plainly further back; eyes of second row a little nearer lateral than dorsal eyes, and very small; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Whole ocular area occupying a little more than one-third of cephalothorax, one-third wider than long, wider behind than in front. Clypeus inclined backward, one-half as high as middle eyes. Falces but little wider than the two middle eyes, one-fourth longer than face, vertical, parallel; fang very weak. Maxillæ long, parallel, a little enlarged and rounded at extremity. Labium two-thirds as long as maxillæ, twice as long as wide. Sternum not projecting between anterior coxæ, a little longer than wide, rounded. Anterior coxæ square, nearly touching. First leg with femur and tibia exceedingly stout, and metatarsus and tarsus very short; the other legs weak. Spinal armature as follows: Tibia of the

first, one short inferior spine; metatarsus of the first, two stout inferior spines; metatarsus of the second, two inferior not very stout spines; metatarsi of the third and fourth with only terminal circles.

Coloration: Cephalothorax with the entire upper surface covered with short white hairs, black on the sides, and white on the lower border; anterior middle eyes surrounded by reddish rings. Clypeus covered with short white and reddish hairs. Abdomen black with a wide central longitudinal white band, and the lower sides white. Falces black, with some short white hairs. Mouthparts black. Coxæ brown. Sternum black with white hairs. Venter covered with white hairs. Palpi brown with white hairs. Legs of the first pair black, and of the second, third and fourth, brown, all with white hairs which form heavy fringes on the undersides of the first legs.

Habitat: Texas.

ICIUS ALBOVITTATUS KEYSERLING.

Plate 1, figure 35a. Plate 4, figure 35d.

Syn.: 1885. WALA *albovittata* Keys., Neue Spinnen aus Amerika. VI, Verhandl. zool. bot. gesel. in Wien, p. 81 (517).

♂. Total length 5.2 mm. Width of abdomen 1.3 mm.

Cephalothorax: length 1.9; width 1.7.

Legs 6.4, 3.7, 3.5, 4.1; patella and tibia of the first, 2.7; patella and tibia of the third, 1.3; patella and tibia of the fourth 1.6; metatarsus and tarsus of the fourth, 1.3.

Cephalothorax low and flat, plainly wider in the middle, with rounded sides; cephalic part inclined forward. Quadrangle of eyes occupying almost one-half of the cephalothorax, a little more than one-third wider than long, wider behind than in front. First row of eyes a little bent. Middle eyes nearly touching; lateral one-half as large and separated from them by one-third their own diameter. Second row of eyes plainly nearer the first than the third row. Dorsal eyes as large as the lateral, further from each other than from the lateral borders, forming a row not quite so wide as cephalothorax at that place. Clypeus extremely low. Falces nearly as wide as first row of eyes, compressed from before behind, wider in middle than at base or extremity, a little inclined forward, diverging at the extremities; fang two-thirds as long as falx. Maxillæ slightly diverging, rather long, enlarged and truncated at extremity. Labium two-thirds as long as maxillæ, longer than wide, a little widest in middle, truncated. Sternum rounded, nearly as wide as long, projecting a very little between anterior coxæ. Anterior coxæ separated by less than width of labium. First legs much the longest and stoutest. Femoral and metatarsal spines on the four pairs, only in terminal circles on the third and fourth; tibial spines on the first and second.

Coloration: Cephalothorax red-brown covered above and on the upper sides with white hairs; lower sides brown; eyes and lower margin black; clypeus white; looked at from in front a dark line extends from each middle and from each lateral eye, backward and downward to the margin. Abdomen bronze brown encircled by a white band, below which is a dark brown band; lower sides brown: falces, mouthparts, sternum, coxæ and legs of first pair dark red-brown, excepting the proximal end of the metatarsus, and the tarsus which are yellow. The other coxæ and legs yellow tipped with black. Venter yellowish brown.

Habitat: North America.

PSEUDICIUS HARFORDII Nov. Sp.

Plate I, figures 36, 36a. Plate III, figure 36. Plate IV, figure 36a.

♂. Total length 6.3 mm. Width of abdomen 2.1 mm.

Cephalothorax: length 3; width 2.4; height 2.

Legs 6.1, 5.6, 5.3, 5.9; patella and tibia of the first, 2.6; patella and tibia of the third, 2.2; patella and tibia of the fourth, 2.5; metatarsus and tarsus of the fourth, 1.6.

♀. Total length 6.9 mm. Width of abdomen 2.7 mm.

Cephalothorax: length 3; width 2.4; height 1.7.

Legs 5.4, 7, 4.8, 5.6; patella and tibia of the first, 2.4; patella and tibia of the third, 2.2; patella and tibia of the fourth, 2.2; metatarsus and tarsus of the fourth, 1.8.

Cephalothorax moderately high, slightly convex, a little dilated in the middle, sides vertical in front, rounded behind; cephalic part inclined. Ocular area occupying two-fifths of the cephalothorax, one-fourth wider than long, equally wide in front and behind. Anterior eyes all small, in a straight row; middle eyes sub-touching; lateral one-half as large as middle eyes and scarcely separated from them; eyes of second row nearer lateral than dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row not so wide as the cephalothorax at that place. Clypeus one-fourth as high as middle eyes, vertical. Falces wider than the two middle eyes, a little longer than the face, vertical, parallel; fang one-half as long as falx. Maxillæ narrow at base, enlarged at extremity, (♂) with point at outer corner, (♀) rounded, parallel. Labium oval (♂) one-half (♀) nearly two-thirds as long as maxillæ. Sternum contracted in front, one-third longer than wide. Anterior coxæ separated (♂) by more, (♀) by less than width of labium. Legs of the first and second pairs stoutest; femoral, tibial and metatarsal spines on the four pairs; stout and regular in two rows on tibiae and metatarsi of the first and second, less stout and regular on third and fourth; metatarsi of the fourth spined throughout their length.

Coloration. ♂. Cephalothorax light brown; a band of white hairs comes up from between the middle anterior eyes and joins a white spot which is found on the posterior cephalic part; on each upper side is a wide band of white hairs which extends from the anterior lateral eye, surrounding the dorsal eye, to the posterior margin; there is a white line around the lower margin; the entire face is covered with thick snowy white hairs, which grow from the sides toward the middle, surrounding the anterior eyes and growing downward on to the upper part of the falces; just behind and below the anterior lateral eyes are some small scattering tufts of black hairs. Abdomen light golden brown, encircled by a wide band of white hairs. Falces (excepting the white hairs at the upper edge) and mouthparts dark reddish brown. Sternum, coxæ and venter light brown. Legs all light brown excepting the last three joints of the first pair which are dark reddish brown; all the legs tipped with black. ♀. Cephalothorax light brown covered with short white hairs, which are easily rubbed off, but usually show a white band coming up from between the middle anterior eyes. Abdomen covered with gray hairs and fine red dots. Venter covered with gray hairs. Mouthparts pale. Legs pale (excepting first pair which is light brown) all tipped with black. Face and other parts as in male. In some cases the male retains the coloration of the female.

This species bears a strong general resemblance to *Icius albo-vittatus* Keys.

Habitat: California.

SADALA NOV. GEN.

Cephalothorax rather low and nearly flat, contracted slightly in front and behind, one-fourth longer than wide, and a very little wider than the third row of eyes. Cephalic part occupies two-fifths of the cephalothorax; the thoracic part begins to slant near its posterior border, and is rounded behind. Quadrangle of eyes nearly twice as wide as long, and equally wide in front and behind. First row of eyes nearly straight, middle very nearly touching, and three times as large as the lateral, from which they are just separated. Second row of eyes small and plainly nearer (two-fifths) the anterior lateral. Dorsal eyes as large as lateral, and much further from each other than from the lateral borders. Clypeus very low (one-fifth to one-eighth the height of anterior middle eyes). Sternum oval, a little longer than wide, projecting between the coxæ of the first pair, which are separated by the width of the labium. Labium less than half as long as the maxillæ, and as wide as long. Falces short (as long as the face) but little longer than wide. Legs 1, 4, 2, 3. First stoutest, second next. The patella with tibia of the third shorter than patella with tibia of the

fourth. Metatarsus with tarsus of the fourth shorter than patella with tibia. Femoral, tibial and metatarsal spines on the four pairs. Metatarsi of the fourth spined to the base. Abdomen long and slender.

Sadala is near *Icius* E. S., but differs in having the quadrangle of eyes nearly twice as wide as long; middle eyes three times as large as the anterior lateral; quadrangle of eyes equally wide in front and behind; legs 1, 4, 2, 3; metatarsi of the third and fourth spined throughout their length.

SADALA DISTINCTA Nov. Sp.

Plate I, figure 70. Plate VI, figures 76, 76a.

♂. Total length 5.3 mm. Width of abdomen 1.1 mm.

Cephalothorax: length 2; width 1.5; height 6.

Legs 4.6, 3.6, 3.1, 3.9; patella and tibia of the first, 2.2; patella and tibia of the third, 1; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.2.

Cephalothorax not high, slightly convex, contracted in front and behind, with sides rounded, more widely behind than in front; cephalic part plane, not inclined; thoracic part with first three-fifths level. Ocular area occupying two-fifths of cephalothorax, one-third wider than long, very slightly wider in front than behind. First row of eyes nearly straight; middle eyes prominent, touching; lateral only one-third as large as middle eyes, and slightly separated from them; eyes of second row very small, a little nearer lateral than dorsal eyes; dorsal as large as lateral eyes, much further from each other than from lateral borders, forming a row very nearly as wide as cephalothorax at that place. Clypeus retreating, one-eighth as high as middle eyes. Falces as wide as the two middle eyes, scarcely longer than face, length and width about equal, parallel, slightly inclined backward; fang very small. Maxillæ enlarged and truncated at extremity, parallel. Labium one-half as long as maxillæ, as wide as long, rounded. Sternum oval, about twice as long as wide. Anterior coxæ separated by width of labium. Legs of the first pair stoutest, second next; these two pairs with femoral joints compressed; femoral tibial and metatarsal spines on the four pairs; metatarsi of the fourth, armed throughout their length. Palpus with a tibial apophysis.

Coloration: Cephalothorax clear light-reddish brown; a black band includes the first and second rows of eyes; the dorsal eyes are placed upon black spots, and there are two dark spots on the posterior cephalic part; on each side a white line extends from the lateral eyes on to the anterior thoracic part, passing below the small median and the

dorsal eye; near the termination of this line, at the point at which the thoracic part begins to slant downward, there arises a slightly oblique white line which passes downward to the border. The lower margin is dark brown. Clypeus brown. The lower anterior face of the abdomen is black; above this is a curved white band which ends, on each side, in an oblique bar. The anterior dorsum is umber brown; in front of the middle are two black spots, separated by a line of brown; a little behind these is one large black spot which is surrounded by white. There is a second pair of oblique white bars, on the sides, at this point of the abdomen. The posterior end of the abdomen is white, with one or two transverse bands of light brown. The entire dorsum is sparsely covered with long yellowish hairs. Falces black. Mouthparts, palpi, and coxæ of the first and second, brown; coxæ of the third and fourth, pale, each with a black spot. Sternum black. Legs of the first and second, dark brown; of the third, femur dark brown, other joints lighter; of the fourth, light-brown or pale; patella and tibia of the third and fourth, with black lines on both anterior and posterior faces. Venter black.

Habitat: Mexico.

ERIS OCTAVUS HENTZ.

Plate I, figure 37, Plate III, figure 37.

Syn.: 1845. *ATTUS octavus* H., Journal Bost. Soc. Nat. Hist., Vol. V.

1875. *ATTUS octavus* id., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 70.

♀. Total length 4.2 mm.

Cephalothorax: length 1.8; width 1.5; height 1.

Legs 4.2, 3, 3, 3.9; patella and tibia of the first, 1.5; patella and tibia of the third, 1.2; patella and tibia of the fourth, 1.4; metatarsus and tarsus of the fourth, 1.1.

Cephalothorax a little wider at the dorsal eyes, with sides nearly vertical in front, rounded in the thoracic part, and truncated behind. Ocular area one-fourth wider than long, wider behind than in front; anterior row of eyes straight; lateral more than one-half middle eyes, separated from them by one-half their own diameter; eyes of second row half way between lateral and dorsal eyes; dorsal eyes further from each other than from lateral borders. Clypeus one-fifth as high as middle eyes. Falces extending in width to inner edges of lateral eyes, as long as face, parallel, vertical. Maxillæ rather long, a little enlarged and rounded at tip, parallel; labium one-half as long as maxillæ, as wide as long, contracted and rounded at tip. Sternum one-half longer than wide, narrow at both ends, truncated in

front. Anterior coxæ separated by scarcely the width of the labium. First pair of legs stoutest. Femoral, tibial and metatarsal spines on the four pairs; the metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax and abdomen light rufus, brown, or yellowish, covered with short white hairs; cephalothorax with the eyes on black spots; abdomen with four pairs of black spots on the posterior part, in two converging longitudinal lines; all the other parts light brown with short white hairs, the legs being tipped with black.

Habitat: New York, Alabama, North Carolina, Georgia.

ERIS (?) BARBIPES Nov. Sp.

Plate IV, figures 38, 38a.

♀. Total length 6.8 mm. Width of abdomen 2.7 mm.

Cephalothorax: length, 2.4; width, 1.9; height 1.2.

Legs 4.8, 3.6, 4.5, 5.3; patella and tibia of the first, 2.1; patella and tibia of the third, 1.7; patella and tibia of the fourth, 2.3; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax moderately high, slightly convex, very slightly dilated in the middle, with sides nearly vertical; cephalic part a little inclined; thoracic part falling gradually in the first two-thirds, then steeply. Ocular area occupying one-half cephalothorax, one-third wider than long, plainly wider behind than in front. Anterior eyes all subtouching, in a straight row; middle twice as large as lateral eyes; eyes of second row nearly twice as far from dorsal as from lateral eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus vertical, one-fourth as high as middle eyes. Falces nearly as wide as first row of eyes, twice as long as face, vertical, parallel; fang short. Maxillæ rather long, parallel, enlarged and rounded at extremity. Labium more than one-half as long as maxillæ, twice as long as wide, pointed at tip. Sternum about twice as long as wide, slightly contracted in front and behind. Anterior coxæ separated by less than width of labium. Legs of the first pair much stoutest; tibia especially enlarged with fringe of hairs; third and fourth slender; femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax black, with cephalic and anterior thoracic parts covered with short greenish hairs, and a white band around lower margin. Abdomen black with white basal band, covered with short scalelike slightly iridescent greenish hairs. Clypeus, falces,

mouthparts and sternum black. Coxæ dark brown. Venter covered with hairs as above. Palpi light, covered with short white hairs. Legs of the first pair black, excepting metatarsi and tarsi which are light brown; other legs brown, lighter toward extremities, with some short white hairs.

Habitat: Mexico.

ERIS NERVOSUS Nov. Sp.

Plate I, figure 39. Plate III, figure 39.

♀. Total length 4 mm. Width of abdomen 1.5 mm.

Cephalothorax: length 1.6; width 1.4; height .7.

Legs 4, 3.2, 2.9, 3.7; patella and tibia of the first, 1.3; patella and tibia of the third, .9; patella and tibia of the fourth, 1.3; metatarsus and tarsus of the fourth, 1.

Cephalothorax not high, nearly plane, a little dilated opposite dorsal eyes, with sides nearly vertical in front, and somewhat rounded behind; cephalic part very little inclined; thoracic part sloping from just behind dorsal eyes. Ocular area occupying nearly three-fifths of cephalothorax, one-fourth wider than long, wider behind than in front. Anterior eyes small, in a straight row, slightly separated from each other; middle scarcely twice as large as lateral; eyes of second row twice as far from dorsal as from lateral eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus one-half as high as middle eyes, a little inclined backwards. Falces extending to inner edges of lateral eyes, a little longer than the face, nearly square, parallel, a little inclined backward, fang weak. Maxillæ diverging a little, enlarged and rounded at extremity. Labium one-half as long as maxillæ, a little longer than wide, rounded. Sternum nearly round. Anterior coxæ separated by scarcely the width of the labium. Legs of the first pair stoutest, with femoral joints enlarged and compressed, and patella and tibia much stouter than metatarsus and tarsus; weak femoral spines on first, second and third; stout tibial and metatarsal spines on the first, and weak spines on the corresponding joints of the second.

Coloration: Cephalothorax black. Clypeus black with a few long white hairs. Abdomen dark reddish brown with some very short white hairs, three rather indistinct, oblique black bands on each side of dorsum, and two white chevrons at apex. Falces and mouthparts dark brown. Sternum and coxæ light brown. Venter dark reddish brown with short gray hairs. Palpi and legs light brown, the legs tipped with black.

Habitat: New York.

HASARIUS HOYI PECKHAM.

Plate I, figures 40, 40a. Plate IV, figure 40, 40a.

Syn.: 1883. *ATTUS hoyi* (♂) P., *Descrip. of new or little known Attidæ*, p. 7.

1883 " *pinus* (♀) id., *ibid.*, p. 20.

♂ Total length 5.2 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.3; width 1.9; height 1.6.

Legs 5.2, 4, 5.2, 4.9; patella and tibia of the first, 2; patella and tibia of the third, 1.7; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 1.6.

♀ Total length 5.9 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 2.5; width 2; height 1.7.

Legs 4.6, 4.2, 5, 4.8; patella and tibia of the first, 2.2; patella and tibia of the third, 1.9; patella and tibia of the fourth, 2.1; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax rather high, plane, slightly dilated behind dorsal eyes, with sides nearly vertical in front, rounded behind; cephalic part inclined (more strongly in ♂ than in ♀); thoracic part falling but little in the first two-thirds, then steeply. Ocular area occupying two-fifths of cephalothorax, one-third wider than long, and almost imperceptibly wider in front than behind. First row of eyes straight; middle eyes sub-touching; lateral more than one-half as large as middle eyes, separated from them by one-third their own diameter; eyes of second row half way between dorsal and lateral eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, forming a row scarcely narrower than the cephalothorax at that place. Clypeus (♂) vertical, one-third, (♀) inclined, one-fifth as high as middle eyes. Falces extending to the inner edges of lateral eyes, but little longer than face, vertical, parallel; fang weak. Maxillæ parallel, short, slightly enlarged and rounded at extremity; labium one-half as long as maxillæ, but little longer than wide, a little contracted and blunt at tip. Sternum oval, one-half longer than wide. Anterior coxæ separated by width of labium. Legs of the first and second pairs stoutest; third longer than fourth by greater length of femur, femoral, tibial and metatarsal spines on the four pairs; on metatarsi of the fourth throughout their length.

Coloration: ♂. Ocular and anterior thoracic region rufus a little mixed with black; posterior thoracic region black; a white band on each side, beginning at or near the base passes forward to the anterior lateral eyes, and joining these, a white band crosses above the anterior eyes; the sides below the white bands are velvety black; the anterior eyes are surrounded by hairs which are white excepting just between the eyes, where they are red; looked at from above this

gives the appearance of three minute red tufts. Clypeus black with white hairs. Abdomen black with an encircling white band and a central, longitudinal, rufus band which varies greatly in length and breadth, upon which are some variable white marks, which usually consist of two short, oblique lines near the base, a triangle in the middle, and a series of chevrons near the apex. Falces dark testaceous with sparse short white hairs; maxillæ and labium brown; sternum dark with black and white hairs; venter black with rufus hairs, palpi and legs barred with black and rufus excepting the proximal ends of the femoral joints which are pale. ♀. Cephalothorax covered with brown, black and rufus hairs, with a grayish band behind dorsal eyes, which passes downward and forward on the sides to the lateral eyes; clypeus covered with white hairs. Abdomen rufus or light brown with a grayish basal band, behind which is a curved black band; there are several other curved black bands near the apex, and a central, longitudinal black line. Falces, mouthparts and sternum brown; palpus pale with hair which is light brown excepting at the extremity, where it is white; legs, first pair dark; the others brown with black hairs.

Habitat: Pennsylvania, New York, Wisconsin.

Since describing *hoyi* and *pinus* as two species (1883) we have satisfied ourselves that *pinus* is the female of *hoyi*.

HABROCESTUM (E. SIMON), 1876.

Cephalothorax rather short, one-fourth to one-third longer than wide, moderately high to very high: thoracic part often convex, but slightly dilated on the sides, which are somewhat rounded, only a third the longer. Cephalic part a little convex, inclined, limited by a faint depression. Quadrangle of eyes one-third wider than long, and equally wide in front and behind, or a little wider behind. Anterior row of eyes rather unequal — middle about twice lateral — middle but little separated, lateral by not more than one-third their diameter, forming a line straight or slightly curved upward. Second row small, and nearly half way between the first and third rows. Dorsal eyes equal to or a little larger or smaller than the anterior lateral, forming a row about as wide as the cephalothorax at that place, and almost equally distant from each other and from the lateral borders. Clypeus varies from one-half to two-thirds the large middle eyes. Sternum one-half longer than wide, often truncated in front and contracted behind, produced between the anterior coxæ, which are separated by a little more or less than the width of labium at its base. Labium as wide as long¹ and less than one-half the maxillæ. Falces weak

¹ This is true at least in the American species.

and as long as the face. Maxillæ enlarged and rounded or truncated at extremity. Legs 3, 4, 1, 2, in both sexes. The posterior pairs long, both absolutely and relatively. The first and second pairs the stoutest. All the legs spined. Femur, patella and tibia of the third much longer than the same articulations in the fourth pair. Tarsus and metatarsus of the fourth nearly equal to the patella and tibia.

This genus differs from *Saitis* E. S.—to which it is closely related—in having the quadrangle of the eyes never wider in front; usually the clypeus is more than one-half the middle eyes; the third pair of legs is longer than the fourth. In *Saitis* the third and fourth pairs are equal or almost equal.

HABROCESTUM CORONATUM HENTZ.

Syn.: 1845. *ATTUS corontus* H., Journal Bost. Soc. Nat. Hist., vol. V.

1875. *ATTUS corontus*, *id.*, Coll. Arachn. Writ. by N. M. Hentz.

Ed. by Burgess, Boston, p. 64.

♂. juv. Total length 5.5 mm. Width of abdomen 2 mm.

Cephalothorax: length 2.9; width 2.

Legs, 3.8, 2.4, 5.2, 4.8.

Cephalothorax high. Ocular area equally wide in front and behind. First row of eyes straight; middle eyes subtouching; lateral a little more than one-half as large as middle eyes, separated from them by one-fourth of their own diameter; eyes of second row half way between lateral and dorsal eyes; dorsal as large as lateral eyes. Clypeus two-thirds as high as middle eyes, vertical. Anterior coxæ separated by more than width of labium.

Coloration: Cephalothorax black with some white hairs over the anterior eyes, and two curved longitudinal white bands on the thoracic part. Clypeus bright red, sometimes covered with white hairs. Abdomen black, with three transverse curved white bands, one at the base, the second in front of, and the third behind the middle of the dorsum, the second and third sometimes interrupted in the middle line, and having one or two white chevrons between them; behind the third curved band is a large central white spot, and on each side of the apex is a short longitudinal white band. Falces dark brown. Mouth-parts pale drab. Sternum, coxæ and venter light brown with white hairs. Palpi and legs brown with black hairs.

Habitat: Pennsylvania, Alabama, Iowa.

HABROCESTUM CECATUM HENTZ.

Plate I, figure 42. Plate IV, figures 42, 42a, 42b.

Syn.: 1845. *ATTUS cecatus* H., Journal Bost. Soc. Nat. Hist., Vol. V.
 1875. " " id., Coll. Arachn. Writ. by N. M. Hentz. Ed.
 by Burgess, Boston, p. 65.

♀. Total length 4.3 mm. Width of abdomen 1.7 mm.

Cephalothorax: length 2; width 1.8; height .9.

Legs, 3.6, 2.9, 4.4, 4.

Cephalothorax moderately high; cephalic part much inclined. Ocular area wider behind than in front. First row of eyes straight; middle eyes sub-touching; lateral less than one-half as large as middle eyes, separated from them by one-third their own diameter; eyes of second row half way between lateral and dorsal eyes; dorsal eyes a little smaller than lateral eyes. Clypeus retreating, two thirds as high as middle eyes. Anterior coxæ separated by fully the width of the labium.

Coloration: Cephalothorax black, with gray hairs above anterior eyes. Clypeus bright red. Abdomen black, more or less covered with whitish hairs, with a curved transverse white band, behind which are a white, diamond-shaped spot, two short, longitudinal, white bands on the sides, and two white dots near the apex. Falces, mouthparts, sternum, coxæ and venter brown, all with white hairs excepting the mouthparts. Femur of the first leg black, with a short brush of black hairs at distal end; patella and tibia covered with white hairs; metatarsus and tarsus brown; other legs dark brown with some white hairs; patella of the third with an elevation on the upper surface at the distal end; tibia of the third with a short projection which extends over the metatarsus.

Distinguished from *H. cornatum* by the projection on the tibia of the third leg.

Habitat: Pennsylvania, New York, Alabama.

HABROCESTUM VIRIDIPIES HENTZ.

Plate I, figure 43. Plate IV, figures 43, 43a.

Syn.: 1845. *ATTUS viridipes* H. Jour. Bost. Soc. of Nat. Hist., Vol. V.
 1875. " " id., Coll. Arachn. Writ. by N. M. Hentz.
 Ed. by Burgess, Boston, p. 66.

♂. Total length 4.8 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.3; width 1.8; height 1.4.

Legs 3.5, 3.3, 5.2, 4.6; patella and tibia of the first, 1.8; patella and tibia of third, 2; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.9.

♀ Total length 5.8 mm. Width of abdomen 3 mm.

Cephalothorax: length 2.3; width 2; height 1.6.

Legs 3.9, 3.7, 4.8, 4.2; patella and tibia of the first, 1.6; patella and tibia of the third, 2; patella and tibia of the fourth, 1.8; metatarsus and tarsus of the fourth, 1.8.

Cephalothorax moderately high. Ocular area equally wide in front and behind. First row straight, all the eyes sub-touching; lateral less than one-half as large as middle eyes; eyes of second row half way between lateral and dorsal eyes; dorsal as large as lateral eyes. Clypeus nearly two-thirds as high as middle eyes, vertical. Anterior coxæ separated by width of labium.

Coloration: Cephalothorax black with two wide longitudinal bands of grayish hairs which arise on the posterior thoracic region and extending forward, surround the dorsal eyes, and meet just in front of them, thus occupying nearly the whole of the cephalic part. Clypeus covered with white hairs. Abdomen blackish with a basal band, a scalloped band which encircles the posterior two-thirds of the dorsum, and a central spot of a yellowish white color. The spot and the inner side of the encircling band are edged with deep black. The other parts are of a lighter or darker brown color, the sternum being sometimes much darker than the coxæ.

Habitat: Texas, South Carolina.

HABROCESTUM PEREGRINUM PECKHAM.

Plate I, figure 44. Plate IV, figure 44, 44a, 44b.

Syn.: 1883. *ATTUS peregrinum* P., Descr. new or little known Attidæ of U. S., p. 17.

♂. Total length 5.3 mm. Width of abdomen 1.9 mm.

Cephalothorax: length 2.9; width 2; height 1.2.

Legs 5.3, 4.5, 6.4, 5.6; patella and tibia of the first, 2.6; patella and tibia of the third, 2.4; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax high, especially behind; cephalic part much inclined. Ocular area a little wider behind than in front. Anterior eyes all small, in a straight row; middle eyes sub-touching; lateral a little more than one-half as wide as middle eyes, separated from them by one-third their own diameter; eyes of second row slightly nearer lateral than dorsal eyes; dorsal a little larger than lateral eyes. Clypeus two-thirds

as high as middle eyes, retreating. Two unusually stout spines on tibia of the first pair; patella of the third widening toward distal end where it projects over tibia; this widened portion bears a short pale spine which projects over tibia, just behind which, on the anterior face is a small black dot. Anterior coxæ separated by width of labium.

Coloration: Ground color of cephalothorax dark brown or black; upper surface of cephalic part covered with short fawn-colored hairs, bordered behind by a scalloped white band; thorax with two wide white bands which extend from dorsal eyes to posterior border; a wide white band extends entirely around the lower border, and below this is a narrow black line. Abdomen snowy white on sides and middle of dorsum, with two velvety black longitudinal bands extending throughout its length. Clypeus covered with thick, long, white hairs. Underparts and legs lighter or darker brown, well covered with white hairs.

This species is close to *H. Copardum* Hentz, but is distinguished from it by the apophysis on the third leg; this apophysis and the spines on the tibia of the first leg vary considerably in stoutness.

Habitat: New York, Connecticut.

HABROCESTUM CRISTATUM HENTZ.

Plate I, figure 45. Plate IV, figure 45.

Syn.: 1845. *ATTUS cristatum* H., Journal Bost. Soc. Nat. Hist., Vol. V.

1875. " " id., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 67.

♀. Total length 6.6 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 3.4; width 2.4; height 1.2.

Legs 4.8, 4.5, 6.8, 6.1; patella and tibia of the first, 2; patella and tibia of the third, 2.8; patella and tibia of the fourth, 2.2; metatarsus and tarsus of the fourth, 2.2.

Cephalothorax moderately high. Ocular area wider behind than in front. First row of eyes slightly covered; middle eyes sub-touching; lateral a little less than one-half as large as middle eyes, separated from them by one-third their own diameter; eyes of second row a little nearer dorsal than lateral eyes; dorsal as large as lateral eyes. Clypeus nearly two-thirds as high as middle eyes, retreating. Anterior coxæ separated by less than width of labium.

Coloration: Cephalothorax dark, nearly covered with grayish hair. Clypeus covered with white hairs. Abdomen covered with grayish rufus hair with two spots on the anterior part, a slender band which curves upward from the sides over the middle part, and a small ring

on the posterior region black. Falces and mouthparts dark brown. Sternum and coxæ light brown. Legs brownish rufus. Venter covered with grayish hair.

Habitat: New York, Connecticut, Alabama.

HABROCESTUM AURATUM HENTZ.

Plate I, figure 46a. Plate IV, figures 46, 46a, 46b.

Syn: 1845. *Attus auratum* H., Jour. Bost. Soc. Nat. Hist., Vol. V.
1875. " " Coll. Arachn. Writ. by N. M. Hentz, Ed. by
Burgess, Boston, p. 66.

♂. Total length 5 mm. Width of abdomen 1.9 mm.

Cephalothorax: length 2.8; width 1.8; height 1.

Legs 4, 3.8, 5.8, 4.2; patella and tibia of the first, 1.8; patella and tibia of the third, 2.1; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.6.

♀. Total length 6.4 mm. Width of abdomen 3 mm.

Cephalothorax: length 3.2; width 2.2; height 1.1.

Legs 4.5, 4.3, 6.2, 4.8; patella and tibia of the first, 2; patella and tibia of the third, 2.4; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax moderately high, ♀ less convex than ♂; cephalic part inclined more in ♂ than in ♀. Ocular area equally wide in front and behind. First row of eyes straight, middle eyes sub-touching; lateral a little less than one-half middle eyes, separated from them by (♀) one-third their own diameter, (♂) scarcely so much; eyes of second row very slightly nearer lateral than dorsal eyes, dorsal as large as lateral-eyes. Clypeus two-thirds as high as middle eyes, retreating. Anterior coxæ separated by scarcely the width of the labium.

Coloration: ♂. Cephalothorax covered with short black hairs which are intermingled with others of a yellowish brown color, these latter being by far the most numerous in the eye region and giving to that part its predominating tint. Three white bands come up on to the caput from the interspaces in the first row of eyes; the central one of these terminates behind the middle of the eye region; the lateral ones pass just above the small median eyes, surround the dorsal eyes and on the thoracic part curve first toward, and then away from each other, terminating at the posterior border. Around the lower margin is a black line, and just above this a band of white. Abdomen black encircled by a wide white band and having a central longitudinal white band which ends a little in front of the spinnerets. Clypeus and falces blackish brown, clypeus sparsely covered with

short, and falces with long white hairs. Sternum black, and coxæ light yellowish brown, both being covered, not very thickly, with white hairs. Venter gray, covered thickly with a mixture of black and white hairs. Legs and palpi medium brown with many white scales and some black hairs. Femur of the first with a distinct tuft of stiff black hair on the under side. Patella of the first with a small, and tibia of the first with a much larger tuft of stiff black hairs on the upper surface. ♀. Cephalothorax covered with gray hairs. Abdomen covered with gray hairs, with a basal band, two oblique bands on each side, two spots near the apex, and a central line of chevrons white. Falces reddish brown. Underparts, legs and palpi covered with short white hairs.

This species is close to *H. peregrinum* but the two species are distinguished from each other by the differences in the first and third pairs of legs. *Habitat*: New York, South Carolina, Georgia.

HABROCESTUM HIRSUTUM. Nov. Sp.

Plate IV, figures 47, 47a.

- ♂. Total length 5.8 mm. Width of abdomen 2 mm.
 Cephalothorax: length 3; width 1.7; height 1.4.
 Legs 4.9, 3.9, 5.8, 5.4; patella and tibia of the first, 1.7; patella and tibia of the third, 2; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.9.
 Cephalothorax high, slightly convex behind, dilated in the middle, with sides rounded more widely behind than in front; cephalic part plane, not inclined; thoracic sloping slightly in the first half, then more steeply. Ocular area occupying two-fifths of cephalothorax, not quite one-third wider than long, wider behind than in front. First row of eyes straight; middle eyes sub-touching; lateral less than one-half as large as middle eyes and a little separated from them; eyes of second row half way between lateral and dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus inclined backward, nearly as high as middle eyes. Falces as wide as the two middle eyes, a little shorter than face, parallel, inclined backward; fang rather long. Maxillæ parallel, short, square, truncated. Labium as wide as long, very short, rounded. Sternum oblong oval, nearly twice as long as wide, narrow. Anterior coxæ separated by width of labium; coxæ of the fourth touching. Legs of the first pair stoutest; femoral, tibial and metatarsal spines on the four pairs, and patellary spines on first and fourth; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax black, probably originally covered with short white and red hairs, with a band of white hairs and some long black hairs above the anterior eyes. Clypeus covered with red hairs. Abdomen and venter covered with short whitish brown hairs. Falces reddish brown. Mouthparts, sternum, coxæ and palpi brown. Legs brown with light hairs, first pair darkest with a fringe of stout black hairs on the tibia.

Habitat: Oregon.

HABROCESTUM SPLENDENS PECKHAM.

Plate I, figure 48. Plate V, figures 48, 48a.

Syn.: 1883. *ATTUS splendens* P., Descr. new or little known Attidæ of U. S., p. 4.

1885. *PELLENES nigroceps* Keyserling, Neue Spinnen aus Amerika, VI, Verhandlungen zoologisch-botanischen Gesellschaft., p. 26 (512).

♂. Total length 6.5 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 3; width 2.2; height 1.6.

Legs 3.9, 3.7, 4.9, 4.5; patella and tibia of the first, 1.9; patella and tibia of the third, 1.9; patella and tibia of the fourth, 1.8; metatarsus and tarsus of the fourth, 1.5.

♀. Total length 7.7 mm. Width of abdomen 2.9 mm.

Cephalothorax: length 3.1; width 2.5; height 1.3.

Legs 5.7, 4.5, 7.2, 5.8; patella and tibia of the first, 2; patella and tibia of the third, 3; patella and tibia of the fourth, 1.8; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax high and convex, a little dilated opposite dorsal eyes, sides nearly vertical in front, rounded behind; posterior margin truncated; Ocular area occupying two-fifths of cephalothorax, one-third wider than long, a little wider behind than in front; anterior row of eyes straight; middle eyes slightly separated; lateral less than one-half as large as middle eyes, separated from them by one-third their own diameter; eyes of second row half way between dorsal and lateral eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row a little narrower than the cephalothorax at that place. Clypeus (♂) nearly as high, (♀) one-half as high as middle eyes. Falces extending to inner edges of lateral eyes, but little longer than the face, vertical, parallel; fang short. Maxillæ parallel, widely separated, enlarged and blunt at extremity; labium as wide as long, a little less than one-half as long as maxillæ, blunt. Sternum narrowed at both ends, truncated in front, rounded behind; (♂) twice as long as wide, (♀) relatively shorter. Anterior

coxæ separated (δ) by scarcely width of labium, (φ) by more than width of labium. Legs of the first and second pairs stoutest; femoral, patellary, tibial and metatarsal spines on the four pairs; δ with spines on trochanters; metatarsi of the fourth spined throughout their length.

Coloration: δ . Cephalothorax covered with dark but highly iridescent scales; under alcohol two whitish testaceous spots appear just behind dorsal eyes; lower margin black; some upright black hairs on anterior part of eye region. Abdomen bright iridescent red, lighter around margin, purplish on dorsum, four indented dots near base, and sometimes a whitish basal band; whole abdomen covered with sparse black hairs; spinnerets black; under alcohol the base and a curved oblique band on each side appear black, and the dorsum dark iridescent green with a short longitudinal red band, narrowest in the middle. Clypeus iridescent; falces dark reddish brown with long white hairs on their inner edges; maxillæ white at extremities and on inner edges, otherwise reddish; labium reddish tipped with white; sternum testaceous, darker than coxæ, with white hairs; coxæ covered with white hairs; palpi and legs almost black; venter iridescent red with two indistinct darker longitudinal bands. φ . Cephalothorax rufus, or more rarely black in the eye region, with a transverse black band between the dorsal eyes; posterior to this is a scalloped white or rufus band which curves forward in the middle; behind the scalloped band the thoracic part is black; the sides are black above, and white below; the margin has a narrow black line between two white lines. Abdomen velvety black, with basal, central, and lateral white bands, which are sometimes tinted with salmon-color. Clypeus covered with white hairs; falces reddish, with white hairs on anterior face; maxillæ and labium brown; palpi and legs varied with rufus and black, with white hairs; venter covered with whitish and rufus hairs.

Count Keyserling has kindly sent us a specimen of his *Pellenes nigroceps* which we find to be identical with *H. splendens*. The female of this species is extremely variable, especially in the abdominal markings.

Habitat: Wisconsin, Massachusetts.

HABROCESTUM OREGONENSE Nov. Sp.

Plate V, figures 49, 49a.

δ . Total length 5.8 mm. Width of abdomen 1.9 mm.

Cephalothorax: length 2.5; width 1.6; height 1.

Legs 5, 3.8, 6, 5.5; patella and tibia of the first, 2.3; patella and tibia of the third, 2.5; patella and tibia of the fourth, 2; metatarsus and tarsus of the fourth, 2.

Cephalothorax high, convex, a little dilated behind dorsal eyes, with sides slightly concave in front and a little rounded (nearly vertical) behind; cephalic part inclined; thoracic falling abruptly from a little way behind dorsal eyes. Ocular area occupying more than two-fifths of cephalothorax, one-third wider than long, equally wide in front and behind. Anterior eyes rather small, in a very slightly curved row; middle eyes sub-touching, scarcely twice as large as the lateral, which are scarcely separated from them; eyes of second row a little nearer dorsal than lateral eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus retreating, one-half as high as middle eyes. Falces but little wider than the two middle eyes, square, not long, parallel, a little inclined backward; fang extremely small. Maxillæ parallel, very small, wider and rounded at extremity. Labium small, a little more than one-third as long as maxillæ, as wide as long, rounded. Sternum nearly round. Anterior coxæ separated by more than width of labium at base. Legs of the first pair much the stoutest, with tibia nearly as wide as long, much enlarged in all directions, with fringes of stout hairs; patella and tibia also enlarged with some stout hairs; long and slender femoral, tibial and metatarsal spines on the four pairs, and patellar spines on the third and fourth; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax dark colored, nearly covered with bright iridescent red hairs, with which, on the cephalic part, some long black hairs are intermixed; lower border with a black line between two white lines; anterior eyes surrounded by white rings. Abdomen, venter, clypeus, falces, palpus and legs all covered with iridescent red hair. Mouthparts, sternum and coxæ very dark brown, with some short, white hairs.

Habitat: Oregon.

SAITIS PULEX HENTZ.

Plate I, figures 50, 50a. Plate V, figures 50, 50a.

- Syn.:* 1845. *ATTUS pulex* H., Journal Bost. Soc. Nat. Hist., Vol. V.
 1846.? *EUOPHRYS offuscata* C. K., Die Arachn., XIII, p. 218.
 1875. *ATTUS pulex* id., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, 65.
 1885. *CYRBA pulex* Keyserling, Neue Spinnen aus Amerika, VI, Verhandlungen zoologisch-botanischen Gesellschaft, p. 23 (509).

♂. Total length 4 mm. Width of abdomen 1.4 mm.

Cephalothorax: length 2.5; width 1.1; height 1.2.

Legs 2.5, 2.5, 4, 4; patella and tibia of the first, 1.3; patella and tibia of the third, 1.5; patella and tibia of the fourth, 1.5; metatarsus and tarsus of the fourth, 1.5.

♀. Total length 4.5 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 2.5; width 1.4; height 1.3.

Legs 3, 3, 4.4, 4.5; patella and tibia of the first, 1.3; patella and tibia of the third, 1.6; patella and tibia of the fourth, 1.6; metatarsus and tarsus of the fourth, 1.6.

Cephalothorax high and convex, a little dilated behind dorsal eyes, sides nearly vertical in front, and rounded behind, more widely in ♂ than in ♀; cephalic part inclined; thoracic part slanting a little from dorsal eyes, and dropping abruptly near posterior border. Ocular area occupying two-fifths of cephalothorax, one-fourth wider than long, slightly wider in front than behind. Anterior eyes on a projecting ridge, all sub-touching, in a slightly curved row; lateral about one-half as large as middle eyes; eyes of second row half way between lateral and dorsal eyes; dorsal a little smaller than lateral eyes, further from each other than from lateral borders, forming a row narrower than the cephalothorax at that place. Clypeus retreating, one-third as high as middle eyes. Falces but little wider than the two middle eyes, about as long as face, inclined backward, parallel; fang extremely weak. Maxillæ parallel, but little enlarged at extremity, (♂) almost truncated, (♀) blunt, inner edge vertical. Labium one-half as long as maxillæ, narrow and hollowed at base, enlarged in middle, contracted at tip (♂) nearly twice as long as wide, (♀) but little longer than wide. Sternum one-half longer than wide, truncated in front, narrow and rounded behind. Anterior coxæ separated by more than the width of the labium. Legs all slender; femoral, tibial and metatarsal spines on all the legs, and patellary spines on the third and the fourth; metatarsi of the fourth spined throughout their length. Femoral joints of the first and second not enlarged, but compressed, especially in ♂.

Coloration: Cephalothorax dark brown; eye region black; central thoracic region covered with gray and rufus hairs; lower margin black; reddish rings around anterior eyes. Abdomen dark brown or black; a white central band arises at base, and enlarging and then again narrowing, reaches the central point of the dorsum; posterior to this two short, oblique, white bands form a chevron whose apex, pointing forward, touches the extremity of the central band; near the apex are several small white chevrons; there is a white band on each side. The white dorsal markings in the ♀ are sometimes broken up as in figure 50; usually they resemble those of the ♂. Clypeus, falces, mouthparts, sternum and venter brown, glabrous. Palpi and legs

sometimes dark brown, sometimes pale with brown rings. Coxæ pale.

Habitat: New York, Pennsylvania, Wisconsin, Iowa, Tennessee, and Alabama.

PROSTHECLINA CAMBRIDGII Nov. Sp.

Plate I, figure 51. Plate V, figures 51, 51a.

♂. Total length 5.2 mm. Width of abdomen 2 mm.

Cephalothorax: length 2.7; width 2; height 1.9.

Legs 6.4, 5, 6, 6; patella and tibia of the first, 2.5; patella and tibia of the third, 2.1; patella and tibia of the fourth, 2; metatarsus and tarsus 2.

♀. Total length 5.8; width of abdomen 2.5.

Cephalothorax: length 2.5; width 1.8; height 1.7.

Legs 4.8, 4.5, 5.3, 5.7; patella and tibia of the first, 2; patella and tibia of the third, 2; patella and tibia of the fourth, 2; metatarsus and tarsus of the fourth, 1.9.

Cephalothorax rather high, convex, slightly dilated behind dorsal eyes, sides vertical; cephalic part inclined; ocular area occupying a little less than one-half cephalothorax, less than one-fourth wider than long, a little wider in front than behind. Anterior row of eyes a little curved; the four eyes sub-touching; lateral more than one-half as large as middle eyes; eyes of second row halfway between lateral and dorsal eyes; dorsal smaller than lateral eyes, nearer to each other than to lateral borders, in a row scarcely narrower than the cephalothorax at that place. Clypeus vertical, one-third as high as middle eyes. Falces extending to inner edges of lateral eyes, but little longer than face, vertical, parallel, fang short, weak. Maxillæ parallel, enlarged and rounded at tip; labium nearly as wide as long, a little more than one-half as long as maxillæ, rounded. Sternum nearly round, truncated in front. Anterior coxæ separated by a little more than the width of labium. Legs of the first stoutest, of the second next; femoral, tibial and metatarsal spines on the four pairs, throughout the length of the articulation on metatarsi of the fourth.

Coloration: Cephalothorax black, with some gray hairs above the anterior eyes, a white parenthesis on the anterior part of the thoracic region, and white bands on the lower sides; abdomen greyish rufus with four black spots; clypeus, falces, and sternum black with short white hairs; mouthparts and coxæ rufus; legs of the first, dark, nearly black, of the second, third, and fourth, varied with black, white and rufus, palpi rufus with black tarsi; venter covered with gray hairs.

This species agrees with the genus *Prostheclina* Keys., excepting that the relative length of the legs in the ♂ is 1, 3, 4, 2; not 1, 4, 3, 2.

Habitat: Florida.

ASTIA VITTATA HENTZ.

Plate I, figure 52, 52a. Plate V, figure 52, 52a.

- Syn.*: 1845. *ATTUS vittatus* H., Jour. Bost. Soc. Nat. Hist., Vol. V.
 1845. " *niger* (δ) id., ibid.
 1846. *PLEXIPPUS undatus* C. K., Die Arachn., XIII, p. 123.
 1848. *MAEVIA pencillata* (δ) C. K., Die Arachn., XIV, p. 69.
 1875. *ATTUS vittatus* H., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 64.
 1875. " *niger* (δ) id., ibid., p. 63.

δ . Total length 7 mm. Width of abdomen 2.1 mm.

Cephalothorax: length 3; width 1.9; height 1.7.

Legs 5.4, 5, 5.1, 6.3; patella and tibia of the first, 2.8; patella and tibia of the third, 2.8; patella and tibia of the fourth, 2.8; metatarsus and tarsus of the fourth, 2.8.

δ . Total length 8 mm. Width of abdomen 2.8.

Cephalothorax: length 3.4; width 2.4; height 2.

Legs 5.7, 5.6, 6.3, 6.9; patella and tibia of the first, 3.6; patella and tibia of the third, 2.9; patella and tibia of the fourth, 3.2; metatarsus and tarsus of the fourth, 3.

Cephalothorax moderately high, nearly plane, dilated behind dorsal eyes, with sides nearly vertical in front, and rounded behind; cephalic part a little inclined forward; thoracic part slanting but little in the first half, steeply in the second. Ocular area occupying two-fifths of the cephalothorax, one-third wider than long, a little wider in front than behind; anterior eyes projecting forward, in a straight row; middle eyes touching; lateral one half as large as middle eyes, and slightly separated from them; eyes of second row half way between lateral and dorsal eyes; dorsal a little smaller than lateral eyes, further from each other than from the lateral borders, forming a row not quite so wide as the cephalothorax at that place. Clypeus (δ) one-half, (φ) one-third as high as middle eyes, slightly inclined. Falces (φ) but little wider than middle eyes, one-half longer than face, vertical, parallel; δ weaker and shorter than in φ ; fang weak. Maxillæ parallel, enlarged and rounded at extremity; labium a little longer than wide, one-half as long as maxillæ, contracted and blunt at tip. Sternum nearly twice as long as wide, scarcely projecting between anterior coxæ; anterior coxæ almost touching. (φ) first legs stoutest with femur, patella and tibia enlarged; (δ φ) with spines on trochanters, femora, patellæ, tibiæ and metatarsi of the four pairs, those on the femora numerous at the distal ends; (δ) legs and spines weaker than in φ .

Coloration. δ . Presenting two distinct varieties; the first has the thoracic part of the cephalothorax light brown and glabrous with a cen-

tral, longitudinal, black line, while the eye region is black with some short white hairs; the abdomen is mottled with black, red and white, sometimes with alternate white and red chevrons on the central region; clypeus white; falces, mouthparts, sternum and coxæ pale; venter covered with short white hairs; legs white with black spots and spines, and underneath on the femoral joints, characteristic, oblique, black bars; the second variety (*niger*) has the cephalothorax black, with a pale spot, divided by a longitudinal, black line, in the central thoracic region, and, on the posterior part of the eye region, forming a transverse row, three long tufts of black hairs; abdomen black; clypeus, palpi, falces, sternum, mouthparts, venter and sometimes coxæ very dark or black; legs pale, with a yellowish tint in comparison with the white legs of the first variety, tipped with black. Intermediate between these varieties is one which is nearly as dark as *niger*, with pale legs, but without the cephalic tufts. So unlike in general appearance are the extreme forms that they were placed by C. Koch in two different genera (*Plexippus undatus*, Die Arachniden, xiii, fig. 1183, and *Maevia pencillata*, Die Arachniden, xiv, fig. 1325). As this is an extremely common species we have compared large numbers of them, but have never found the tufts present in the first variety, which most resembles the ♀. ♀. Cephalothorax light brown in thoracic part, black in eye region, with short white and red hairs; abdomen white on sides and central dorsum, with two longitudinal bright red bands; in rubbed specimens the central region and sides are pale flecked and striped with reddish, and the bands are dark red; clypeus, falces, mouthparts, sternum, coxæ, palpi and legs pale; venter covered with short white hairs.

Habitat: United States.

ASTIA (?) MOROSA Nov. Sp.

Plate I, figure 53. Plate V, figures 53, 53a.

♂. Total length 5 mm. Width of abdomen 2.1 mm.

Cephalothorax: length 2.4; width 1.8; height 1.3.

Legs 5.4, 4, 5.1, 5.3; patella and tibia of the first, 2.5; patella and tibia of the third, 2.2; patella and tibia of the fourth, 2.2; metatarsus and tarsus of the fourth, 1.9.

♀. Total length 6 mm. Width of abdomen 3.2 mm.

Cephalothorax: length 2.9; width 2; height 1.7.

Legs 5.8, 4.9, 6.3, 6.8; patella and tibia of the first, 2.4; patella and tibia of the third, 2.3; patella and tibia of the fourth, 2.6; metatarsus and tarsus of the fourth, 2.4.

Cephalothorax high, especially behind, convex, a little dilated in the middle, with sides vertical in front and a little rounded behind; cephalic part plainly inclined; thoracic part slanting quite abruptly from a little behind dorsal eyes, the cephalothorax being evidently highest in the middle. Ocular area occupying a little more than one-third of cephalothorax, one-third wider than long, a little wider in front than behind. First row of eyes straight; middle eyes touching, lateral more than one-half as large as middle eyes, (♀) touching them, (♂) separated from them by one-fourth their own diameter; eyes of second row half way between dorsal and lateral eyes; dorsal as large as lateral eyes, (♂) equally distant from each other and lateral borders, (♀) a little nearer each other. Clypeus (♂) one-fourth, (♀) one-fifth as high as middle eyes, (♂) retreating, (♀) vertical. Falces as wide as the two middle eyes, (♂) a little longer than face, (♀) as long as face, parallel, inclined backward; fang weak, maxillæ parallel, narrow at base, enlarged at extremity, and truncated. Labium as wide as long, less than one-half as long as maxillæ, contracted at tip. Sternum nearly twice as long as wide, rounded in front, pointed behind. Anterior coxæ separated (♀) by width of labium, (♂) more widely. Legs (♂) of the first very slightly stouter than the others, (♀) equally stout; femoral, tibial and metatarsal spines on the four pairs; (♂) with patellary spines; metatarsi of the fourth spined throughout their length.

Coloration: ♂. Cephalothorax pale in thoracic part, much darker in eye region, probably originally covered with short white hairs; marginal line black; middle anterior eyes surrounded by rings of white hairs. Clypeus reddish brown. Abdomen with a black central longitudinal line over the anterior part of the dorsum, which bifurcates posteriorly, thus bounding a large triangular pale spot; this spot is limited behind by some irregular black marks; the sides are pale with black dots and spots. Falces, mouthparts, sternum and coxæ all light brown. Venter pale with black dots. Legs brown with black rings and tips, the color being considerably darker on the last three joints of the first leg. ♀. Cephalothorax and abdomen black, almost covered with mixed red and gray hairs; on the abdomen these hairs are thick at the base, and form three wide longitudinal bands, one central and two lateral, over the dorsum, and a large triangular spot behind the middle point; near the apex, on each side, are two white dots, the anterior larger and a little external to the posterior. Clypeus covered with short white hairs. Falces dark brown. Mouthparts, sternum and coxæ light brown. Legs and palpi brown with darker rings. Venter pale with irregular black dots.

Habitat: California.

MÆVIA CALIFORNICA Nov. Sp.

Plate V, figures 54, 54a.

♂. Total length 6 mm.

Cephalothorax: length 2.1; width 1.5; height 1.2.

Legs 5.7, 4.5, 4.5, 5.5; patella and tibia of the first, 2.3; patella and tibia of the third 1.9; patella and tibia of the fourth, 2.1; metatarsus and tarsus of the fourth, 2.

Cephalothorax high, convex; sides nearly parallel, almost vertical in front, and rounded behind; cephalic part very slightly inclined; thoracic slanting from just behind dorsal eyes. Ocular area occupying two-fifths of cephalothorax, one-third wider than long, equally wide in front and behind. Anterior eyes small, sub-touching, in a slightly curved row; middle scarcely twice as large as lateral eyes; eyes of second row a little nearer lateral than dorsal eyes; dorsal as large as lateral eyes, nearer to each other than to lateral borders, forming a row about as wide as cephalothorax at that place. Clypeus one-half as high as middle eyes, slightly inclined backward. Falces nearly as wide as first row of eyes, one and one-half times as long as face, parallel, slightly inclined backward; fang moderately long. Maxillæ parallel, enlarged at the extremity, with projection at outer corner. Labium less than one-half as long as maxillæ, as wide as long, rounded. Sternum plane, a little longer than wide, truncated in front, rounded behind. Anterior coxæ separated by width of labium. Legs of the first and second pairs stoutest with femoral joints compressed; tibial and metatarsal spines (stoutest on first and second), on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Entire spider black, excepting the tarsi and sometimes the distal ends of the metatarsi, which are pale.

Habitat: California.

CYTÆA (?) *MINUTA* Nov. Sp.

Plate I, figure 55. Plate V, figures 55, 55a.

♂. Total length 4.8 mm. Width of abdomen 1.6 mm.

Cephalothorax: length 2.1; width 1.6; height 1.1.

Legs 4, 3, 3, 6, 3; cephalothorax much longer than patella and tibia of the first; patella and tibia of the third longer than patella and tibia of the fourth; patella and tibia of the fourth and metatarsus and tarsus of the fourth equal.

♀. Total length 5 mm. Width of abdomen 1.6 mm.

Cephalothorax: length 2.3; width 1.5; height 1.1.

Legs 3.8, 3.5, 4.1, 4.8; cephalothorax much longer than patella and tibia of the first; patella and tibia of the third shorter than patella and tibia of the fourth; patella and tibia of the fourth and metatarsus and tarsus of the fourth equal.

Cephalothorax low, flat, a little contracted behind, with sides nearly vertical in front, and slightly rounded posteriorly; cephalic part not inclined; thoracic part level in the first half, then falling steeply. Ocular area occupying a little less than two-fifths of cephalothorax, one-fourth wider than long, equally wide in front and behind. Anterior eyes sub-touching, in a straight row; middle scarcely twice as large as lateral eyes; eyes of second row halfway between lateral and dorsal eyes; dorsal as large as lateral eyes, further from each other, nearly as wide as cephalothorax at that place. Clypeus scarcely perceptible. Falces as wide as first row of eyes, a little longer than face, vertical, parallel; fang short and weak. Maxillæ parallel, enlarged at extremity, (δ) with small projection at outer corner. Labium more than one-half as long as maxillæ, longer than wide, contracted and rounded at tip. Sternum one-fourth longer than wide, truncated in front. Anterior coxæ separated by width of labium. Legs nearly equally stout; femoral, tibial and metatarsal spines on the four pairs; on tibiæ and metatarsi of the third and fourth more above than below; metatarsi of the fourth spined throughout their length.

Coloration. δ . Cephalothorax with thoracic part dark brown, and cephalic part with short rufus and long black hairs, three reddish tufts appearing between the anterior eyes, which are surrounded by red rings; there are three longitudinal white bands, one central, running from the anterior eyes to the posterior border, and one on each lower side above the black marginal line. Clypeus covered with yellowish white hairs. Abdomen dark brown or blackish with a central longitudinal abbreviated white line not reaching the middle, and, on each side, a longitudinal white line which reaches beyond the middle, posterior to which are three transverse curved white marks, one behind the other. Falces and mouthparts dark brown. Palpi covered with thick white hairs above, and sparse black hairs below. Sternum, coxæ and legs light brown, the legs with darker rings, and tipped with black. Venter covered with white hairs.

δ . Cephalothorax resembling that of δ but with a greater tendency to reddish color in the eye region, with the white of the bands not so clear, and with the central band extending only from the dorsal eyes to the posterior border. Abdomen dark brown or blackish, with a wide, notched, central, longitudinal white band extending nearly to the apex, just behind which, on each side, is a short, oblique, white line; there is a white transverse band at the apex, and, on each side of the dorsum, a longitudinal row of four or

five white spots. Palpi pale with white hairs. Other parts like ♂ excepting that the legs are paler.

Habitat: California.

CYRBA TÆNIOLA HENTZ.

Plate I, figure 56. Plate IV, figure 56a. Plate V, figures 56, 56b.

Syn.: 1845. *ATTUS tæniola* H., Journal Bost. Soc. Nat. Hist. Vol. V.
1875. " " id., Coll. Arachn. Writ. by N. M. Hentz.
Ed. by Burgess, Boston, p. 56.

♂. Total length 4 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.2; width 1.8; height 1.2.

Legs 4.8, 3.6, 3.6, 5.1; patella and tibia of the first, 2; patella and tibia of the third, 1.3; patella and tibia of the fourth, 2.2; metatarsus and tarsus of the fourth, 1.7.

♀. Total length 6.7 mm. Width of abdomen 2.2 mm.

Cephalothorax: length 2.7; width 2.1; height 1.2.

Legs 4.4, 3.6, 3.7, 4.9; patella and tibia of the first, 2; patella and tibia of third, 1.6; patella and tibia of the fourth, 2.3; metatarsus and tarsus of the fourth, 1.7.

Cephalothorax low, flat, sides nearly parallel, and almost vertical in front, rounded behind; cephalic part a little inclined; thoracic part almost level in anterior three-fourths, then falling abruptly. Ocular area occupying a little less than one-half cephalothorax, one-third wider than long, equally wide in front and behind. Anterior eyes projecting, in a straight row; middle eyes touching; lateral one-half as large, and scarcely separated from middle eyes; eyes of second row nearer lateral than dorsal eyes; dorsal not so large as lateral eyes, further from each other than from lateral borders, forming a row nearly as wide as cephalothorax at that place. Clypeus vertical, one-fifth as high as middle eyes. Falces but little wider than the two middle eyes, one-half longer than face, vertical, parallel; fang weak and short. Maxillæ widely separated, parallel, long, a little enlarged and rounded at extremity. Labium one-half as long as maxillæ, a little longer than wide. (♂) truncated, narrower than in ♀, (♀) blunt. Sternum not projecting between anterior coxæ, rounded in front and behind, (♂) one-fourth longer than wide, (♀) twice as long as wide. Anterior coxæ nearly touching. Legs of the first much the stoutest, with femoral joints compressed; tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax black, with lower margin white. Abdomen black with two longitudinal rows of white dots or abbreviated lines. Clypeus, falces, mouthparts, sternum, coxæ, palpi and venter black.

Legs of the first and second pairs black, excepting metatarsi and tarsi which are light rufus; third and fourth light rufus, excepting femoral joints which are black.

Habitat: Pennsylvania, South Carolina, Alabama, Georgia, Florida, Wisconsin.

PIBBLEBUB SCENICUB CLERCK.

Plate 1, figure 57. Plate IV, figure 57.

- Syn.*: 1757. *ARANEUS scenicus* Cl., Sv. Spindl., p. 117 (saltem ad. part.)
 1758. *ARANEA scenica* Linn., Syst. Nat., Ed. 10, I, p. 623, (saltem ad part.)
 1778. “ *albo-fasciata* De Geer, Mem., vii, p. 287 (saltem ad part.)
 1805. *ATTUS scenicus* Walck. Tabl. d. Aran., p. 24 (ad part).
 1806. *SALTICUS scenicus* Latr., Gen. Crust. et Ins., I, p. 123 (saltem ad part).
 1825. *ATTUS scenicus*, Walck., Faune Franc., Arachn., p. 44 (ad part).
 1827. “ “ Hahn. Monogr. Aran., 4, Pl. I, figs. A, B.
 1831. *SALTICUS* “ *id.*, Die Arachn., I. p. 57 (saltem ad part.)
 1832. *PIBBLEBUB faustum* Hentz, Am. Jour. Sciencè and Arts, xxi, p. 108.
 1833. *ATTUS scenicus* Sund., Sv. Spindl. Beskrifn., in Vet.-Akad. Handl. f. 1832, p. 202.
 1837. *CALLIETHERA scenica* C. Koch, Uebers. d. Arachn.-Syst., I, p. 31.
 1837. “ *histrionica* id., ibid.
 1846. “ “ *id.*, Die Arachn., xiii, p. 42.
 1846. “ *scenica* id., ibid, p. 37.
 1846. “ *anlica* id., ibid, p. 51.
 1846. *SALTICUS propinquus* Lucus, Expl. Alg., Ar., p. 162.
 1846. “ *albovittatus* id., ibid, p. 164.
 1846. *PIBBLEBUB faustum* Hentz, Journal Bost. Soc. Nat. Hist., v, p. 367.
 1856. *CALLIETHERA histrionica* Thorell; Rec. crit. Aran., p. 68.
 1856. “ *scenica* id., ibid (ad part).
 1861. *SALTICUS scenicus* Blackw., Spid. of Gr. Brit., I, p. 47.
 1869. *CALLIETHERUS histrionicus* Sim., Monogr. d. Att. d'Eur., p. 650 (184).
 1870. *PIBBLEBUB histrionicum* Thorcel. on Eur. Spid., p. 211.
 1872. *PIBBLEBUB scenicum* id., ibid, II, p. 360.
 1876. *CALLIETHERA sceinca* Sim., Arachnides de France, III, p. 64.

1880. *EPIBLEMUM scenicum* Workman, Irish Spid., Belfast Nat. Hist. Soc., p. 16.
 1883. " " Campbell, Spid. of Hoddesdon, Hertfordshire Nat. Hist. Soc., p. 276.
 1884. *CALLIETHERA scenica* Sim., Arachnides de Miranda de Ebro, Soc. Esp. de Hist. Nat., xiii, 114 (2).
 1885. " " *id.*, Arachnides de Tunisie, p. 3.

♂. Total length 4.9 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.5; width 1.9; height 1.1.

Legs 3.9, 2.7, 2.7, 3.2.

♀. Total length 5.5 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.2; width 1.3; height 1.2.

Legs 3.8, 2.5, 3.2, 4.

Cephalothorax moderately high, slightly convex, a little dilated behind dorsal eyes, with sides almost vertical in front, and rounded behind; cephalic part slightly inclined; thoracic part falling gradually until the last one-third and then steeply. Ocular area occupying a little more than one-third of the cephalothorax, one-third wider than long, equally wide in front and behind. First row of eyes straight; middle eyes touching; lateral one-half as large as middle eyes, and scarcely separated from them; eyes of second row halfway between lateral and dorsal eyes; dorsal nearly as large as lateral eyes, further from each other than from lateral border, forming a row scarcely narrower than the cephalothorax at that place. Clypeus vertical, one-fourth as high as middle eyes. Falces not quite so wide as first row of eyes, (♂) four times as long as face, horizontal, diverging, with two teeth on distal third; fang long; (♀) one and one-half as long as face, vertical, parallel, fang short. Maxillæ long, (♂) truncated at tip, slightly diverging; (♀) rounded; parallel. Labium a little longer than wide, slightly contracted at tip, (♂) less than one-half, (♀) more than one-half maxillæ. Sternum rounded behind, truncated in front, about twice as long as wide, relatively wider in ♂ than in ♀. Anterior coxæ separated by width of labium. Legs of the first pair a little the stoutest; metatarsal spines on the third and fourth in terminal circles; (♀) femoral and tibial spines as well.

Coloration: Cephalothorax dark brown, with clypeus and lower border white, and two white spots in the anterior thoracic region. Abdomen rufus, with a basal band and two slightly oblique bands on each side of dorsum white. Falces dark brown, mouthparts and sternum blackish, with white hairs; coxæ brown. Palpi and legs light brown, with darker rings. Venter blackish, with white hairs.

Habitat: North America, Europe, North Africa.

ADMESTINA NOV. GEN.

Cephalothorax low and plane, a *little* widest opposite the middle of thoracic part, more contracted in front than behind, less than twice as long as wide, the cephalic and thoracic parts not separated. The thoracic part is twice as long as the cephalic part, and is truncated behind. In front the sides are nearly vertical while behind they are rounded. Quadrangle of eyes much wider — nearly twice — than long, and very little wider behind. Anterior row a little curved upward, the middle twice the lateral and near together; the lateral separated from the middle by almost one-half their own diameter. Second row small and placed two-fifths from the anterior lateral. Dorsal eyes slightly larger than lateral and as wide as the cephalothorax at that place; plainly further from each other than from the lateral borders. Clypeus one-half as high as the large middle eyes. Sternum nearly oval, not produced between the coxæ of the first pair, which are nearly touching. Maxillæ enlarged and blunt at the extremity. Labium as wide as long, and less than half of the maxillæ. Falces weak, wide as middle eyes, and a little longer than the face, vertical, parallel. Legs 4, 1, 3, 2; first pair stoutest; the tibia and patella of the first much shorter than the cephalothorax. Tibia and patella of the third shorter than tibia and patella of the fourth, the latter longer than the tarsus and metatarsus of the fourth. Legs without spines except on metatarsus of the first pair. Abdomen rather long and narrow. Nearest *Hyetia* Simon, but differs in the much greater width of the quadrangle of the eyes, in the quadrangle being wider behind, not parallel; and the relative length of the legs. The sternum is not narrow.

ADMESTINA WHEELERII NOV. SP.

Plate I, figure 58. Plate V, figure 58.

♂. Total length 3.7 mm. Width of abdomen 1.2 mm.

Cephalothorax: length 1.6; width 1; height 6.

Legs 2.3, 1.9, 2.1, 2.7; patella and tibia of the first, 1; patella and tibia of the third, 8; patella and tibia of the fourth, 1; metatarsus and tarsus of the fourth, 8.

Coloration: Cephalothorax and clypeus black. Abdomen pale, with a central longitudinal branching dark band. Falces and mouthparts dark brown. Sternum black. Coxæ dark brown, excepting those of the fourth pair which are pale. Venter pale with a wide, central dark band. Palpus brown. Legs pale with dark rings.

Habitat: Wisconsin.

HYCTIA PIKEI Nov. Sp.

Plate I, figure 59. Plate IV, figure 59a. Plate V, figure 59.

♂. Total length 8.2 mm. Width of abdomen 1.1 mm.

Cephalothorax: length 2.9; width 1.8; height .9.

Legs 7.1, 4, 3.6, 4.6; patella and tibia of the first, 3.1; patella and tibia of the third, 1.5; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 1.4.

♀. Total length 8.5 mm. Width of abdomen 1.1.

Cephalothorax: length 2.9; width 1.8; height .9.

Legs 6.3, 3.3, 3, 5; patella and tibia of the first, 2.8; patella and tibia of the third, 1.3; patella and tibia of the fourth, 2; metatarsus and tarsus of the fourth, 1.4.

Cephalothorax very low, flat, long and slender, being nearly twice as long as wide, contracted in front, the dilation beginning just in front of the dorsal eyes and increasing in the thoracic part; cephalic part plane, not inclined, sides vertical; thoracic part with sides a little rounded, sloping gradually from dorsal eyes to posterior margin. Ocular area occupying about one-third of cephalothorax, very little wider than long, equally wide in front and behind; anterior row of eyes distinctly visible from above, straight; lateral about one-third as large as middle eyes, scarcely separated from them; middle eyes touching; eyes of second row very small, halfway between lateral and dorsal eyes; dorsal smaller than lateral eyes, much farther from each other than from lateral borders, forming a row which is as wide as the cephalothorax at that place. Clypeus only a line. Falces extending in width to inner edges of lateral eyes, but little longer than face, vertical, parallel. Maxillæ parallel, long, narrow, truncated. Labium more than one-half as long as maxillæ, longer than wide, pointed. Sternum very long and narrow. Anterior coxæ (♂) very close together but separated by anterior end of sternum; (♀) separated by width of labium. Coxæ of fourth pair touching; second and third pairs of coxæ separated from each other by a considerable interval. First pair of legs much the longest and stoutest, with trochanters visible from above, and tibiæ enlarged. Femoral, tibial and metatarsal spines on the four pairs, and one small patellary spine on the first; spines on the tibiæ and metatarsi of the first very long and stout, on the third and fourth exceedingly weak and far apart. Abdomen, very long, slender and low.

Coloration: ♂. Cephalothorax very dark brown, blackish on eye region with some black hairs, and yellowish on the sides, with a black marginal line; abdomen with a wide, central, longitudinal, black band from base to apex, and some stiff black hairs at base; on each side below the black band, a band of whitish hairs; falces dark brown;

mouthparts light brown; sternum, coxæ and venter yellowish, first pair of legs dark brown, the others yellowish tipped with black. ♀. Much like ♂ but lighter in color; cephalothorax showing a slender, central, longitudinal black line from the middle of the cephalic to nearly the middle of the thoracic part; the central band on abdomen dark brown, the sides lighter, but not white; first legs darker than the others but lighter than in ♂.

Easily distinguished, as the abdomen is more than three times as long as wide.

Habitat: New York, South Carolina, Georgia, Florida.

MARPTUSA FAMILIARIS HENTZ.

Plate I, figure 60. Plate IV, figure 60a. Plate V, figure 60.

- Syn.*: 1845. *ATTUS familiaris*, H., Journal Bost. Soc. Nat. Hist., Vol. V.
 1846. *MARPISSA undata*, C. K., Die Arachn. XIII, p. 60.
 1846. " *conspersa* (♂) id., ibid., XIII, p. 61.
 1846. " *varia*, id., ibid., XIII, p. 69.
 1875. *ATTUS familiaris*, H., Coll. Arachn. Writ. by N. M. Hentz,
 Ed. by Burgess, Boston, p. 56.

♂. Total length 9.5 mm. Width of abdomen 2.9 mm.

Cephalothorax: length 4.4; width 3.2; height 2.1.

Legs 10.6, 8.4, 8.2, 10; patella and tibia of the first, 4.4; patella and tibia of the third, 2.9; patella and tibia of the fourth, 3.3; metatarsus and tarsus of the fourth, 2.9.

♀. Total length 10.5 mm. Width of abdomen 3.5 mm.

Cephalothorax: length 4.5; width 3.5; height 1.8.

Legs 9, 7.7, 7.7, 9.1; patella and tibia of the first, 3.8; patella and tibia of the third, 3; patella and tibia of the fourth, 4; metatarsus and tarsus of the fourth, 2.9.

Ocular area occupying less than one-third of cephalothorax, nearly twice as wide as long, and equally wide in front and behind. Anterior eyes in a scarcely curved row, the lateral less than one-half as large as the middle eyes, and separated from them by one-half their own diameter, while the middle eyes are slightly separated from each other; eyes of the second row halfway between lateral and dorsal eyes; dorsal a little smaller than lateral eyes, placed (♂) a little, (♀) plainly further from each other than from the lateral borders, forming a row much narrower than the cephalothorax at that place. Clypeus nearly vertical, rather less than one-half as high as middle eyes. Falces extending, in width, to the inner edges of the lateral eyes; one-half longer than face, parallel, vertical; fang short. Maxillæ parallel, enlarged and rounded at extremity. Labium a little

more than one-half as long as maxillæ, as wide as long; contracted and blunt at tip. Sternum one-half longer than wide, a little narrower in front than behind. Anterior coxæ separated by scarcely the width of the labium. Femoral, tibial and metatarsal joints of the first and second pairs enlarged. Metatarsi and tarsi slender; femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax rufus, darkest in the eye region, with short dense gray hairs, and a few long black hairs on each side in front; lower borders black; abdomen dark brown with the central region occupied by a wide, light gray, scalloped, longitudinal band; clypeus covered with long white hairs; falces dark reddish brown; sternum brown; palpus with a short brush of black hairs; legs dark brownish red, covered with adpressed white and upright black hairs. Venter pale gray, with a central longitudinal brown band which tapers to a point near the apex.

Habitat: United States, Mexico.

MARPTUSA CALIFORNICA Nov. Sp.

Plate I, figure 61. Plate V, figure 61. Plate VI, figure 61 a.

♂. Total length 9.2 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 3.8; width 2.9; height 1.8.

Legs 8.4, 7.4, 7.5, 8; patella and tibia, 3.6; patella and tibia of the third, 3; patella and tibia of the fourth, 3.5; metatarsus and tarsus of the fourth, 2.5.

♀. Total length 9 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 3.8; width 2.9; height 1.5; relative length of legs, 4, 1, 2 3/4.

Ocular area occupying a little more than one-third of cephalothorax, one-third wider than long, equally wide in front and behind. Anterior eyes in a slightly curved row; lateral one-half as large as middle eyes, separated from them by one-half their diameter; middle eyes sub-touching; eyes of second row very slightly nearer lateral than dorsal eyes; dorsal not quite so large as lateral eyes, (♂) slightly nearer each other than lateral borders, (♀) further from each other, forming a line narrower than cephalothorax at that place. Clypeus vertical, one-half as high as middle eyes. Falces rather short and weak, vertical, parallel. Maxillæ parallel, enlarged and rounded at extremity. Labium more than one-half as long as maxillæ, as wide as long, rounded at tip. Sternum nearly plane, one-third longer than wide, widest in middle. Anterior coxæ separated by a little less than the width of labium. Femoral, patellary and tibial joints of the first

and second pairs, enlarged; femoral, tibial and metatarsal spines on the four pairs; those on the metatarsus of the fourth, throughout their length.

Coloration: Cephalothorax very dark brown covered with gray hairs, with whitish hairs around the eyes; central upper surface of abdomen occupied by a wide, angular gray band; sides black with mixed gray and tawny hairs; clypeus with white hairs; sternum, coxae and mouthparts brown; sternum with some white hairs; falces brown; venter black; legs, excepting the tarsi, which are light in color, blackish with much gray and tawny hair.

Habitat: California.

MENEMERUS MELANOGNATHUS H. LUCAS.

Plate I, figures 62, 62a. Plate VI, figures 62, 62a.

- Syn.*: 1839. (?). *SALTICUS melanognathus* H. Lucas, Webb and Berthelot's Hist. Nat. des Iles Canaries, Tom. II, p. 29, pl. VII, fig. 4.
1846. *MARPISSA dissimilis* C. L. Koch, Die Arachn., XIII, p. 70, Tab. CCCCLIV, figs. 1135 and 1136.
1846. " *incerta* id.. *ibid.*, p. 73, Tab. CCCCLIV, fig. 1138.
1859. *SALTICUS convergens* Doleschall, Tweede Bijdr. Arachn. Indischen Archipel, p. 15, Tab. IX, fig. 4.
1863. *ATTUS muscivorus* A. Vinson, Araneides des Iles de la Reunion, etc., p. 47, Pl. X, fig. 1.
1867. *ATTUS foliatus* L. Koch, Arachn., etc., Verhandl. zool. and bot. Ges., in Wien, 1867, p. 226.
1870. *SALTICUS nigro-limbatus* Cambridge, Proceed. Zool. Soc. of London, 1869, p. 542, Pl. XLII, fig. 10.
1873. " *nigro-limbatus*, id., Transact. of the Linn. Soc. of London, XXVII, p. 527.
1874. *MARPISSA nigro-limbatus*, id., Syst. list of Spiders of Gr. Britain and Ireland, *ibid.*, XXX, p. 333.
1876. " *nigro-limbatus*, E. Simon, Arachnides de France, T. III, p. 29.
1878. *ICIUS* (?) *convergens* Thorell, Studi, etc., II, Ragni di Amboina, pp. 232, 309.
1879. *MARPTUSA marita* Karsch, West-Afrik. Arachn. in Zeitschr. f. die gesamt. Naturwissensch, LII, p. 338.
1879. *MENEMERUS foliatus* L. Koch, Arachn. Australiens, p. 1123, T. XCVIII, figg. 1, 2.
1881. *ICIUS* (?) *dissimilis* Thorell, Studi, etc., III, Ragni Malesi e. Papuani, p. 461.
1883. *ATTUS mannii* Peckham, New or little known spiders of the family Attidae, p. 27, Pl. III, fig. 21.
1883. *MENEMERUS melanognathus* E. Simon, Arachn. de l'Ocean Atlantique, Soc. Entom., France, pp. 284, 306.

We have *Attus muscivorus* Vinson from both Madagascar and Reunion, and find it to be identical with *M. melanognathus*.

♂. Total length 8 mm. Width of abdomen 2.7 mm.

Cephalothorax: length 3.3; width 2; height 1.3.

Legs 7.8, 7.2, 5.9, 7.9; patella and tibia of the first, 3.6; patella and tibia of the third, 2.2; patella and tibia of the fourth, 3; metatarsus and tarsus of the fourth, 2.3.

♀. Total length 9.5 mm. Width of abdomen 3.6 mm.

Cephalothorax: length 3.8; width 3; height 1.5.

Legs 6.8, 6.5, 7.4, 8.5; patella and tibia of the first, 2.8; patella and tibia of the third, 2.5; patella and tibia of the fourth, 3.3; metatarsus and tarsus of the fourth, 3.

Cephalothorax low and flat, dilated behind dorsal eyes, with sides almost vertical in front and rounded widely behind; cephalic part scarcely inclined; thoracic part slanting very gradually until near the posterior border. Ocular area occupying less than two-fifths of cephalothorax, one-fourth wider than long, equally wide in front and behind. First row of eyes straight; middle eyes sub-touching; lateral rather more than one-half as large as middle eyes, and slightly separated from them; eyes of second row half way between lateral and dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row narrower than the cephalothorax at that place. Clypeus scarcely one-fifth as high as middle eyes, vertical. Falces nearly as wide as the first row of eyes, more than twice as long as face, vertical, diverging a little at the extremities. Maxillæ parallel, long, narrow at base, rounded. Labium two-thirds as long as maxillæ, twice as long as wide, a little shorter in ♀ than in ♂, rounded at tip. Sternum deep set, nearly twice as long as wide, contracted in front, rounded behind. Anterior coxæ separated (♂) by about the width of the labium, (♀) a little less. Legs of the first pair a little stoutest. Femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax dark brown, with rufus hairs over anterior eyes, a wide white band low on each side, and a large patch of white hairs on the central thoracic region. Clypeus dark in the middle, with an oblique line of white hair on each side, these lines beginning below the anterior lateral eyes and extending over the clypeus and along the inner edges of the dark brown falces. Abdomen dark rufus with two wide longitudinal white bands composed of both short and long white hairs, and two black chevrons at the apex. Palpus with femur covered with white hairs, and tarsus black. Legs rufus with dark rings and a good many white hairs. Mouthparts, sternum and coxæ very dark, with white hairs. Venter gray with a wide central rufus band.

Habitat: Cosmopolitan. Florida, Mexico, Guatemala, Brazil, Islands of the Atlantic, England, France, Africa, Madagascar, Australia, Malay Archipelago.

MENEMERUS PAYKULLII AUD.

Plate I, 63. Plate VI, figures 63, 63a.

- Syn.*: 1825-27. *ATTUS paykullii* Aud. in Sav. Descr. de l' Egypte, 2. Edit., XXII, p. 172.
1837. " " Walck., Hist. Nat. des Insectes Aptères, I, p. 426.
1837. " *ligo* id., ibid., p. 426.
1845. " *binus* Hentz, Journal Bost. Soc. Nat. Hist., Vol. V.
1846. *PLEXIPPUS ligo* C. K., Die Arachn., XIII, p. 107.
1849. *SALTICUS vaillantii* Lucas, Expl. de l' Algerie Zool., I, p. 136.
1863. *ATTUS africanus* Vinson, Aran. des iles de 'la Réunion, Maurice et Madagascar, p. 52.
1865. *EUOPHRYS delibuta* L. Koch, Verhandl. d. zool. bot. Ges. in Wien, p. 874.
1875. *ATTUS binus* Hentz, Coll. Arachn. Writ. by N. M. Hentz, ed. by Burgess, Boston, p. 54.
1876. *HASARIUS paykullii* Sim., Arachnides de France, III, p. 81.
1881. *MENEMERUS* (?) " Thorell. Studi Sui Ragni Mal. et Pap., III, p. 501.
1881. " " Keyserling, Koch and Keyserling's, Die Arachn. Austral., p. 1461.
1885. " " Sim., Faune Archnologique de l' Asie Mérid., Bull. de la Soc. Zool. de France, p. 7.

We have *Attus africanus* Vinson from Madagascar and find it identical with *M. paykullii*.

♂. Total length 9 mm. Width of abdomen 2.7 mm.

Cephalothorax: length 4.5; width 3.1; height .2.

Legs 11, 9.2, 9.5, 10.5; patella and tibia of the first, 5; patella and tibia of the third, 3.5; patella and tibia of the fourth, 4; metatarsus and tarsus of the fourth, 4.

Cephalothorax high, convex, a little dilated behind dorsal eyes, with sides nearly vertical in front, and rounded behind; cephalic part inclined; thoracic part falling gradually from a little way behind dorsal eyes nearly to posterior border, then abruptly. Ocular area occupying two-fifths of cephalothorax, one-fourth wider than long, slightly wider in front than behind. Anterior eyes all projecting, in a curved row; middle eyes subtouching; lateral rather more than one-half as large as middle eyes, separated from them by one-third their own diameter; eyes of second row a little nearer lateral than dorsal eyes; dorsal smaller than lateral eyes, equally distant from each other and the lateral borders, forming a row narrower than the cephalothorax

at that place. Clypeus retreating, one-half as high as middle eyes. Falces not much wider than the two middle eyes, three times as long as face, vertical, parallel; fang not long. Maxillæ parallel, enlarged and rounded at extremity. Labium one-half as long as maxillæ, a little longer than wide, contracted and blunt at tip. Sternum nearly twice as long as wide, rounded behind, slightly contracted in front. Anterior coxæ separated by nearly the width of the labium. Legs of the first and second pairs stoutest; with femoral joints enlarged and compressed; femoral, patellary, tibial and metatarsal spines on the four pairs, those on third and fourth especially stout; metatarsi of the fourth spined throughout their length. There are some stout femoral spines on the palpus.

Coloration: Cephalothorax and abdomen white, with two wide longitudinal black bands extending from anterior eyes to spinnerets, and two white dots, one on each band, on the posterior part of the abdomen. Clypeus covered with white and rufus hairs; a reddish band extending from each anterior lateral eye downward to the lower border. Falces brown with fringes of white hairs on the inner borders. Mouthparts dark brown. Sternum and coxæ light brown. Venter black with a white band on each side. Palpi and legs light brown (legs of the first pair darkest) with white hairs and black spines.

Habitat: Florida, Guatemala, New Grenada (from collection of Count Keyserling), Europe, North Africa, India, Malay Archipelago, Australia, Madagascar.

HOMALATTUS (WHITE) 1841.

Cephalothorax rather low, as wide as long, flat above, a little contracted in front, the contraction beginning opposite the dorsal eyes, and truncated in front and behind, where it is hollowed to receive the anterior margin of the abdomen. Sides gently rounded. Cephalic part occupying about two-thirds of cephalothorax, not separated from thoracic part. Thoracic part level in the first half and then falling abruptly; this slanting portion being concealed by the overlapping abdomen gives the cephalic part, when looked at from above, an appearance of exaggerated length. Quadrangle of eyes much wider behind than in front, and, behind, one-third wider than long. First row of eyes straight or slightly curved; middle eyes near together; lateral one-half as large, and separated from the middle eyes, sometimes by more than one-half their own diameter. Eyes of second row at least twice as far from dorsal as from lateral eyes. Dorsal eyes as large as lateral, much further from each other than from lateral borders (often twice as far), forming a row as wide as cephalothorax at that place. Clypeus from one-fourth to one-half as high

as middle eyes. Maxillæ enlarged at extremity. Labium one-half as long, sometimes as wide as long, sometimes longer than wide. Sternum longer than wide, sometimes truncated in front, projecting between anterior coxæ. Anterior coxæ separated sometimes by more, sometimes by less, than width of labium.

The genus *Homalattus* is nearest *Ballus* from which it is not readily distinguished. The greater length of the cephalic part (two-thirds of cephalothorax instead of one-half as in *Ballus*) and the shape of the thoracic part enable one to decide. *Ballus* has the thoracic part contracted and the dorsum falling gently from the dorsal eyes; in *Homalattus* the sides are not contracted, and the fall, which does not begin at the dorsal eyes, is very abrupt. In *Zygoballus* the cephalothorax is very high and the thoracic part falls steeply from the dorsal eyes. *Rhanis* C. K., *Rhene* Thorell, and *Rhene* Tacz. are identical with *Homalattus* W.

HOMALATTUS CYANEUS HENTZ.

Plate I, figure 64. Plate VI, figures 64, 64a.

Syn.: 1845. *ATTUS cyaneus* Hentz, Journal Bost. Soc. Nat. Hist., Vol. V.

1848. *MAEVIA chrysea* C. Koch, Die Arachn., XIV, p. 83.

1875. *ATTUS cyaneus* Hentz, Coll. Arachn. Writ. by N. M. Hentz ed. by Burgess, Boston, p. 69.

1885. *HOMALATTUS septentrionalis* Keys., Neue Spinnen aus Amerika, VI, Verhandl. zool. bot. Gesel. in Wien, p. 29 (515).

♂. Total length 4.8 mm. Width of abdomen 1.2 mm.

Cephalothorax: length 1.8; width 1.5; height .7.

Legs 3.1, 2.2, 2, 2.5; patella and tibia of the first, 1.4; patella and tibia of the third, 8; patella and tibia of the fourth, 1; metatarsus and tarsus of the fourth, 1.

♀. Total length 4.6 mm. Width of abdomen 2.3 mm.

Cephalothorax: length 1.8; width 1.7.

Legs 3, 2.2, 2.4, 3.2; patella and tibia of the first, 1.2; patella and tibia of the third, 8; patella and tibia of the fourth, 1.1; metatarsus and tarsus of the fourth, 1.

Quadrangle of eyes barely one-third wider than long. First row of eyes straight. Anterior lateral separated from middle eyes by one-half their own diameter. Eyes of second row very small, and placed fully twice as far from dorsal as from lateral eyes. Clypeus one-half as high as middle eyes. Falces as wide as first row of eyes, one and one-half times as long as face, vertical, parallel, anterior surface plane. Maxillæ truncated. Labium one-half as long as maxillæ, about as wide as long, contracted and rounded at tip. Sternum oval, nearly

twice as long as wide. Anterior coxæ separated by about the width of the labium. First leg with femur, patella and tibia enlarged. Femoral, tibial and metatarsal spines on the four pairs.

Coloration. Our specimens are somewhat damaged: the ♂ has the scales all rubbed off and appears entirely black excepting some yellowish hairs on the clypeus, and pale rings on the metatarsi of the second, third and fourth legs. On the cephalothorax and abdomen of the ♀ there are left a few yellowish white, somewhat metallic scales; otherwise it is like the ♂. Hentz describes this species as brassy-green.

Count Keyserling has kindly sent us a specimen of his *H. septentrionalis* and we find it identical with *cyaneus*.

Habitat: Iowa, New York, Pennsylvania, Massachusetts, North Carolina, Alabama, Georgia, Nebraska.

BALLUS YOUNGHII Nov. Sp.

Plate I, figure 66. Plate VI, figures 66, 66a, 66b.

♂. ♀. Total length 2.8 mm. Width of abdomen 1.4 mm.

Cephalothorax: length 1.5; width 1.2; height .6.

Legs 1.9, 1.7, 1.6, 2.1. Cephalothorax a little longer than patella and tibia of the first; patella and tibia of the third shorter than patella and tibia of the fourth; patella and tibia of the fourth longer than metatarsus and tarsus of the fourth.

Cephalothorax low, plane, a very little dilated behind middle, with sides vertical in front and slightly rounded behind; cephalic part not inclined; thoracic part not slanting until it reaches the posterior border, where it is truncated and a little hollowed. Ocular area occupying nearly one-half cephalothorax, one-third wider than long, slightly wider behind than in front. Anterior eyes touching, in a straight row; middle twice as large as lateral eyes; eyes of second row halfway between lateral and dorsal eyes; dorsal as large as lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus much inclined backward, two-thirds as high as middle eyes. Falces very weak, about as long as face, parallel, inclined backward; fang very weak. Maxillæ parallel, short, wider and truncated at extremity. Labium short, twice as wide as long, rounded. Sternum oval, rather short. Anterior coxæ separated by width of labium; coxæ of the fourth touching. Legs of the first and second pairs stoutest, with femoral joints compressed; inferior rows of spines on the tibiæ and metatarsi of the four pairs. Anterior end of abdomen fitting into excavation at posterior end of cephalothorax.

Coloration: Cephalothorax, clypeus, abdomen and venter black, thinly covered with short yellow hairs; on the abdomen the thickening of these hairs forms two yellow spots on the anterior part, and three transverse yellow bands. Falces, mouthparts, sternum and coxæ light brown. Palpi and legs brown with some short yellow hairs.

The following remarks are from a letter written by Col. John J. Young, of Allegheny, Pa., to whom we are indebted for this species:

"These spiders are found at this season (November) under the bark of trees, usually hickory and sycamore. You will note that the general color of the spider corresponds with the rusty brown of the under side of the bark of the shag-bark hickory when first pulled off. In that hibernating locality it covers itself with a thin bluish envelope. The spider is so nearly of the bark color, and so small that we would often overlook the speck in the centre of the envelope, supposing it to be merely the empty tube or cell of some young spider."

Habitat: Pennsylvania.

NEON NELLII Nov. Sp.

Plate I, figure 65. Plate VI, figure 65.

♂. Total length 2.5 mm. Width of abdomen 1.2 mm.

Cephalothorax: length 1.3; width .9; height .5.

Legs —, 1.8, 2.1, 2.9.

♀. Juv. legs 4, 3, 1, 2.

Cephalothorax not high, convex, a little contracted behind dorsal eyes, sides nearly vertical in front, rounded behind; cephalic part much inclined; thoracic part sloping from just behind dorsal eyes. Ocular area occupying more than one-half cephalothorax, less than one-fifth wider than long, equally wide in front and behind. First row of eyes straight, all four touching; lateral one-half as large as middle eyes; eyes of second row a little nearer lateral than dorsal eyes; dorsal larger than lateral eyes, further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus slightly inclined, about one-fourth as high at middle eyes. Falces not as wide as two middle eyes, short, parallel, vertical; fang very weak. Maxillæ nearly parallel, rather long, rounded; labium wider than long, about one-third as long as maxillæ. Sternum convex, triangular, truncated in front. Anterior coxæ separated by more than width of labium. First legs stoutest; femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax brown, darkest in eye region. Abdomen brown with pale spots and chevrons. Palpi and legs pale with black rings; first legs darkest; remaining parts dark brown or black.

This species agrees with the genus *Neon* as defined by Simon, excepting that all the legs are spined.

Habitat: Pennsylvania, Canada (Collection of J. B. Tyrrell.)

ZYGOBALLUS SEX-PUNCTATUS HENTZ.

Plate I, figure 67. Plate VI, figures 67, 67a.

Syn.: 1844. *ATTUS sex-punctatus* H., Journal Bost. Soc. Nat. Hist., Vol. IV.
1875. " " id., Coll. Arachn. Writ. by N. M. Hentz.
Ed. by Burgess, p. 54.

Total length 3 mm. Width of abdomen .8 mm.

Cephalothorax: length 1.8; width 1.6; height .8.

Legs 3.7, 2.2, 2, 3.

Cephalic part growing wider to the dorsal eyes; general appearance from above quadrangular, with projecting corners behind dorsal eyes; dorsal eyes placed on sides, below dorsum, forming a row wider by the amount of their projection than the cephalothorax at that place. Middle anterior eyes touching, lateral sub-touching; dorsal as large as lateral eyes. Labium two-fifths as long as maxillæ, as wide as long. Metatarsi of the third and fourth legs with only terminal circles of spines.

Coloration: Cephalothorax black with a spot of white hairs in front of each dorsal eye, and one between the dorsal eyes. Clypeus black, thinly covered with white hairs. Abdomen black with a white basal band and six white spots, two on each side near the middle of the dorsum, and two near the apex. Palpi and falces brown. Legs reddish or brown, first and fourth pairs darker than second and third. Under side black, with some white hairs on sternum and venter.

Habitat: North Carolina, Georgia, Florida.

ZYGOBALLUS BETTINI Nov. Sp.

Plate I, figures 68, 68a. Plate VI, figures 68, 68a, 68b.

♂. Total length 4.2 mm. Width of abdomen 1.7 mm.

Cephalothorax: length 1.8; width 1.3; height 1.3.

Legs 4.9, 3.3, 3, 4.4.

♀. Total length 4.4 mm. Width of abdomen 2 mm.

Cephalothorax: length 1.8; width 1.4; height 1.1.

Legs 4.4, 3.2, 3, 4.5.

Clypeus inclined backward. Falces (δ) nearly as wide as first row of eyes, twice as long as face, inclined forward, diverging; fang long; (φ) extending only to inner edges of lateral eyes; one and one-half times as long as face, vertical, parallel; fang small. Maxillæ (δ) widest in middle, blunt at tip, cut obliquely on inner side; (φ) a little widest at extremity, rounded. Labium one-half as long as maxillæ, (δ) longer than wide, (φ) as wide as long. Legs without patellary spines, excepting one on the first leg, (δ) coxæ and trochanter of the first elongated.

Coloration: δ . Cephalothorax bronze brown; eye region covered with reddish gold metallic scales; anterior faces of falces, clypeus and sides of cephalothorax as far back as second row of eyes, covered with white scale-like hairs. Abdomen bronze, with a silvery white band passing around base and downward onto the sides; a second white band, on each side, curves over the side from the upper to the under surface, and on the posterior dorsum are two more short curved white bands, these last being semi-circular in form. Mouth-parts, sternum and venter brown. First leg with elongated coxa and trochanter, as well as the femur, dark mahogany color; the other joints and all the other legs yellowish white.

φ . Cephalothorax bronze brown with metallic scales on eye region as in δ . Anterior eyes surrounded by rings of reddish yellow hair. Abdomen brown; a white band passes around the base and extends on to the sides; beyond the termination of this are two short white bars on each side; on the anterior half of the dorsum is a wide longitudinal band composed of reddish golden scales; the posterior edge of this band is notched. Behind the band are two chevrons of the same scales, and two short bands, one on each side of the spinnerets; two black spots are found in front of the first, and two more behind the second chevron. Femur of the first leg mahogany color; other joints and all the other legs white with some dark rings and spots.

Habitat: Wisconsin, Missouri, Georgia, Florida

AGOBARDUS ANORMALIS KEYSERLING.

Plate I, figure 69. Plate VI, figure 74.

1885. AGOBARDUS *anormalis* Keys., Neue Spinnen aus Amerika, VI, Ver-nandl. zool. bot. Gesel. in Wien, p. 33 (519).

δ . Total length 4.7 mm. Width of abdomen 1.4 mm.

Cephalothorax: length 2.6; width 2.

Legs 6.7, 4.9, 5.5, 5.6; patella and tibia of the first, 2.3; patella and tibia of the third, 1.9; patella and tibia of the fourth, 1.9; metatarsus and tarsus of the fourth, 2.

φ . Total length 4.6 mm. Width of abdomen 1.7 mm.

Cephalothorax: length 2.1; width 1.6.

Legs 3.8, 3.3, 4.6, 4.8; patella and tibia of the first, 1.4; patella and tibia of the third, 1.6; patella and tibia of the fourth, 1.8; metatarsus and tarsus, 1.7.

Cephalothorax very high at dorsal eyes but, in front, not higher than clypeus and lateral eye, on account of the steep inclination of the cephalic part. Sides nearly parallel, a very little dilated in the middle, vertical in front, rounded behind; thoracic part falling steeply from dorsal eyes. Quadrangle of eyes occupying one-half of cephalothorax, twice as wide as long, equally wide in front and behind. First row of eyes much bent; middle eyes sub-touching; lateral a little more than one-half as large, separated from them by one-half their own diameter. Eyes of second row a very little nearer lateral than dorsal eyes. Dorsal as large as lateral eyes, equally distant from each other and the lateral borders, forming a row as wide as cephalothorax at that place. Clypeus one-fifth as high as middle eyes. Falces extending to inner edges of lateral eyes, one and one-half times as long as face, inclined backward, a little diverging; fang weak. Maxillæ slightly diverging, enlarged and rounded at extremity. Labium one-half as long as maxillæ, as wide as long. Sternum nearly as wide as long, oval, projecting between anterior coxæ. Anterior coxæ separated by nearly the width of the labium. Legs of the first pair a little stoutest. Femoral, patellary, tibial and metatarsal spines on the four pairs; those on metatarsi of the fourth extending to base.

Coloration: Cephalothorax brown with a lighter central longitudinal band in thoracic part, in the midst of which is a spot of white hairs; the eyes are placed in black spots; the anterior part of the cephalic plate, the lower sides, and the clypeus are covered with white hairs; the lower margin is black. Abdomen brown, with a curved white basal band and a central wide white longitudinal band which is often indistinct in the anterior part, and is interrupted behind by a slender brown transverse curved band; this middle band gives off on either side two short white spots which are longer than wide, one in the middle of the first half, the other, oblique, just in front of the spinnerets. Venter dark brown or black with a white band behind and on the sides. Palpi yellowish brown excepting the last two joints which are black, with black hairs. Falces, mouthparts, sternum coxæ and legs reddish brown.

Habitat: United States.

ATTUS CAUTUS NOV SP.

♂ Juv. Total length 4.5 mm. Width of abdomen 1.6 mm.

Cephalothorax: length 2, width 1.5; height 9.

Legs 3, 3.2, 3.7, 4. Cephalothorax much longer than patella and tibia of the first; patella and tibia of the third shorter than patella and tibia of the fourth; patella and tibia of the fourth and metatarsus and tarsus of the fourth equal.

Cephalothorax moderately high, slightly convex, a little contracted behind, with sides vertical in front and rounded behind; cephalic part slightly inclined; thoracic falling gradually in the first two-fifths, then steeply. Ocular area occupying nearly one-half cephalothorax, one-third wider than long, equally wide in front and behind. Anterior eyes sub-touching, in a slightly curved row, the middle twice as large as the lateral eyes; eyes of second row halfway between lateral and dorsal eyes; dorsal as large as lateral eyes, a little further from each other than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus inclined backward, one-third as high as middle eyes. Falces as wide as the two middle eyes, as long as face, vertical, parallel. Maxillæ enlarged and blunt at extremity, parallel. Labium two-thirds as long as maxillæ, perhaps a little longer than wide, contracted and rounded at tip. Sternum one-fourth longer than wide, truncated in front. Anterior coxæ separated by more than width of labium. Legs of the first and second pairs slightly stoutest; femoral, tibial and metatarsal spines on the four pairs; metatarsi of the fourth spined throughout their length.

Coloration: Cephalothorax black with lower sides white, a white band above anterior eyes, another behind dorsal eyes, and a white spot in the middle of the cephalic part. Clypeus and falces covered with white hairs. Abdomen with the anterior third and the apex black, while the remaining portion is covered with bright yellowish brown hairs; there are four transverse white bands; two cross the anterior black region, one the brown region, and one separates the brown from the black region at the apex. Palpi light brown with thin white hairs. Mouthparts and coxæ light brown or pale. Sternum dark brown. Venter brown with a whitish longitudinal band on each side. Legs brown with blackish bands and some short white hairs.

Not wishing to found a new genus upon an immature specimen we put this species in the genus *Attus* Walck.

Habitat: Mexico.

SYNEMOSYNA (HENTZ) 1832.

Cephalothorax low, twice as long as wide, rounded and narrower behind; thoracic and cephalic part not separated; thoracic part plainly divided by two transverse constrictions and much longer than cephalic—sometimes twice as long. Quadrangle of eyes but little wider than long and a little wider behind than in front. First row of eyes a little curved; middle eyes touching, and three times as large as lateral eyes, from which they are slightly separated. Eyes of second row small and a little nearer lateral than dorsal eyes. Dorsal eyes larger than lateral and further from each other, than from lateral borders, forming a row as wide as cephalothorax at that place. Clypeus about one-fourth as high as middle eyes. Falces short, rather weak, vertical, parallel; fang weak. Maxillæ slightly enlarged and truncated at extremity, about twice as long as labium. Labium as wide as long, rounded. Sternum long, rather narrow, truncated in front, contracted behind, projecting between anterior coxæ. Anterior coxæ separated by at least the width of the labium at its base. Legs (♂) 4, 1, 3, 2, (♀) 4, 3, 1, 2, all slender; tibiæ and metatarsi of the first and the second, with two rows of inferior spines. Abdomen long, rounded, slender, with a marked constriction; pedicle of abdomen visible from above. *Synemosyna* differs from the other genera of ant-like Attidæ, in the following respects: *Synageles* Sim., *Leptorchestes* (Thorell) Sim., *Damoetas* Peckham, all have the quadrangle of the eyes longer than wide, and the constriction of the cephalothorax wanting, or, if present, very slight, and separating the cephalic and thoracic parts. *Agorius* Thorell has the patella of the first leg much elongated. *Paradamoetas* Peckham has no constriction of the cephalothorax. The last two genera resemble *Synemosyna* in having the quadrangle a little wider than long. It is nearest *Salticus* (Latr.) Sim.; *Salticus*, however, has the cephalic part on a higher plane than the thoracic, and the greater length of the maxillæ, and the labium being much longer than wide also distinguish it from *Synemosyna*.

SYNEMOSYNA FORMICA HENTZ.

Plate VI, figures 70, 70a.

- Syn.*: 1845. *SYNEMOSYNA formica* H., Journal Bost. Soc. Nat. Hist., Vol. V.
 1846. *JANUS gibberosus* C. K., Die Arachniden, XIII, p. 21.
 1875. *SYNEMOSYNA formica* H., Coll. Arachn. Writ. by N. M. Hentz. ed. by Burgess, Boston, p. 73.
 1883. *SYNEMOSYNA formica* Peckham, Descr. new or little known Attidæ of U. S., p. 30.

♂. Total length 3.9 mm. Width of abdomen 7mm.

Cephalothorax: length 1.8; width .8; height .7.

Legs 3, 2.2, 2.5, 3.2; patella and tibia of the first, 1; patella and tibia of the third, .9; patella and tibia of the fourth, 1.3; metatarsus and tarsus of the fourth, 1.2.

♀ Total length 5.4 mm. Width of abdomen 1.8 mm.

Cephalothorax: length 2.2; width .7; height .8.

Legs 2.7, 2.2, 2.8, 3.5; patella and tibia of the first, 1; patella and tibia of the third, 1.1; patella and tibia of the fourth, 1.7; metatarsus and tarsus of the fourth, 1.5.

Cephalothorax with one constriction a little way behind the dorsal eyes, and another just in front of the juncture of the thoracic part with the abdominal pedicle; abdomen with a deep constriction before the middle, posterior to which it is enlarged and rounded.

Coloration: Cephalothorax brown, lighter on the upper surface, sometimes blackish on the sides, smooth, glabrous, with a few short white hairs in the eye region; abdomen in front of the constriction pale rufus, with a darker longitudinal band on the upper surface; behind the constriction black with a pale band, which is narrow in the ♂, but in the ♀ is wider, occupying the anterior sides and curving downward under the venter; clypeus blackish; falces black with pale edges; maxillæ and labium black, edged with white; sternum pale anteriorly, blackish behind; venter pale in front, black toward apex. Legs of the first pair pale with an internal and external black line on the femur, patella and tibia; second all pale; third pale, excepting femur, which is light rufus; fourth femur rufus, patella pale at proximal, blackish at distal end, tibia proximal end blackish, shading into pale toward metatarsus, metatarsus and tarsus pale.

Habitat: United States.

SYNAGELES PICATA HENTZ.

Plate VI, figure 71.

Syn.: 1845. *SYNEMOSYNA picata* H., Journal Bost. Soc. Nat. Hist. Vol. V.
1875. " " id., coll. Arachn. Writ by N. M. Hentz,

ed. by Burgess, Boston, p. 75.

♀. Total length 4.2 mm. Width of abdomen 1.5 mm.

Cephalothorax: length 2; width .9; height .7.

Relative length of legs 4, 3, 1, 2.

Ocular area occupying a little more than one-half of cephalothorax, plainly longer than wide, and a little wider behind than in front. Anterior row of eyes very slightly curved; lateral less than one-half as large

as middle eyes, and slightly separated from them; eyes of second row twice as far from dorsal as from lateral eyes; dorsal eyes further from each other than from lateral borders. Clypeus fully one-half as high as middle eyes, vertical. Falces extending in width to inner edges of lateral eyes, a little longer than face, vertical, parallel. Maxillæ enlarged and blunt at extremity; labium semi-circular. Sternum twice as long as wide, contracted in front and behind. Anterior coxæ separated by scarcely the width of the labium. Abdomen with a constriction in front of the middle.

Coloration: Eye-region black with violet reflections; thoracic part reddish-brown with a short, transverse white band behind dorsal eyes. Anterior segment of abdomen reddish-brown; posterior segment glistening black with two white bands which begin at the constriction and curve downward over the sides. Venter with a semi-circular greenish-yellow spot behind the epigynum.

Habitat: North Carolina, Alabama, Wisconsin.

SYNAGELES SCORPIONA HENTZ.

Plate VI, figures 72, 72a.

Syn: 1845. SYNEMOSYNA *scorpionæ* H., Journal Bost. Soc. Nat. Hist., Vol. V.
1875. " " id., Coll. Arachn. Writ. by N. M. Hentz, ed. by Burgess, Boston, p. 74.

♂. Total length 2.4 mm. Width of abdomen 5 mm.

Cephalothorax: length 1; width, 8; height, 4.

Legs 2, 1.5, 1.5, 2.6.

♀. Total length 3.5 mm. Width of abdomen 1.2 mm.

Cephalothorax: length, 1.4; width, 8; height, 5.

Patella and tibia of the first, 1; patella and tibia of the third, 8; patella and tibia of the fourth, 1.1; metatarsus and tarsus of the fourth, 8.

Ocular area occupying nearly two-thirds of the cephalothorax, a little more than one-third longer than wide, and wider behind than in front. Anterior row of eyes very slightly curved, lateral about one-half as large as middle eyes and separated from them by one-fourth their own diameter; eyes of second row not quite twice as far from dorsal as from lateral eyes; dorsal eyes further from each other than from lateral borders. Clypeus, (♂) less than one-half, (♀) one-half as high as middle eyes, vertical. Falces as wide as the two middle eyes, about as long as the face, vertical, parallel. Maxillæ rather long, a little enlarged at extremity, (♂) truncated, (♀) rounded; anterior coxæ separated by more than the width of labium. First legs a little the stoutest, dark.

Coloration: ♂. Cephalothorax brown; abdomen brown anteriorly, encircled by a white line in front of middle, behind which it is blackish; other parts brown excepting a pale spot on the anterior part of the venter. ♀. Cephalothorax brownish with the eyes on black spots; abdomen pale with two short, curved, dark bands near the spinnerets; falces brownish, venter pale with a dark region near the spinnerets; legs brown above, pale beneath; other parts all pale.

Habitat: New York, Ohio, North Carolina.

SALTICUS EPHIPPIATUS HENTZ.

Plate VI, figure 73.

Syn.: 1845. SYNEMOSYNA *ephippiata* H., Journal Boston Soc. Nat. Hist. Vol. V.

1846. SALTICUS *albocinctus* C. K., Die Arachiden, XIII, p. 36.

1875. SYNEMOSYNA *ephippiata* H., Coll. Arachn. Writ. by N. M. Hentz. Ed. by Burgess, Boston, p. 74.

♂. Total length 5.2 mm. Width of abdomen 1.4 mm.

Cephalothorax: length 2.4; width 1.4; height 1.2.

Legs 5.3, 4.1, 4.5, 6.1; patella and tibia of the first, 2.4; patella and tibia of the third, 1.8; patella and tibia of the fourth, 2.6; metatarsus and tarsus of the fourth, 2.

Cephalothorax moderately high and slightly convex; sides almost parallel; ocular area very slightly wider than long, and equally wide in front and behind; anterior eyes small, in a straight row; lateral about one-half as large as middle eyes, separated from them by one-fourth their own diameter; eyes of second row halfway between lateral and dorsal eyes; dorsal nearly as large as lateral eyes, and a little nearer each other than lateral borders. Clypeus less than one-fourth as high as middle eyes. Falces wider than first row of eyes, more than three times as long as face, inclined forward, diverging; fang as long as falx. Maxillæ long, slender, blunt at tip, about twice as long as wide, parallel. Labium less than one-half as long as maxillæ, about as wide as long, blunt. Sternum narrow, and more than twice as long as wide. Anterior coxæ separated by width of labium. Legs all slender and long; tibial and metatarsal spines on the four pairs; the metatarsi of the fourth spined throughout their length. Abdomen with a constriction in front of middle.

♀ Total length 5 mm. Width of abdomen 1.2 mm.

Cephalothorax: length 2.2; width 1.2; height 1.

Legs 3.8, 3.1, 3.4, 5.3; patella and tibia of the first, 1.8; patella and tibia of the third, 1.3; patella and tibia of the fourth, 2; metatarsus and tarsus of the fourth, 2.

Clypeus one-fourth as high as middle eyes. Falces extending in width only to the inner edges of the lateral eyes, as long as the face, parallel, and slightly inclined forward; fang short. Maxillæ less than twice as long as wide. Labium more than one-half as long as maxillæ.

Coloration: Cephalothorax brownish; abdomen brown in front of constriction, black behind, encircled by a white line at the constriction; falces dark with white hairs; clypeus, mouthparts, sternum, coxæ and venter brown; legs with a tinge of yellow.

Habitat: Pennsylvania, New York, Alabama.

LYSSOMANES HENTZ.

Syn.: 1844. LYSSOMANES Hentz, Journal Boston Soc. Nat. Hist., Vol. IV.

Cephalothorax moderately high, sloping downward behind and on the sides from the caput, about one-third longer than wide. General form oval. Caput occupying one-half or nearly one-half of cephalothorax.

Eyes arranged in four transverse rows of two each. Eyes of first row close together, from two to three times as large as those of second row, occupying the entire face. Second row just behind first and about as wide (sometimes a little wider or narrower). Third row composed of two very small eyes, plainly nearer the second than the fourth row, narrower than the second and wider than the fourth. Eyes of fourth row about as large as those of second and nearer together; quadrangle formed by second and fourth rows as wide as long, or from one-fourth to one-third wider.

Sternum somewhat heartshaped; length and width about equal. Coxæ separated by the width of the labium and part or all of the maxillæ. Maxillæ slightly enlarged at extremities. Labium about as wide as long or a little longer than wide. Abdomen long, slender, tapering; spinnerets short. Legs usually long and slender; relative length variable. Long and slender femoral, tibial, metatarsal and usually patellary spines on the four pairs.

LYSSOMANES VIRIDIS HENTZ.

Syn.: 1844. LYSSOMANES *viridis* Hentz, Jour. Boston Soc. Nat. Hist., Vol. IV.

1875. " " id., Coll. Arachn. Writings. Ed. by Burgess, Boston, p. 49.

♂. Total length 6.5 mm. Width of abdomen 1.5 mm.

Cephalothorax: length 2; width 2; height 1.3.

Legs 12, 9.5, 8.5, 8; patella and tibia of the first, 4.5; patella and tibia of the third, 3; patella and tibia of the fourth, 3; metatarsus and tarsus of the fourth, 3.2. Falx 2.5.

♀. Total length 8 mm. Width of abdomen 2.4 mm.

Cephalothorax: length 3; width 2.6; height 1.8.

Legs 10.5, 9, 8.3, 8; patella and tibia of the first, 4.5; patella and tibia of the third, 3; patella and tibia of the fourth, 3; metatarsus and tarsus of the fourth, 3.4.

Coloration: Cephalothorax and abdomen light yellow; cephalothorax with a slender, central, dark, longitudinal line on the thoracic part; eyes of second and third rows on black tubercles. Abdomen with six black dots (sometimes wanting) arranged in two longitudinal rows. There are some orange colored hairs around the anterior eyes, and in the male the falces are reddish in front. The other parts are light yellow.

Hentz describes this species as being tender grass-green. The color probably changes in alcohol.

Habitat: Southern United States.

DESCRIPTION OF PLATES.

PLATE I.

1. *Phidippus morsitans*, ♀; 1a, epigynum.
- 2a. " *rufus*, epigynum.
3. " *galathea*, ♀; 3a, epigynum.
5. " *obscurus* ♀.
6. " *minatus*, ♀; 6a, epigynum.
8. " *ranterbergii*, ♀.
10. " *arizonensis*, ♂.
12. " *insolens*, ♀.
13. " *albomaculatus*, ♀.
14. " *johnsonii*, ♀.
15. " *otiosus*, ♀.
16. *Philæus farneus*, ♀.
17. " *fartilis*, ♀.
18. " *mexicanus*, ♀.
19. " *militaris*, ♀.
- 19a. " " ♂.
20. " *chrysis*, ♀.
22. " *rimator*, ♀.
23. *Plexippus puerperus*, ♂. (Figure blurred on plate.)
- 23a. " " ♀.

25. *Dendryphantes capitatus*, ♂.
- 25a, 25b. " " ♀, two varieties.
27. " *flavus*, ♀.
30. *Attus palustris*, ♀.
32. *Icius lineatus*, ♀.
33. *Icius palmarum*, ♀.
34. " *mitratus*, ♀.
35. " *piraticus*, ♂.
- 35a. " *albovittatus*, ♂.
36. *Pseudicius harfordii*, ♀.
- 36a. " " ♂.
37. *Eris octavus*, ♀.
39. " *nervosus*, ♀.
40. *Hasarius hoyi*, ♀.
- 40a. " " ♂.
42. *Habrocestum coecatum*, ♀.
43. " *viridipes*, ♀.
44. " *peregrinum*, ♂.
45. " *cristatum*, ♀.
- 46a. " *auratum*, ♀.
48. " *splendens*, ♀.
50. *Saitis pulex*, ♀.
- 50a. " " ♂.
51. *Prostheclina cambridgii*, ♀.
52. *Astia vittata*, ♀.
- 52a. " " ♂.
53. *Astia morosa*, ♀.
55. *Cytæa minuta*, ♀.
56. *Cyrba tæniola*, ♀.
57. *Epiblemum scenicum*, ♀.
58. *Admestina wheelerii*, ♂.
59. *Hycia pikei*, ♂.
60. *Marptusa familiaris*, ♀.
61. " *californica*, ♀.
62. *Menemerus melonagnathus*, ♂.
- 62a. " " ♀.
63. " *paykulli*, ♀.
64. *Homalattus cyaneus*, ♂.
65. *Neon neelii*, ♂.
66. *Ballus youngii*, ♀.
67. *Zygoballus sexpunctatus*, ♂.
68. " *bettini*, ♀.
- 68a. " " ♂.
69. *Agobardus anormalis*, ♀.
70. *Sadala distincta*, ♂.

PLATE II.

1. *Phidippus morsitans*, ♂ palpus.
2. " *rufus*, ♂ palpus.
4. " *cardinalis*, ♂ palpus
5. " *obscurus* epigynum.
7. " *mexicanus*, ♂ palpus.
8. " *rauterbergii*, epigynum.
9. " *mc'cookii*, epigynum.
10. " *arizonensis*, ♂ palpus.
11. " *opifex*, epigynum.
12. " *insolens*, palpus of ♂; 12a epigynum.
13. " *albomaculatus*, epigynum.
14. " *johnsonii*, palpus of ♂; 14a epigynum.
15. " *octopunctatus*, ♂ palpus.
- 15a. " *otiosus*, epigynum.
16. *Philæus farneus*, epigynum.
17. *Philæus fartilis*, epigynum.
18. " *mexicanus*, epigynum.
19. " *militaris*, palpus of ♂; 19a epigynum.
20. " *chrysis*, ♂ palpus.
23. *Plexippus puerperus*, ♂ palpus; 23a, tibia of ♂ palpus. For epigynum see Plate III, fig. 23b.

PLATE III.

- 20a. *Philæus chrysis*, epigynum; —aurecalceus = *chrysis*.
21. " *princeps*, epigynum.
- 23b. *Plexippus puerperus*, epigynum.
24. " *putnamii*, ♂ palpus.
25. *Dendryphantes capitatus*, palpus of ♂; 25a, epigynum.
26. " *elegans*, palpus of ♂; 26a, epigynum; 26b, first leg of ♂. For mouthparts and falces of ♀ see Plate IV, fig. 26c.
27. *Dendryphantes flavus*, epigynum; 27a, mouthparts and falces of ♀.
28. *Dendryphantes multicolor*, epigynum; 28a mouthparts and falces of ♀.
29. *Dendryphantes alboimmaculatus*, epigynum.
- 29a. " *flavipedes*, ♂ palpus.
30. *Attus palustris*, palpus of ♂; 30a, epigynum.
31. " *imperialis*, ♂ palpus; 31a, mouthparts and falces of ♂.
32. *Icius lineatus*, ♂ palpus; 32a, same, from one side; 32b, epigynum.

- 33. *Icius palmarum*, palpus of ♂; 33a, epigynum.
- 34a. " *mitratus* epigynum. For ♂ palpus see Plate IV, fig. 34.
- 36. *Pseudicius harfordii*, epigynum. For ♂ palpus see Plate IV, figure 36a.
- 37. *Eris octavus*, epigynum.
- 39. " *nervosus*, epigynum.

PLATE IV.

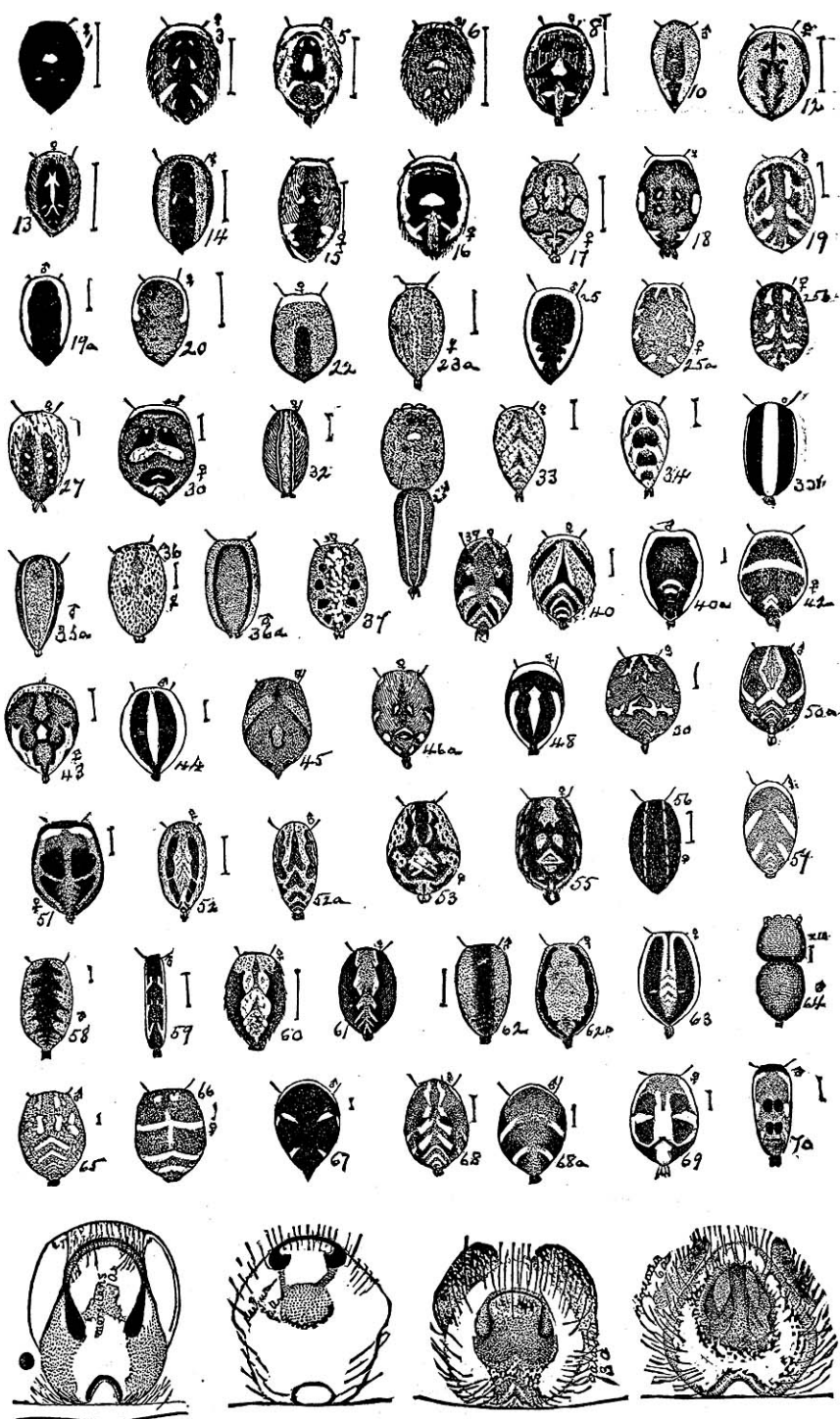
- 26c. *Dendryphantes elegans*, falces and mouthparts of ♀.
- 34. *Icius mitratus*, ♂ palpus.
- 35. " *piraticus*, ♂ palpus; 35a, same from outer side.
- 35d. " *albovittatus* ♂ palpus.
- 36a. *Pseudicius harfordii*, ♂ palpus.
- 38. *Eris barbipes*, epigynum; 38a, first leg of ♀.
- 40. *Hasarius hoyi* ♂ palpus; 40a, epigynum.
- 42. *Habrocestum coecatum*, palpus of ♂; 42a, epigynum; 42b, third leg of ♂ from behind.
- 43. *Habrocestum viridipes*, ♂ palpus; 43a, epigynum.
- 44. " *peregrinum* ♂ palpus; 44a, patella of third leg of variety 1; 44b, same of variety 2.
- 45. " *cristatum*, epigynum.
- 46. " *auratum*, epigynum; 46a, ♂ palpus; 46b, mouthparts and falces of ♂.
- 47. " *hirsutum*, first leg of ♂; 47a, ♂ palpus.

PLATE V.

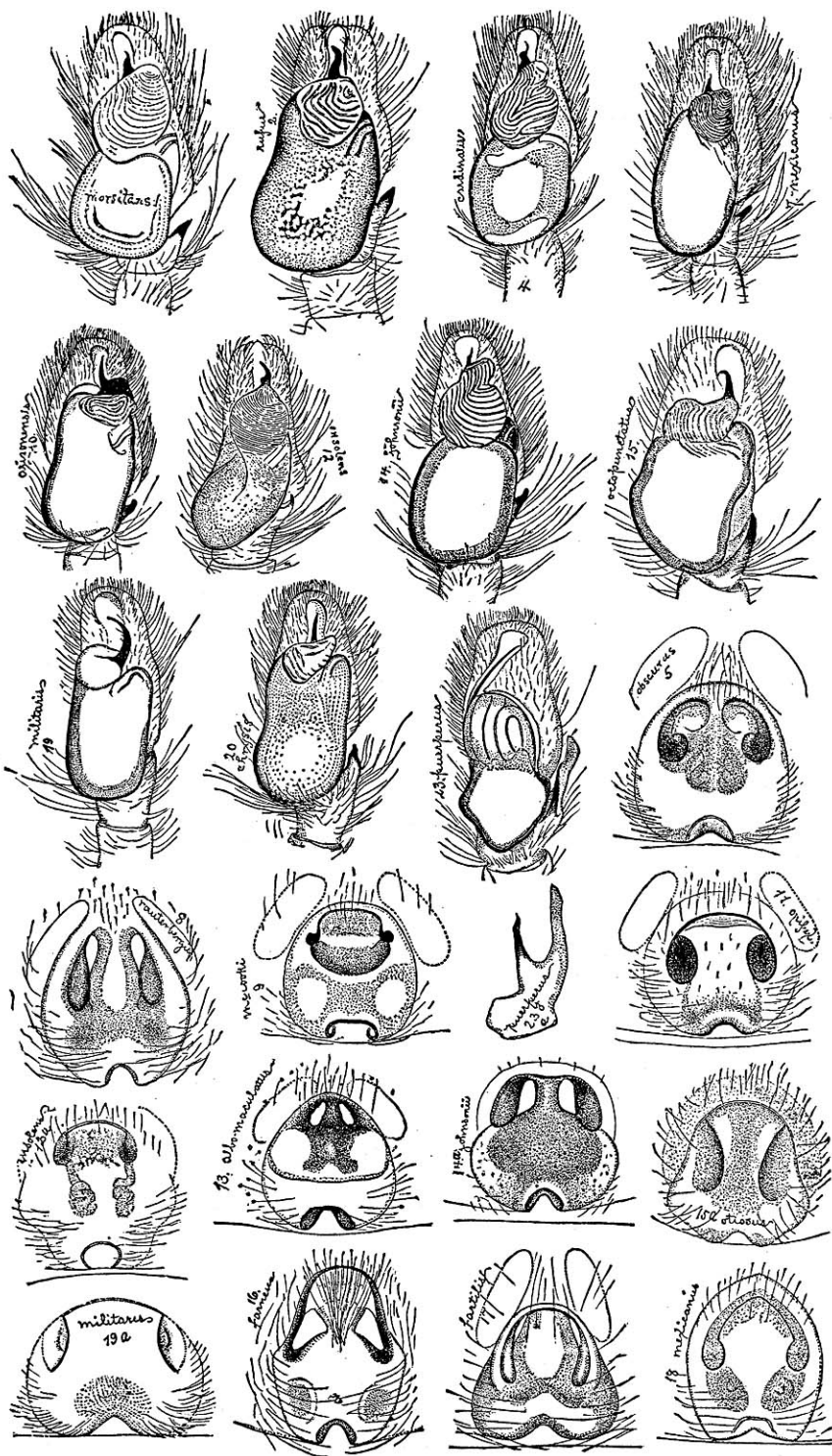
- 48. *Habrocestum splendens*, ♂ palpus; 48a, epigynum.
- 49. " *oregonense*, ♂ palpus; 49a, first leg of ♂.
- 50. *Saitis pulex*, epigynum; 50a, ♂ palpus.
- 51. *Prostheclina cambridgii*, ♂ palpus; 51a, epigynum.
- 52. *Astia vittata*, ♂ palpus; 52a, epigynum.
- 53. " *morosa*, ♂ palpus; 53a, epigynum.
- 54. *Maevia californica*, ♂ palpus; 54a, mouthparts and falces.
- 55. *Cyrtæa minuta*, ♂ palpus; 55a, epigynum.
- 56. *Cyrba tæniola*, ♂ palpus; 56b, mouthparts and falces of ♀. For epigynum see Plate VI, fig. 56a.
- 58. *Admestina wheelerii*, ♂ palpus.
- 59. *Hycitia pikei*, ♂ palpus. For epigynum see Plate VI, fig. 59a.
- 60. *Marptusa familiaris*, ♂ palpus. For epigynum, see Plate VI, fig. 60a.
- 61. " *californica*, ♂ palpus. For epigynum, see Plate VI, fig. 61a.

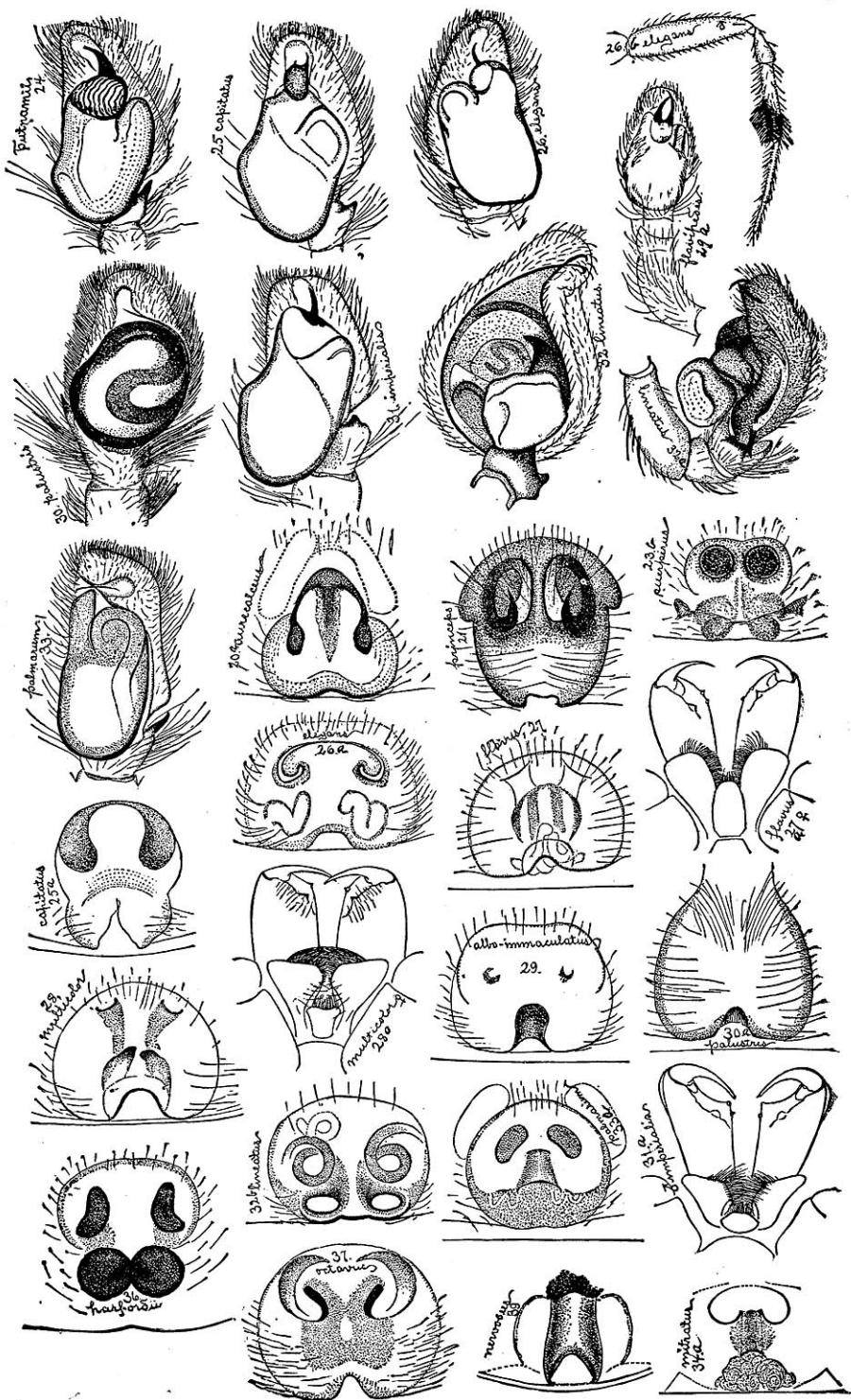
PLATE VI.

- 56a. *Cyrba tæniola*, epigynum.
- 57. *Epiblemum scenicum*, epigynum.
- 59a. *Hyetia pikei*, epigynum.
- 60a. *Marptusa familiaris*, epigynum.
- 61a. " *californica*, epigynum.
- 62. *Menemerus melanognathus*, ♂ palpus; 62a, epigynum.
- 63. " *paykullii*, ♂ palpus; 63a, epigynum.
- 64. *Homalattus cyanens*, ♂ palpus; 64a, epigynum.
- 65. *Neon nellii*, ♂ palpus.
- 66. *Ballus youngii*, ♂ palpus; 66a, same from one side; 66b, epigynum.
- 67. *Zygoballus sexpunctatus*, mouthparts and falces of ♂; 67a, ♂ palpus.
- 68. " *bettini*, ♂ palpus; 68a, epigynum; 68b, falces and mouth-
 parts of ♂.
- 70. *Synemosyna formica*, ♂ palpus; 70a, epigynum.
- 71. *Synageles picata*, epigynum.
- 72. " *scorpiona*, epigynum; 72a, ♂ palpus.
- 73. *Salticus ephippiatus*, ♂ palpus.
- 74. *Agobardus anormalis*, ♂ palpus.
- 76. *Sadala distincta*, ♂ palpus.

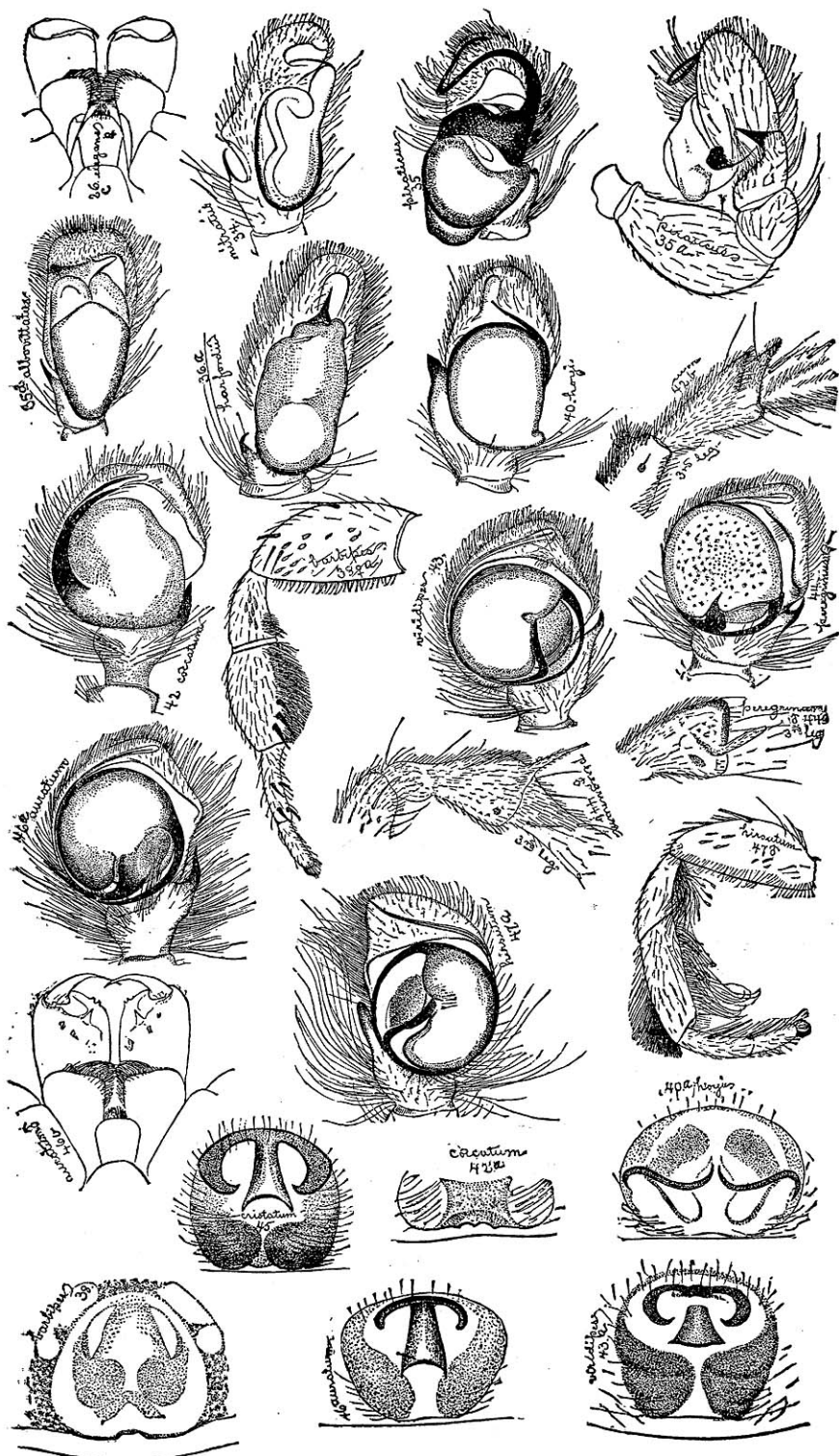


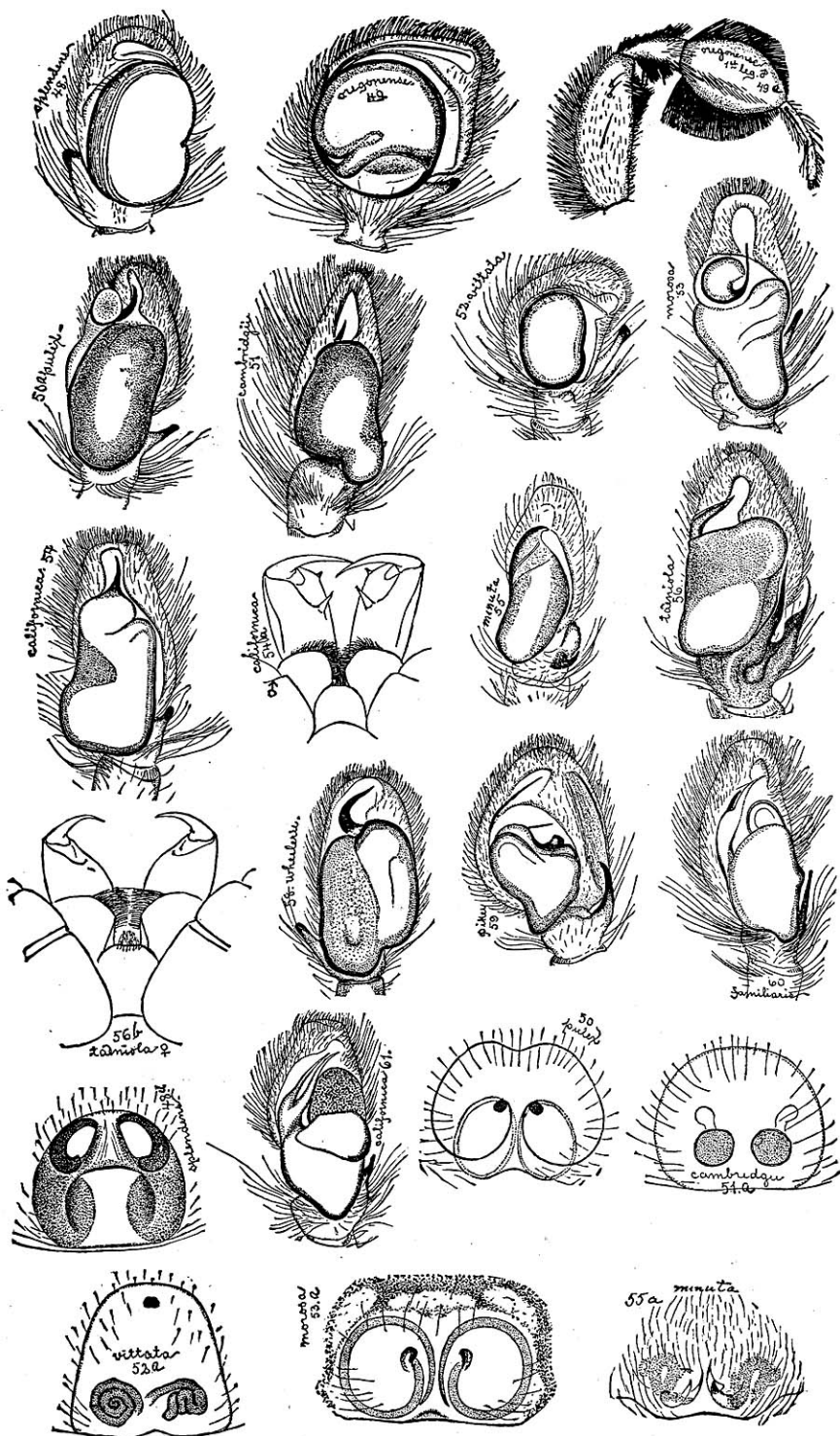


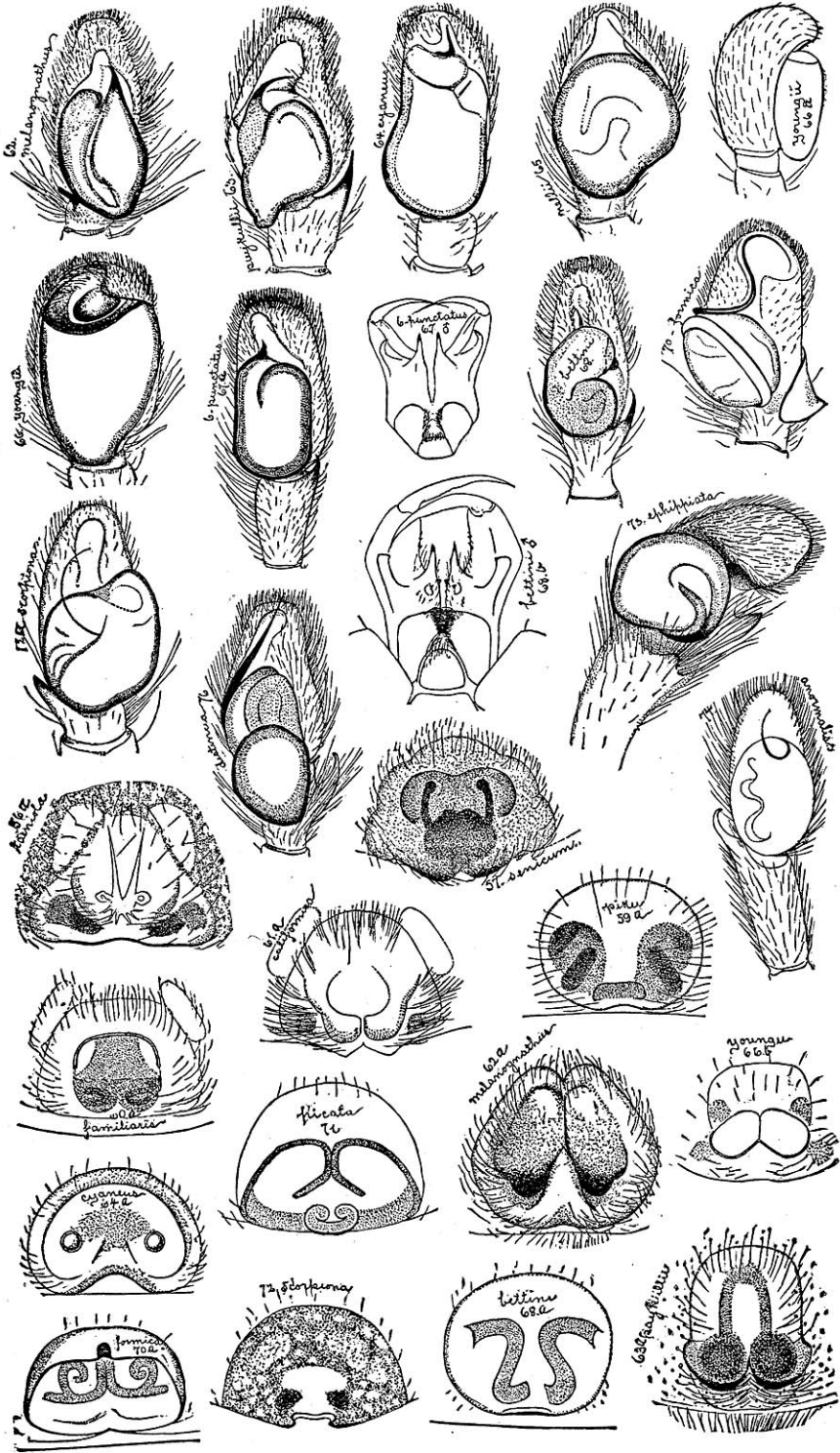














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