

Bulletin of the Museum of Comparative Zoölogy
AT HARVARD COLLEGE
VOL. XCV, No. 4

THE ARGIOPIDAE OF HISPANIOLA

BY ELIZABETH B. BRYANT

WITH FOUR PLATES

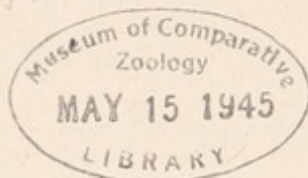
LIBRARY
MUS. COMP. ZOOLOGY,
CAMBRIDGE, MASS.

CAMBRIDGE, MASS., U. S. A.
PRINTED FOR THE MUSEUM
MAY, 1945

Bulletin of the Museum of Comparative Zoology
AT HARVARD UNIVERSITY

Vol. 50, No. 1

The Museum



THE ABORIGINAL ORIGIN OF MAN

By HENRY D. BAYNE

WITH FOUR PLATES

LIBRARY
MUSEUM OF COMPARATIVE ZOOLOGY
CAMBRIDGE, MASS.

PRINTED FOR THE MUSEUM
CAMBRIDGE, MASS. U.S.A.

MAY 1945

No. 4. — *The Argiopidae of Hispaniola*¹

BY ELIZABETH B. BRYANT

Many of the Argiopidae are large and showy spiders, but though calculated to attract the attention of collectors, only one species was first described from Hispaniola. In 1895, E. Simon founded the genus *Alcimosphenus* on the species *licinus*, from S. Domingo and Jamaica. It has since been found on several of the islands of the Caribbean, but the male is still unknown.

Mr. Banks (1903) published a brief paper entitled "A List of Arachnida from Hayti, with descriptions of New Species." This paper noted in all sixty-three species, seventeen of which belong to the family Argiopidae, though today several are regarded as synonyms. *Eustala prompta* (Hentz) = *anastera* Walck., has not been found again on the island, though it is common on many of the Antilles; *Wagneriana unidem-tuberculata* (Keys.) has been found on several of the islands of the Caribbean and may be rediscovered on Hispaniola when collections are made at different seasons. *Singa crewi* Banks, described as new from a female, has recently been rediscovered with the male at Port-au-Prince, the type locality.

The classification of the Argiopidae is probably as satisfactory as that of any other large and widely distributed group, where the male and female differ greatly in size, color and secondary characters. While it is often difficult to place the females in the various sub-families, males are distinguished by one or more striking characters. F.O.P.-Cambridge in his "Arachnida of Central-America", established a number of new genera, but even in so restricted an area, he was obliged to relegate several species, known from both sexes, to the genus *Aranea*, for lack of definite characters, though he stated that no Central American species was congeneric with the European genotype. The same is true of the fauna of Hispaniola. Many of the Central American genera of F.O.P.-Cambridge have been found on that island, but no species of *Aranea*, as restricted today.

In all, the writer has seen fifty-nine species of the Argiopidae. Some of these are widely distributed, like *Nephila clavipes* (Linn.), found everywhere in the tropics of the New World; *Cyclosa oculata* (Walck.), first reported from the vicinity of Paris, an undoubted horticultural importation, and known today from northern South America and most of the islands of the Caribbean; *Wendilgarda theridionina* Simon, described first from Venezuela and since found to be widely distributed; *Acacesia hamata* (Hentz), a common species

¹ Published with the aid of a special gift from Mr. George R. Agassiz.

in the southern part of the United States, is also found on many of the islands; *Parawixia cambridgei* Bryant, so far known only from the type locality, Pico Turquino, Eastern Cuba. Two genera are definitely of South American origin, *Agriognatha* and *Ogulnius*. The former is based on a species from Peru, known by both male and female. Three species have been found in Central America, one is reported from St. Vincent and three additional species have been added from Hispaniola. The genus *Ogulnius* was based on probably the smallest spider known (0.5 mm. long) from the Amazon. Two more species of this genus have been reported from St. Catharina, Brazil, one from the island of St. Vincent, and another from the foot-hills of the Cordillera Central, south of Santiago, Hispaniola.

Of the fifty-nine species seen, twenty-seven are described as new. Many of these are small, less than 2.0 mm. in length, and were taken by Dr. P. J. Darlington on isolated peaks of the Hispaniola mountains, indicating a restricted distribution.

I gladly express my appreciation of the skill and understanding of Dr. Darlington, who has collected so much of the material upon which this paper is based. My sincere thanks are also due to Dr. Alexander Petrunkevitch, who so kindly compared specimens of *Singa crewi* Banks with his type of *Larinia coamensis* Petr. from Puerto Rico; to Dr. W. M. Mann, who collected in Haiti during the winter of 1912-1913, taking several species not found by other collectors; to Dr. André Audant, I am indebted for several interesting species; to Donald Hurst for material from Puerto Plata. I am especially grateful to Mr. Nathan Banks for never failing interest and encouragement.

Family ARGIOPIDAE

Key to Subfamilies of Argiopidae found in Hispaniola

1. Small spiders; eyes heterogeneous; central spinners with posterior pair form a straight line. *Theridiosomatinae*
Larger spiders; eyes homogeneous; spinners closely grouped 2
2. Mandibles usually without a boss, or boss rudimentary; genital fold without a furrow; legs with hairs or bristles or few spines 3
Mandibles with a boss; genital fold with a furrow; legs with true spines . . 4
3. Boss absent; paracymbium of male palpus long, narrow and parallel to cymbium *Tetragnathinae*
Boss rudimentary; paracymbium short, chitinized and at right angles to cymbium *Metinae*

4. Legs very long, metatarsi and tarsi longer than tibia and patella 5
Legs relatively shorter, metatarsi and tarsi shorter than patella and tibia . 6
5. Vulva of female simple; posterior eye row straight; carapace convex; labium longer than broad *Nephilinae*
Vulva of female developed; posterior eye row strongly procurved; carapace flat, labium broader than long *Argiopinae*
6. Spinners surrounded by a corneous ring; abdomen hard . . *Gasteracanthinae*
Spinners not surrounded by a corneous ring; abdomen soft . . . *Araneinae*

Subfamily ARGIOPINAE

Key to species

1. Eyes of anterior row equidistant *Gea heptagon*
A.M.E. further from laterals than from each other 2
Females
2. Abdomen lobate on sides *Argiope argentata*
Abdomen evenly rounded on sides *Argiope trifasciata*
Males
Embolus with lateral barbs near tip *Argiope argentata*
Embolus smooth *Argiope trifasciata*

Genus ARGIOPE AUDOUIN 1826

ARGIOPE ARGENTATA (Fabr.)

Aranea argentata Fabricius, 1775, p. 433. [♀] "in Indiis"

- 3 ♂ ♀ Dom. Rep.; Puerto Plata, April-May 1941, (Hurst)
 ♂ ♀ Haiti; Diquini, November 1912, (Mann)
 ♀ Haiti; Port-au-Prince, 2 October 1934, (Darlington)
 ♀ Haiti; Kenskoff, 4,300 feet, May 1935, (Roys)

ARGIOPE TRIFASCIATA (Forskål)

Aranea trifasciata Forskål, 1775, p. 86. [♀] "Kahirae"

- ♀ *pullus* Haiti; Kenskoff, 4,300 feet, 2 May 1935, (Roys)

Genus GEA C. Koch 1843

GEA HEPTAGON (Hentz)

Epeira heptagon Hentz, 1850, p. 20, pl. 3, figs. 5, 6; reprint, 1875, p. 122, pl. 14, figs. 5, 6, "♂ ♀ North Carolina; Alabama"

- ♀ Haiti; Ennery, 10 September 1934, (Darlington)
 ♀ Dom. Rep.; Puerto Plata, April-May 1941, (Hurst)

Key to Genera

- | | |
|--|--------------------|
| 1. Patella of palpus with 2 spines at apex | 2 |
| Patella of palpus with 1 spine at apex | 5 |
| 2. First coxa without a hook | <i>Metepeira</i> |
| First coxa with a hook | 3 |
| 3. Lateral eyes on a prominent tubercle projecting forward in advance of
anterior margin of mandible; palpus without a large paracymbium | <i>Eriophora</i> |
| Lateral eyes not on a prominent tubercle, palpus with a large para-
cymbium | 4 |
| 4. Clavis of genital bulb with a characteristic lateral spur, but not distinctly
bifid | <i>Neoscona</i> |
| Clavis of bulb distinctly bifid | <i>Neosconella</i> |
| 5. Third tibia with tuft of cilia on anterior basal side | <i>Mangora</i> |
| Third tibia with no tuft of cilia | 6 |
| 6. First coxa without a hook, anterior row of eyes strongly procurved | <i>Marxia</i> |
| First coxa with a hook, anterior row of eyes straight or slightly recurved . | 7 |
| 7. Second tibia with a stout apophysis about middle | 8 |
| Second tibia with no apophysis about middle | 9 |
| 8. Apophysis with two stout spines at apex | <i>Verrucosa</i> |
| Apophysis more slender with a single, long stout apical spine | <i>Edricus</i> |
| 9. Quadrangle of eyes not narrowed behind, p.m.e. two diameters apart and
larger than a.m.e. | <i>Wixia</i> |
| Quadrangle of eyes narrowed behind, p.m.e. one diameter apart, smaller
than a.m.e. | 10 |
| 10. Eye groups very prominent, lateral eyes on a tubercle that projects
beyond anterior margins of mandibles | 11 |
| Eye groups not prominent, lateral eyes not projecting forward | 12 |
| 11. Second tibia incrassate, with a prolateral double row of 5-6 stout spines,
5-6 long ventral spines, third and fourth femora with 5-6 ventral
spines | <i>Parawixia</i> |
| Second tibia scarcely incrassate, with a single prolateral series of three
fine spines, third and fourth femora without spines, or one or two on
third femur | <i>Cyclosa</i> |
| 12. Abdomen with shoulder, lateral and apical cusps | <i>Wagneriana</i> |
| Abdomen without cusps | 13 |
| 13. Second tibia with specialized holding spines, joint somewhat incrassate . | 14 |
| Second tibia not incrassate, nor with any specialized holding spines . . . | 15 |

14. Specialized spines not arranged in a series but with two or more spines towards base, one or two very long curved prolateral spines, one or two shorter, stouter curved ventral spines *Acacesia*
 Specialized spines arranged in a more or less definite series *Eustala*
15. Posterior femora with ventral spines, fourth coxa not modified
Metazygia
 Posterior femora with no ventral spines, fourth coxa with a short black spine on posterior margin *Aranea*(?)

Females

1. Abdomen with cusps or tubercles 2
 Abdomen with no cusps or tubercles 8
2. A dorsal basal tubercle as well as lateral tubercles *Marxia*
 No dorsal basal tubercle 3
3. Femora with ventral spines 4
 Femora with no ventral spines 5
4. Metatarsi with no ventral spines, scapus very long *Verrucosa*
 Metatarsi with few ventral spines, scapus short *Parawixia*
5. P.M.E. larger than A.M.E. *Wixia*
 P.M.E. smaller than A.M.E. 6
6. Cephalic portion not separated from thoracic by a semi-circular furrow . .
Wagneriana
 Cephalic portion separated from thoracic by a deep semi-circular furrow . 7
7. Median quadrangle of eyes narrower behind *Cyclosp*
 Median quadrangle of eyes not narrowed behind *Edricus*
8. Third tibia with tuft of curved cilia on anterior basal side *Mangora*
 Third tibia with no tuft of curved cilia 9
9. Femora with ventral spines 10
 Femora with no ventral spines 12
10. First metatarsus + tarsus longer than first tibia + patella, scapus recurved *Metepeirs*
 First metatarsus + tarsus shorter than first tibia + patella 1a
11. Scapus very long *Eriophor*1
 Scapus very short *Neoscona*
12. First and second tibiae with ventral spines 1a
 First and second tibiae with no ventral spines *Neosconell*3
13. Anterior margin of cephalothorax very broad *Metazygia*
 Anterior margin of cephalothorax narrow 14
14. Scapus directed forward *Eustala*
 Scapus directed backward 15
15. Scapus short and broad, spiders small *Aranea*(?)
 Scapus protruding from plane of abdomen, spiders larger *Acacesia*

Genus ACACESIA Simon 1875

ACACESIA HAMATA (Hentz)

Epeira ? *hamata* Hentz, 1847, p. 474, pl. 31, fig. 10; reprint, 1875, p. 114, pl. 13, fig. 10. "♂ Alabama, August"

Epeira foliata id., ibid., p. 475, pl. 31, fig. 14; reprint, p. 116, pl. 13, fig. 14. "♀ Alabama, June, July"

Epeira folifera Marx, 1889, p. 545

Araneus hallucinor Petrunkevitch, 1911, p. 296.

3 ♂ Haiti; Port-au-Prince, (Crew), Banks Coll.

Genus ARANEA Linnaeus 1756

ARANEA (?) CREWI (Banks)

Figures 1, 3

Singa crewi Banks, 1903, p. 342, pl. 15, fig. 8. "♀ Hayti"

Larinia coamensis Petrunkevitch, 1930, p. 335, figs. 221-224. "♀ Coamo Springs, Porto Rico"

Male. Length, 4.0 mm., ceph. 2.0 mm. long, 1.6 mm. wide, abd. 2.6 mm.

Cephalothorax olivaceous, margins and median line clouded with black, eye area dark, quite low and flat, highest anterior to groove and gibbose each side of groove, sides gently rounded, anterior margin abruptly narrowed, a long bristle posterior to lateral eyes, thoracic groove long and distinct, no median row of short bristles posterior to second eye row as in female; *eyes* cover entire anterior margin, anterior row strongly recurved, eyes equidistant, a.m.e. largest of the eight, carried forward, separated by less than a diameter, a.l.e. about a radius of a.m.e., posterior row slightly recurved, lateral eyes subequal and almost touching, p.m.e. little larger than p.l.e., separated by a line; *quadrangle* wider in front, longer than wide; *clypeus* almost wanting below a.m.e.; *mandibles* vertical, long, weak, basal half swollen; *labium* pale, fused to sternum, tip strongly rebordered; *maxillae* pale, more than twice as long as labium, inner margins parallel, tips widened; *sternum* about two-thirds as wide as long, black, with a pale median stripe from labium to beyond the middle, carried between II and III coxae, IV coxae almost touching, with a basal tubercle and a short black spine on posterior margin, I coxae with a hook at retrolateral angle, and a large basal tubercle; *abdomen* pale, black at base and sides, oval, flattened with a pair of faint gray lines that form an indistinct folium, two pairs of muscle spots, venter

dark, with a pale median spot; *legs* much broken, 1-2-4-3, femora pale, with distal dark bands, tibiae with dark basal and distal dark bands, spines, I pair, femur, ventral, 3 short spines about middle, prolateral, 3, dorsal, 4 median, patella, 1 long spine at tip, 1 at base, retrolateral, 2, prolateral, 0, tibia, scattered spines, II pair not enlarged, with no specialized spines, femur, ventral, 2 short spines about middle, patella same as I pair, tibia, spines heavier than I pair, III pair, femur, ventral, 2 short spines about middle, patella, 1 at tip and 1 at base, lateral, 1-1, tibia, scattered, IV pair, coxa, 1 long sharp spine on posterior margin, femur, ventral, 3 very long spines near base, patella, 1 at tip, 1 at base, lateral, 1-1; *palpus* shorter than cephalothorax, patella as long as wide, 1 very long bristle at tip, tibia shorter than patella, with 1 very long bristle, palpal organ large, cymbium with a deep notch on retrolateral side with a slender lobe that ends in a long white bristle, ending near tip of cymbium, embolus near tip, a long, slender black tube beneath a broad, thin sheath.

Allotype ♂ Dom. Rep.; Puerto Plata, July 1940, (Hurst)

♂ ♀ Dom. Rep.; Puerto Plata, July, August 1940, (Hurst)

♂ ♀s Haiti Port-au-Prince, July 1941, (Audant)

Singa crewi Banks was based on a female, probably collected near Port-au-Prince. The description of the color markings is quite complete, but no mention is made of the eye arrangement, spines on the legs or the epigynum, a figure of which is not very clear. Petrunkevitch who redescribed this species as *Larinia coamensis*, also from a female, collected near Coamo Springs, Puerto Rico, figures the entire spider, eyes and epigynum. His figure shows the cephalothorax much more slender than in the *Hispaniola* specimens, but Dr. Petrunkevitch has kindly compared a pair of the Port-au-Prince material with his type and reports them to be the same.

Larinia silvestris Bryant, known only from the type, a male, from Puerto Rico, is congeneric with *Singa crewi* Banks. Both have similar palpi, with the long embolus at the tip of the bulb, protected by a sheath-like conductor, and both have the posterior coxae of the male modified. *Larinia silvestris* has two small black cusps on the prolateral margin of the third and fourth coxae, while *Singa crewi* has a sharp black spine on the posterior margin of the fourth coxa.

These two species undoubtedly belong near *Aranea incerta* (O.P.-Cambr.), found in Mexico, Guatemala and Costa Rica. This species has great variation in size and color markings. The male has a small black cusp at the upper prolateral angle of the fourth coxae, which was not noted by either O.P.-Cambridge or F.O.P.-Cambridge.

These three species cannot be placed in either the genus *Singa* or *Larinia*, as the males of both of these genera have two stout bristles at the tip of the patella of the male palpus, a character that is apparently trivial, but is constant as far as known in all Argiopid genera. F.O.P.—Cambridge left the species *incerta* in the genus *Aranea* but states that it is not typical of the genus.

In the *Hispaniola* specimens of *crewi*, there is some variation in color markings in the females, but little variation in size. A few have no dark median line on the cephalothorax, or dark bands on the legs, and the dorsum is pale with dark sides that extend to the base.

ARANEA(?) HISPANIOLA spec. nov.

Figure 2

Female. Length, 4.0 mm., ceph. 1.8 mm., abd. 2.6 mm. long, 2.0 mm. wide.

Cephalothorax yellow, with a gray triangle from eyes to near posterior margin, a median row of five long, overlapping bristles to posterior eye row, anterior margin little over half the greatest width, groove a shallow depression, cephalic portion high; *eyes*, anterior row recurved, eyes equidistant, a.m.e. largest of the eight, separated by a diameter, posterior row very slightly recurved, p.m.e. two-thirds diameter of a.m.e. and separated by less than a diameter, lateral eyes contiguous, subequal and on a low tubercle; *quadrangle* wider in front than behind and wider than high; *clypeus* less than a diameter of a.m.e.; *mandibles* pale, shaded with gray, no boss, three teeth on superior margin, and three teeth on inferior margin; *labium* dark, wider than long, tip rebordered; *maxillae* more than twice as long as labium, outer half dark, sides parallel; *sternum* four-fifths as wide as long, heart-shaped, not extending between the IV coxae, black with a wide median stripe of yellow that extends past the middle, IV coxae separated by half a diameter; *abdomen* oval, anterior end extending in a slight point over cephalothorax, dorsum with a wide median dark stripe that almost covers width of abdomen, lateral margins irregular and darker, sides pale, venter with a black rectangle from fold to spinnerets containing a median pale spot below the epigynum; *legs*, 1-2-4-3, pale, with many black spots, no dark rings, spines, no ventral femoral spines, I pair, femur, prolateral, 2, each from a black spot, retrolateral, 0, dorsal, 2 on basal half, patella, prolateral, 2, retrolateral, 1, dorsal, 2, apical and basal, tibia, prolateral, 3, retrolateral, 4, dorsal, 2, ventral, 2-2, metatarsus, dorsal, 1 at base, prolateral, 2, retrolateral,

2, ventral, 2-2; posterior pairs with dorsal basal spine on tibiae; *epigynum* area wider than long, parts very pale, a broad, very short median scape with sides near tip rebordered, lateral margins of area with a broad transparent chitinized cover, the depressed area each side of scape with little structure.

Holotype ♀ Haiti; Kenskoff, 4,300 feet, 1 May 1935, (Roys)

Paratype ♀ Dom. Rep.; San Jose de las Matas, 1,500 feet⁺, June 1938, (Darlington)

Unfortunately the anterior legs in both type and paratype are broken, so that the relative length of the joints cannot be noted.

Genus *CYCLOSA* Menge 1866

CYCLOSA BIFURCA (McCook)

Cyrtophora bifurca McCook, 1887, p. 342. "♀ Florida; Merrit's Island, Indian River"

Cyclosa fissicauda O.P.—Cambridge, 1889, p. 49, pl. 9, fig. 7. "♀ Guatemala, between Dolores and Chacallal."

♀ s Dom. Rep.; Puerto Plata, April–August 1941, (Hurst)

♂ Haiti; Kenskoff, 4,300 feet, 3 May 1935, (Roys)

CYCLOSA OCOLATA (Walckenaer)

Epeira oculata Walckenaer, 1802, p. 421. "♂ ♀ Paris"

Turkheimia walckenaeri O.P.—Cambridge, 1889, p. 47, pl. 8, fig. 6. "♀ Guatemala, Volcan de Fuego and Chiacan."

♂ ♀ Haiti; Kenskoff, 4,200 feet, 2 May 1935, (Roys)

♀ Haiti; La Visite, 6,000–7,000 feet, 16–23 September 1934, (Darlington)

♀ Haiti; Furcy, Mt. Cabaio, 7,000 feet, 1940, (Folk)

♀ Dom. Rep.; Puerto Plata, April–May 1941, (Hurst)

Genus *DREXELIA* McCook 1892

DREXELIA MINOR spec. nov.

Figure 10

Female. Length, 5.0 mm., ceph. 2.0 mm., abd. 3.4 mm. long, 1.6 mm. wide.

Cephalothorax pale, with quite a wide dark line from p.m.e. to near posterior margin, a broken marginal dark line, cephalothorax

low and flat; *eyes* cover anterior margin, anterior row recurved, a.m.e. largest of the eight, separated by more than a diameter and from a.l.e. by fully two diameters, posterior row very slightly procurved, lateral eyes subequal and touching, p.m.e. separated by less than a radius and only slightly larger than p.l.e.; *quadrangle* broader than long, about half as wide behind as in front; *clypeus* less than a diameter of a.m.e.; *mandibles* pale, vertical; *labium* pale, wider than long, tip rebordered; *maxillae* pale, twice as long as labium and parallel; *sternum* with a wide black margin and a pale center, two-thirds as wide as long, ending in a point in front of IV coxae; *abdomen* more than twice as long as wide, extending in a point over cephalothorax, tip rounded, with five narrow dark stripes, separated by narrower pale stripes, no indication of the paired dark spots found in *D. directa* (Hentz), sides mottled, venter with a long central pale spot surrounded by a broad black frame; *legs*, 1-2-4-3, brown, pale with parallel ventral and lateral rows of black dots on femora, no ventral femoral spines, spines broken; *epigynum* a broad median scape, with tip rebordered and a large circular depression each side.

Holotype ♀ Haiti; Port-au-Prince, July 1941, (Audant)

Drexelia minor is very closely related to *D. directa* (Hentz), the genotype, but it is smaller and more delicate. An immature male, also from Port-au-Prince, has the same markings. The epigynum is much broader in proportion than in *directa* and the openings are larger.

Genus EDRICUS O.P.—Cambridge 1890

EDRICUS CRASSICAUDA (Keyserling)

Epeira crassicauda Keyserling, 1865, p. 806, pl. 18, figs. 3, 4. "♀ N. Grenada, Keyserling Collection."

♀ *pullus* Dom. Rep.; Puerto Plata, July–August 1941, (Hurst)

3 ♀ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 1,000–3,000 feet, June 1938, (Darlington)

Genus ERIOPHORA Simon 1864

ERIOPHORA MINAX (O.P.—Cambridge)

Epeira minax O.P.—Cambridge, 1893, p. 112, pl. 15, fig. 1. "♀ Mexico; Acagizotla in Guerrero, 3,500 feet."

- 3 ♀ Haiti; Diquini, November 1912, (Mann)
- ♀ Haiti; Port-au-Prince, July 1941, (Audant)
- ♀ Dom. Rep.; Puerto Plata, April-May 1941, (Hurst)
- ♀ *pullus* Haiti; Port-au-Prince, (Crew), Banks Coll.

Genus EUSTALA Simon 1895

This genus was based by Simon on the species *anastera* of Walckenaer, which was described from an unpublished colored drawing by Abbot. The species varies greatly, both in size and color pattern and as it was Abbot's practice to name each spider delineated, the same species was illustrated under many names. In using the Abbot drawings, Walckenaer accepted most of these names. Hentz, whose material was from the same general region, did not have access to the Abbot figures and he added four names to the list. Later Keyserling added one more.

Many years later, McCook saw the Abbot drawings in the British Museum and he placed eleven of the Walckenaer species based on Abbot names and several of his varieties in synonymy. The result of all of this is, that we have a plethora of names for a single species. Simon and F.O.P.-Cambridge have accepted McCook's identification of this species. It has a widely known distribution from New England, south to Florida and west to Utah. F.O.P.-Cambridge reports it from Mexico, Guatemala and Costa Rica and quotes from the collector, H. H. Smith, its abundance, especially in the cacao plantations.

Cambridge states in his definition of the genus, in the Biol. Central America, vol. 2, p. 503, that the fourth femur of the male has no ventral spines. This apparently is a very variable character, as in all the specimens of *E. anastera* examined, from Massachusetts and North Carolina, the fourth femur has two converging ventral rows of spines; in four of the five species of the genus found in Hispaniola, the males have ventral spines as well as retrolateral and prolateral spines on the fourth femur. *Eustala fusco-vittata* (Keyserling) has no ventral femoral spines and it also varies from others in the genus, by the extension of the abdomen beyond the spinnerets.

In both Simon's and Cambridge's definition of the genus, the a.m.e. are described as larger than the p.m.e., with the difference greater in the male than in the female. But in *Eustala bisetosa* spec. nov. from Hispaniola, the a.m.e. are smaller than the p.m.e., in both male and female.

The palpi of all species of *Eustala* are remarkably similar, and the

epigynums in all but one species has the same general structure. *Eustala perdita* spec. nov. has a vulva that suggests *Metazygia* or *Wagneriana*. The male and female both have the same pattern of dark spots on the cephalothorax and the folium is alike in both sexes.

It is greatly regretted that the specimens of *Eustala prompta* (Hentz), (which is considered a synonym of *anastera*) identified by Banks from the vicinity of Port-au-Prince are not in the collection as no other specimen of that species has been seen from Hispaniola.

EUSTALA BISETOSA spec. nov.

Figures 5, 6

Male. Length, 4.0 mm., ceph. 1.7 mm., abd. 2.4 mm.

Cephalothorax pale, no dark spots, cephalic portion shaded with gray, eye area carried forward and narrowed, almost as wide as long, thoracic groove long; *eyes*, both rows recurved, lateral eyes small and contiguous, a.m.e. larger than a.l.e., separated by more than a diameter, p.m.e. largest of the eight, separated by little over a radius, a long, dark bristle between a.m.e. and p.m.e.; *quadrangle* of median eyes wider in front and not as high as wide; *clypeus* about a radius of a.m.e.; *mandibles* small and vertical; *labium* as wide as long, tip pale and pointed; *maxillae* twice as long as labium, pale, inner margins parallel; *sternum* grayish, little longer than wide, ending in a slender point between fourth coxae; *abdomen* triangular, with a dark folium on distal three-quarters, a median basal spear mark extending to folium, margin of folium undulating and dark, scattered long hairs on dorsum, sides with dark flecks, venter pale; *legs* much broken, first pair very long, first coxae with hook, others not modified, femora pale at base, other joints with alternate pale and dark bands, most distinct on posterior pairs, spines, I pair, femur ventral, 2 median spines, prolateral, 2 very long spines, median and distal, and several short and weak dorsal and prolateral spines, patella, prolateral, 2, retrolateral, 1, tibia and metatarsus, spines slender; II pair, femur, ventral, 2 distal, patella, lateral, 2-2, tibia not enlarged, but all spines either heavy or modified, prolateral, 3, distal and median very heavy and from a raised base, below a ventral row of 4 shorter spines and a dorsal row of 3 spines, retrolateral, 2 very short spines; III pair, femur ventral, 2 short stout median spines from a raised base, IV pair, femur, ventral, 2 short heavy spines from a raised tubercle near base and 3 longer retrolateral distal spines; *palpus*, patella with 1 long

bristle, palpal organ with a long white clavis, embolus rather short and heavy, uncus broad with lower corner produced in a point half hidden by a large white plate.

Female. Length, 4.6 mm., ceph. 1.5 mm., abd. 3.5 mm.

Cephalothorax brown, shaded with gray, no spots, margins dark, many long white hairs, thoracic groove very short, carapace moderately convex, but not gibbous as in typical species, anterior margin not as much narrowed as in the male; *eyes* not carried forward as far as in male, both rows recurved, a.m.e. separated by more than a diameter, lateral eyes on a common tubercle, p.m.e. larger than a.m.e. but not as large as in the male, separated by more than a diameter; *quadrangle* wider in front and as high as wide; *clypeus* equals radius of a.m.e.; *mandibles* vertical, superior margin with three teeth, middle one largest, inferior margin with three subequal teeth; *labium*, *maxillae* and *sternum* as in male; *abdomen* triangular, widest at base, pointed above spinnerets with a slight tubercle, dorsum dark, with a pale margin, folium impossible to see, venter pale; *legs*, I pair much the longest, femora much darker at distal end, tibiae and metatarsi with wide dark bands, spines, no ventral spines on femora, I pair, femur, prolateral, 3, retrolateral, 2 distal, dorsal, 0, patella, lateral, 2-2, tibia, prolateral, 4, retrolateral, 3, ventral, 0, dorsal, 1 at tip, metatarsus, irregular, II pair, femur, dorsal, 2 distal, prolateral, 0, retrolateral, 0, tibia, prolateral, 3, retrolateral, 2, ventral, 0, dorsal, 1 at tip, posterior femora with no trace of the retrolateral spines found on male; *epigynum* projecting forward, basal half free, tip pale and very short, usual wrinkled area very small.

Holotype ♂ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 1,000-3,000 feet, June 1938, (Darlington)

Allotype ♀ Haiti; Kenskoff, 4,500-5,500 feet, 2 September 1934, (Darlington)

Paratype ♂ Haiti; Kenskoff, 4,500-5,500 feet, 2 September 1934, (Darlington)

Paratypes 5 ♀s Haiti; Kenskoff, 3,500, feet, 3 May 1935, (Roys)

Eustala bisetosa differs in both male and female from the typical species of the genus, as the p.m.e. are larger than the a.m.e. and by a lower cephalothorax, which is not gibbous each side of the groove. The male has ventral spines on the posterior femora, a character found in a few species of the genus. However, in general features, both the palpus and the epigynum agree with the typical forms.

EUSTALA DELASMATA spec. nov.

Figure 11

Male. Length, 4.2 mm., ceph. 2.0 mm., abd. 2.5 mm.

Cephalothorax pale brown, middle area shaded with gray, four darker spots can be faintly seen near posterior end and a pair anterior to the thoracic groove, thoracic groove deep and long; *eyes*, anterior row recurved, a.m.e. largest of the eight, separated by more than a diameter, lateral eyes on a tubercle, subequal, separated by a diameter, p.m.e. separated by a diameter; *quadrangle* wider in front, and as high as wide; *clypeus* less than a radius of a.m.e.; *mandibles* small and vertical; *sternum* gray about margins, with a wide median pale stripe; *abdomen* oval, a dark folium with wavy margins, does not reach base and connects with a short median dark stripe that extends to base, venter dark with a median pale spot; *legs*, I pair longest, I coxa with hook, anterior femora dark, posterior femora banded, spines, I pair, femur, prolateral, 4, basal spine quite short, dorsal, 3, retrolateral, 2 distal, patella, lateral, 2-2, tibia and metatarsus with many unpaired spines; II pair, femur, prolateral, 2, dorsal, 3, retrolateral, 2, ventral, 2 distal, 3 median, patella, lateral, 2-2, tibia, not incrassate, prolateral, 4, dorsal, 2 very long, retrolateral, 3 very small, ventral, distal, 2, metatarsus, with median and basal whorls of spines; III pair, femur, prolateral, 4, dorsal, 3, retrolateral, 3, ventral, 2; IV pair, femur, prolateral, 3 near base, dorsal, 3, retrolateral, 5, all femoral spines on IV pair from a raised base; *palpus*, patella with one long bristle, palpal organ similar to *E. anastera* with the conductor very much shorter and smaller and the embolus longer, with clavis smaller and more slender.

Holotype ♂ Dom. Rep.; San Jose de las Matas, 1,500+ feet, June 1939, (Darlington)

Paratypes 2 ♂ Dom. Rep.; San Jose de las Matas, 1,500+ feet, June 1938, (Darlington)

Paratype ♂ Dom. Rep.; Sanchez, July 1938, (Darlington)

EUSTALA FUSCO-VITTATA (Keyserling)

Epeira fusco-vittata Keyserling, 1864, p. 129, pl .6, figs. 7, 8. "♀ N. Granada, St. Fé de Bogota."

♀ Haiti; hills near Port-au-Prince, 2,000 feet, October 1934, (Darlington)

- ♀ Haiti; foot hills north-east of la Hotte, 3,000-4,000 feet,
3 October 1934, (Darlington)
♂ ♀ Haiti; Diquini, November 1912, (Mann)
♀ Dom. Rep.; Puerto Plata, August 1941, (Hurst)

EUSTALA PERDITA spec. nov.

Figures 4, 9

Male. Length, 3.0 mm., ceph. 2.0 mm., abd. 2.0 mm.

Cephalothorax greenish-yellow, darker about eyes, with a transverse row of two pairs of small dark spots at groove and a widely separated pair of larger dots about the middle, anterior margin much narrowed, thoracic groove faint; *eyes* cover anterior margin, anterior row strongly recurved, a.m.e. largest of the eight, convex, separated by a diameter and carried forward, a.l.e. less than a radius of a.m.e. and separated from them by a diameter of a.l.e., posterior row straight, p.m.e. little more than a radius of a.m.e., separated by a radius, lateral eyes touching and subequal; *quadrangle* longer than wide and much narrowed behind; *clypeus* below a.m.e. about a radius of a.m.e.; *mandibles* vertical, weak, boss, small and distinct, fang groove short, horizontal, superior margin with three small teeth, inferior margin with two teeth; *labium* dark, wider than long, tip rebordered; *maxillae* more than twice as long as labium; *sternum* triangular, as wide as long, IV coxa separated by half a diameter; *abdomen* oval, widest at base which extends over cephalothorax, generally dark with a pair of transverse pale spots at base, and an undulate pale stripe each side on posterior half that marks an indistinct folium, venter pale, shaded with dark gray; *legs*, 1-2-4-3, I right missing, basal half of femora pale, tibiae and metatarsi with dark bands about middle, wider on anterior pairs, ventral side of femora spotted, I coxa with a small hook, II pair with no specialized spines, I pair, femur, dorsal, 2 small on basal half, prolateral, 3 about middle, ventral, 3? median, most of spines broken off and those remaining very short, patella, 0, tibia, dorsal, 0, prolateral, 3, retrolateral, broken, metatarsus, 0; II pair, not modified, femur, dorsal, 2 on basal half, ventral, median row of 3, prolateral, 0, retrolateral, 1, patella, 0, tibia, dorsal, 3, prolateral, 3, retrolateral, 3; III pair, femur, ventral, 2 median basal, IV femur, 2 median about middle; *palpus*, shorter than cephalothorax, patella and tibia of equal length, tibia with a ventral wing-like projection the entire length of the joint, paracymbium small, embolus slender

and almost straight, half hidden beneath a semi-transparent cap at tip, unca dark with a broad obtuse tip, clavis long with distal third narrowed.

Female. Length, 5.0 mm., ceph. 2.1 mm., abd. 3.0 mm. long, 3.0 mm. wide.

Cephalothorax like male, but darker about eyes, not much swollen each side of groove but with the same dark spots; *eyes*, a.m.e. not as large as in male, and not carried forward, p.m.e. separated by almost a diameter; *quadrangle* and *clypeus* same as in male; *abdomen* oval, widest at base, dark brown with many minute spots, no pair of transverse spots as in male and lateral pale margins of folium very indistinct, venter pale with a faint median dark spot; *legs* 1-2-4-3, slender, same as in male but dark rings wider and more distinct and dark spots on femora more conspicuous, no ventral spines on femora, spines, I pair, femur, dorsal, 2 small, prolateral, 3, tibia, prolateral, 3, retrolateral, 3, ventral, 0, patella, 0, tibia, dorsal, 0, prolateral, 2, retrolateral, 2, ventral, 2-2; *epigynum*, a convex chitinized plate, wider than long, darker about margins with a short, narrow finger at anterior end directed forward.

Holotype ♂ Haiti; Port-au-Prince, July 1941, (Audant)

Allotype ♀ Haiti; Port-au-Prince, July 1941, (Audant)

Paratypes ♀ Haiti; Port-au-Prince, July 1941, (Audant)

Paratype ♀ Haiti; Kenskoff, 5,000-7,000 feet, September 1934, (Darlington)

The generic position of this species is confusing. The palpus of the male is very similar to the typical forms of *Eustala* but the specialized spines of the second leg are missing, the vulva is totally unlike that of any in the genus but is similar to some of the Central American species that have been placed in the genus *Aranea*. The male and female are alike in having the same distinctive pattern on both cephalothorax and abdomen.

EUSTALA VEGETA (Keyserling)

Figure 7

Epeira vegeta Keyserling, 1865, p. 819, pl. 19, figs. 31-34. "♂ ♀ N. Granada, Keyserling Coll."

♀ s Haiti; Diquini, November 1912, (Mann)

♂ Haiti; Port-au-Prince, July 1941, (Audant)

♂ ♀ Dom. Rep.; Puerto Plata, April-August 1941, (Hurst)

Genus MANGORA O.P.—Cambridge 1889

MANGORA STRIATIPES spec. nov.

Figures 17, 18

Male. Length, 2.0 mm., ceph. 1.0 mm., abd. 1.1 mm.

Cephalothorax pale, anterior margin much narrowed, two-thirds as wide as long, thoracic groove very long and deep, covered by a black line, thoracic portion much higher than cephalic, highest near end of groove; *eyes* cover anterior margin, anterior row strongly recurved, a.m.e. largest of the eight, separated by a diameter and from a.l.e. by a little more, posterior row straight, p.m.e. heavily ringed with black so they appear larger than a.m.e., separated by about half a radius, lateral eyes touching; *quadrangle* wider in front and higher than wide; *clypeus* less than a radius of a.m.e., retreating; *mandibles* vertical, small, weak, no boss; *labium* as wide as long, tip narrower than base; *maxillae* twice as long as labium; *sternum* pale, margins with a narrow black line, triangular, little longer than broad, tip carried between IV coxae in a lobe; *abdomen* oval, narrow base extends over cephalothorax, dull gray, covered with irregular pale blotches and black dots, one small median black dot at base, followed by a pair that are widely separated, on posterior half, two parallel rows of five black spots with area between a dull gray, venter a dull yellow with an irregular dark stripe each side; *legs*, 4-1-2-3, pale, anterior pairs with a black ventral line on femora ending in a dot, spines long, black, fragile, I coxae with a large hook, I femur with 2 long prolateral spines from a raised base, II tibia with 3 heavy, short ventral spines near base, with a longer retrolateral basal spine and a heavy retrolateral spine about the middle, III tibia with 2 prolateral diagonal rows of plumose cilia near base, each row of 5 slender cilia from a raised base, often the cilia are broken but the scar can be easily seen, no ventral trichobothria on posterior femora; *palpus* shorter than cephalothorax, patella and tibia of equal length, patella with one long bristle at tip, embolus long and ending with an abrupt turn, free portion half covered with a semi-transparent leaf-like lobe, clavis at base with two short black points, much smaller than *Mangora mobilis* O.P.—Cambridge, from Central America.

Female. Length, 3.0 mm., ceph. 1.7 mm., abd. 2.7 mm.

Cephalothorax and *eyes* as in male, but the black rings about p.m.e. much wider, so that eyes appear larger than a.m.e.; *mouth parts* same as in male; *sternum* dark with a pale spot below labium; *abdomen* as in male but base much narrower and black spots on posterior half

fused into two black lines, venter with a median dark spot and smaller dark spots each side; *legs*, 4-1-2-3, pale, spines from a black base, so that legs appear spotted, anterior femora with a ventral black line with a basal dot as in male, no short ventral spines on II tibia, III tibia with two parallel diagonal rows of cilia as in male, a long median ventral trichobothria on IV femur near base and several scars that may be from trichobothria, IV tibia, prolateral, 2 cilia very near base, IV patella, a long, retrolateral spine, tibia with a very long median basal spine; *epigynum*, a pale narrow median scape with a recurved tip protruding from the plane of the venter, as in *Mangora placida* (Hentz), each side a clear oval space.

Holotype ♂ Haiti; Diquini, November 1912, (Mann)

Allotype ♀ Dom. Rep.; Puerto Plata, May 1941, (Hurst)

Paratype 2 ♂ Haiti; Diquini, November 1912, (Mann)

Paratypes 6 ♀ Haiti; hills near Port-au-Prince, 2,000 feet, 2 October 1934, (Darlington)

Paratypes 2 ♀ Haiti; Kenskoff, 4,300 feet, 1 May 1935, (Roys)

Paratypes ♀ s Dom. Rep.; Puerto Plata, July 1941, (Hurst)

Mangora striatipes probably belongs to Simon's second group of the genus with *M. fornicata* (Keys.) as the type, although the a.m.e. are larger than the p.m.e. It must be a common spider on the island from the number of specimens collected. The males have no ventral trichobothria on the posterior femora, but the females have one long one and several scars. It is difficult to count or describe the spines, for in most cases, they have been broken and only the scars remain. The spines are black, long and slender. In the female the median dorsal basal spine on the fourth tibia is very conspicuous.

Mangora picta O.P.—Cambridge, the genotype, has three short ventral spines at the base of the II tibia. In neither volume of the Biol. Centr. Amer., is the number or arrangement of the cilia on the third tibia noted. This character, while apparently trivial, evidently is constant in both male and female of a species. Chamberlin and Ivie, in the descriptions of three new species from Panama, also fail to mention the cilia.

Genus MARXIA McCook 1895

MARXIA STELLATA (Walckenaer)

Epeira stellata Walckenaer, 1805, p. 65, fig. 54. "Bosc, manuscrit sur les araignées de la Caroline, pl. 1, fig. 1."

♂ ♀ *pullus* Haiti; Trou Caiman, 4 September 1934, (Bates)

Genus METAZYGIA F.O.P.—Cambridge 1904

METAZYGIA MANNI spec. nov.

Figures 12, 13, 23

Male. Length, 5.6 mm., ceph. 3.0 mm., abd. 3.4 mm., long, 2.5 mm. wide.

Cephalothorax chestnut-brown, smooth and shining, rather flat, cephalic portion higher, anterior margin not much narrowed, thoracic groove deep, a long slender bristle posterior to lateral eyes and a long bristle between p.m.e. and p.l.e., median row of small bristles from groove to posterior eyes; *eyes* cover anterior margin, anterior row recurved, a.m.e. largest of the eight, carried forward, separated by less than a diameter, a.l.e. little over a radius of a.m.e., posterior row slightly recurved, lateral eyes touching and subequal, p.m.e. slightly larger than p.l.e., almost touching; *quadrangle* wider in front than behind, and wider than high; *clypeus* retreating, less than a diameter of a.m.e.; *mandibles* dark brown, vertical, long, boss small, median margin on distal half deeply excavate, with a broad flat lobe ending in an incurved hook above the fang groove, fang groove horizontal, fang with a very thick base, distal half of fang short, compressed and sinuous; *labium* wider than long, tip rounded and rebordered, sides parallel; *maxillae* twice as long as labium; *sternum* three-fifths as wide as long, emarginate, pointed between IV coxae, I coxae with a small hook, and a basal lobe, IV coxae swollen; *abdomen* elliptical, dorsum slightly convex, with numerous short hairs and long bristles, pale brown, folium outlined by black emarginate stripes, each section with a small dark spot, venter pale; *legs*, 1-2-4-3, pale brown, tibiae darker, spines, I pair, femur, ventral, 0, dorsal, 4, prolateral, 2, slender, retrolateral, 2, patella, slender bristle at tip, prolateral, 2, retrolateral, 1, tibia, dorsal, 1, prolateral, 2, retrolateral, 2, ventral, 2-2-2-2, metatarsus, prolateral, 2, retrolateral, 2, ventral, 2-2, II pair, femur, dorsal, 4, prolateral, 2, retrolateral, 2, ventral, 0, patella, slender spine at tip, tibia, dorsal, 1, prolateral, 2, large and heavy, retrolateral, 2, ventral, 2-2-2-2-2, basal pair small, 2p and 3p above base large and heavy, metatarsus, dorsal, 2, prolateral, 2, retrolateral, 2, III pair, femur, ventral, 2 small stout spines, widely separated, patella, slender spine at tip, lateral, 1-1, IV pair, femur, ventral, oblique row of 3 short stout spines at tip, followed by a short space and a row of 6 spines ending at base, patella, slender bristle at tip, lateral, 1-1; *palpus* large, shorter than cephalothorax, patella little

longer than wide, 1 bristle at tip, tibia shorter than patella with a large ventral lobe, equal in size to joint, with many long bristles, paracymbium small and dark, clavis the most prominent piece, sides almost parallel, protrudes with tip recurved, embolus a slender straight tube with tip resting against clavis.

Female. Length, 8.5 mm., ceph. 3.5 mm., abd. 6.1 mm.

Cephalothorax bright brown, cephalic portion much darker, anterior margin little narrowed, thoracic groove a deep pit rather than a groove, no bristles posterior to lateral eyes as in male; *eyes* as in male; *mandibles* mahogany brown, geniculate, boss distinct, median margin not excavate, superior margin of fang groove with two large teeth, inferior margin with two small teeth; *labium*, *maxillae* and *sternum* as in male; *abdomen* elliptical, dorsum slightly convex, yellowish-gray, with folium outlined with quite wide emarginate black stripes, from base to near spinnerets, each section with a dark spot, venter dull brown; *legs*, 1-2-4-3, brown, anterior patellae spines as in male, no ventral spines on femora as in male; *epigynum*, a heavily chitinized plate, wider than long, with a small anterior turned scape, each side depressed ovals that probably are the openings.

Holotype ♂ Haiti: Cap Haitien, January 1913, (Mann)

Allotype ♀ Haiti; Cap Haitien, January 1913, (Mann)

Paratypes 4 ♀ Haiti; Cap Haitien, January 1913, (Mann)

The generic position of this species is very uncertain. The male agrees with *Parawixia* in the general structure of the palpus and the row of ventral spines on all femora. The female however, has the elliptical abdomen without tubercles and a folium and epigynum very similar to *Metazygia wittfeldae* (McCook), the genotype. Male and female undoubtedly belong together as they were collected at the same time and have the same abdominal markings. Typical forms of both *Metazygia* and *Parawixia* have the second tibia of the male modified. *M. manni* however, has no specialized spines on that joint. The mandibles of the male are modified, which is quite characteristic of *Hispaniola* species.

Genus METEPEIRA F.O.P.—Cambridge 1903

METEPEIRA INERMA spec. nov.

Figure 20

Female. Length, 4.1 mm., ceph. 1.6 mm., abd. 2.6 mm. long, 2.1 mm. wide.

Cephalothorax yellowish-brown, paler about eyes and on posterior portion, anterior margin about half the greatest width, head little raised, no thoracic groove; *eyes* cover anterior margin, anterior row recurved, eyes equidistant, a.m.e. separated by fully a diameter and a half, posterior row very slightly recurved, p.m.e. smaller than a.m.e., separated by a diameter, lateral eyes touching and subequal; *quadrangle* narrower behind than in front and wider than high; *clypeus* equals more than a radius of a.m.e.; *mandibles* vertical, pale brown, boss very small, fang groove with three teeth on each margin; *labium* wider than long, tip rebordered and pointed; *maxillae* twice as long as labium; *sternum* brown, almost as wide as long, (2.5 : 3.0), sides emarginate; *abdomen* rather faded, basal half with a pair of transverse pale spots near middle, posterior half with a pair of converging scalloped dark lines with area between dark, entire abdomen in life probably covered with long dark hairs from pits, as many remain on sides, venter with a wide dark stripe from pedicel to spinnerets with a central pale spot, each side of spinnerets a small pale spot; *legs*, 1-2-4-3, pale, with tips of joints darker, I pair quite long, metatarsus plus tarsus equals tibia plus patella, spines few and weak, all patellae with a long distal and basal spines, III and IV tibiae with long dorsal basal spines, I pair, femur, ventral, 0, dorsal, 0, prolateral, 1, retrolateral, 0, tibia, dorsal, 2, distal and basal, prolateral, 1, retrolateral, 1, prolateral and retrolateral rows of very long bristles, ventral, 0, metatarsus, ventral, 1, basal; *epigynum* small for the size of the spider, median scape colorless, slender with a recurved tip, each side are chitinized lobes.

Holotype ♀ Haiti; Cap Haitien, March 1934, (Utawana Expedition)

Paratypes 3 ♀s Haiti; Cap Haitien, March 1934, (Utawana Expedition)

Metepeira inerma belongs to the group of which *labyrinthea* (Hentz) is the most widely distributed and best known. It is separated from that species by the smaller size, fewer spines on the legs and by the epigynum, where the scape is almost colorless, slender and rather short and the openings are widely separated. It does not agree fully with the original definition of the genus by F.O.P.—Cambridge, as the lateral eyes are almost touching, and the first tibia plus the patella equals the first metatarsus plus the tarsus.

Genus NEOSCONA Simon 1864

NEOSCONA OAXACENSIS (Keyserling)

Epeira oaxacensis Keyserling, 1864, p. 121, pl. 5, figs. 12-16. "♀ Oaxaca, (Mexico)"

Epeira theisii Banks, 1903, nec Walckenaer, 1837

♀ Haiti; hills near Port-au-Prince, 2,000 feet, 2 October 1934, (Darlington)

♂ ♀s Haiti; Kenskoff, 4,200 feet, 2 May 1935, (Roys)

NEOSCONA VULGARIS (Hentz)

Epeira vulgaris Hentz, 1847, p. 469, pl. 30, fig. 6; reprint, p. 108, pl. 12, fig. 6. "♀ South Carolina"

Epeira volucripes Keyserling, 1884, p. 528, pl. 13, fig. 27. "♀ Central America, Panama and Hayti, Universität Cambridge."

nec *Epeira nautica* Simon, 1897, Petrunkevitch, 1930, Gertsch.

The synonymy of this species has been confused for many years. Emerton thought he recognized this species as a northern spider and added several northern localities as foot notes in the reprint of Hentz Spiders of the United States, 1875, and in 1884, he placed *E. vulgaris* as a synonym of the European spider *sclopetaria* of Clerck. The two species belong to different sections of the genus but the error has been continued for many years. Banks recognized the Hentz species and in 1900, placed *volucripes* of Keyserling as a synonym in a short paper on Alabama spiders but this synonymy has been overlooked by later workers.

In 1897, Simon identified *Epeira nautica* L. Koch in a collection of spiders from St. Vincent. *Epeira nautica* was described by Koch in 1875 from Egypt and Syria. In the Museum collection are two females from Arabia, received from the Paris Museum. Both are pale and are much larger than any specimens of *volucripes* or *vulgaris* in the collection and while size and color are uncertain characters to use, the epigynum show decided differences. The scape of *nautica* is much longer in proportion to the width and when turned back, as so often is the case, the darkened areas are connected and the depressed spots are not the same.

Males of *vulgaris* and *volucripes* (type material of the latter), have been carefully compared, the palpi are identical in every part, but the number of short stout spines on the second tibia varies. In a

specimen from Santiago de las Vegas, Cuba, there is a row of ten short black spines; in the type of *volucripes* from Haiti, there are but five or six spines; in a specimen from Shreveport, Louisiana, there are five spines irregularly placed. This difference may be only individual, but it is hardly enough to separate into two species.

♂ ♀ type Haiti; *Epeira volucripes* Keys.

3 ♀ Haiti; 1858, Dr. Weinland.

2 ♀ Haiti; Cap Haitien, March 1934, (Utowana Expedition)

♀ Haiti; Cap Haitien, January 1913, (Mann)

♀ Haiti; Dame-Marie, 1941, (Audant)

Genus NEOSCONELLA F.O.P.—Cambridge 1904

NEOSCONELLA PARVA spec. nov.

Figures 19, 24

Female. Length, 3.8 mm., ceph. 1.7 mm., abd. 2.6 mm. long, 2.1 mm. wide.

Cephalothorax dull yellow, lateral margins and cervical grooves darker, cephalic portion not elevated behind posterior row of eyes, no thoracic groove; *eyes* cover anterior margin, anterior row of eyes recurved, eyes small and subequal, a.m.e. separated by more than a diameter with a pair of bristles between, posterior row straight, p.m.e. largest of the eight, surrounded by wide dark rings that touch, lateral eyes touching, p.l.e. slightly larger than a.l.e.; *quadrangle* much narrower behind than in front and as high as wide in front; *clypeus* less than a diameter of a.m.e.; *mandibles* yellow, vertical, boss small, fang groove horizontal, superior margin of groove with three teeth, inferior margin with three smaller teeth; *labium* brown, wider than long, tip rebordered; *maxillae* brown, more than twice as long as labium, sides parallel; *sternum* brown, three-quarters as wide as long, convex, pointed in front of IV coxae; *abdomen* oval, no shoulder tubercles, basal half high, a pale diamond on basal half with heavy brown marks each side, on sides irregular dark spots, venter with a broad dark stripe from groove to spinnerets with a pale spot in center; *legs* relatively short, yellow, with no darker markings, varying little in length, but anterior pairs longer, very few spines, femora with no ventral spines, anterior tibiae with very few ventral spines, posterior tibiae with a very slender dorsal basal spine; *epigynum* large for the size of the spider and protruding from the venter, median scape short, broad,

with median area depressed, each side of scape are large openings with heavily chitinized margins.

Holotype ♀ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 2,000–5,000 feet, June 1938, (Darlington)

Paratypes ♀ Dom. Rep.; Loma Rucilla Mountains, north of Cordillera Central, 5,000–8,000 feet, June 1938, (Darlington)

Neosconella parva does not agree in all points with the description of the genus given by F.O.P.—Cambridge in the Biol. Centr. Amer., 1904, 2, p. 474. The p.m.e. are the largest of the eight and the posterior row of eyes is straight, rather than recurved. Also, there are three teeth on the upper margin of the fang groove instead of four. However, the spines on the legs are very few, the legs vary little in length, and the epigynum is of the same type.

Genus PARAWIXIA F.O.P.—Cambridge 1904

PARAWIXIA CAMBRIDGEI Bryant

Parawixia cambridgei Bryant, 1940, p. 342, figs. 104–106. “♂ ♀ Cuba; Oriente, coast below Pico Turquino, June 1936”

♀ Haiti; Diquini, November 1912, (Mann)

PARAWIXIA DARLINGTONI spec. nov.

Figures 14, 16, 21

Male. Length, 4.1 mm., ceph. 2.1 mm., long, 1.9 mm. wide, abd. 2.5 mm. long, 2.0 mm. wide.

Cephalothorax low and flat, cephalic portion a bright yellow triangle to groove, remainder a chestnut-brown, both cephalic and thoracic portions with many fine white hairs, a crest of white hairs posterior to lateral eyes, anterior margin half the greatest width, thoracic groove long and distinct; *eyes* cover anterior margin, anterior row strongly recurved, a.m.e. largest of the eight, on a small lobe that is carried forward, eyes separated by less than a diameter, posterior row not as strongly recurved, p.m.e. little more than a radius of a.m.e. and separated by more than a diameter, lateral eyes touching and on a distinct tubercle, subequal, smaller than p.m.e., a.l.e. and p.m.e. form a straight line; *quadrangle* wider in front than behind and wider than high; *clypeus* below a.m.e. less than a diameter of a.m.e.; *mandibles* dark brown, vertical, basal half granular, fang groove horizontal, and fang

short; *labium* wider than long, tip rebordered; *maxillae* twice as long as labium; *sternum* triangular, not quite as wide as long, pale, shaded with gray about margins, pointed in front of IV coxae, I coxae with a small hook and a large basal lobe, IV coxae with a strong, dark spur, IV trochanter with a dark spine; *abdomen* pale, with no folium, almost as wide as long, (7:8), a pair of small tubercles between shoulder angles and not on lateral margins, basal third with many short bristles directed upward, each from a dark base, venter gray with a pair of conspicuous white spots anterior to spinnerets; *legs*, 1-2-4-3, rather short, not differing greatly in length, pale with a wide dark band on femora, distal and median bands on tibiae and metatarsi, spines, I pair, femur, dorsal, 4 small spines in a median row, prolateral, 4, second from distal end very long, retrolateral, 3, all small spines, ventral, a retrolateral row of 6 short spines on distal half, a slender prolateral spine opposite the retrolateral row, patella, dorsal, a slender spine at tip, a small spine at base, prolateral, 2, retrolateral, 1, tibia, dorsal, a small spine near base and a long spine near tip, prolateral, 3 long spines on distal half, retrolateral, 2, ventral, a prolateral row of 5 long spines, retrolateral, 0, metatarsus, 0, II pair, slightly larger than I pair, femur, dorsal, median row of 3 small spines, prolateral, 2, retrolateral, 2, ventral, a strong median basal spine longer than the diameter of the joint from a raised base, a retrolateral row on distal half of 6 short, strong spines, patella, same as I pair, except that the basal spine is missing, tibia, dorsal, median row of 3 slender spines, prolateral, 5, retrolateral, 0, ventral, a prolateral row of 4 graduated spines more than diameter of joint, a retrolateral row of 3 on basal third, all from a raised base, basal spine almost twice the diameter of the joint, metatarsus, sinuous, with 1 dorsal median spine about middle, III pair, femur, ventral, 0, patella, dorsal, 1 slender spine at tip, lateral, 1-1, IV pair, femur, dorsal, median row of 3 slender spines, ventral, a retrolateral row of 8 graduated spines, 2 distal longest, patella, dorsal, 1 slender spine at tip, 1 near base, lateral, 1-1, tibia, dorsal, 1 median spine at base, ventral, 3 median; *palpus*, shorter than cephalothorax, patella as long as wide, with 1 long bristle at tip, paracymbium large and dark, tip widened and turned back, but not divided, clavis very large, tip ending in two points.

Female. Length, 4.1 mm., ceph. 1.9 mm., abd. 3.0 mm. long, 3.0 mm. wide.

Cephalothorax chestnut-brown, longer than wide, cephalic portion with many silvery hairs, slightly convex, anterior margin narrowed, no thoracic groove; *eyes* cover anterior portion of head, median eyes

carried forward, anterior row recurved, a.m.e. only slightly larger than a.l.e., separated by little more than a diameter, lateral eyes on a low tubercle and touching, posterior row recurved, p.m.e. little larger than a.m.e., separated by fully a diameter; *quadrangle* only slightly wider in front and as high as wide; *clypeus* below a.m.e. equals a diameter of a.m.e.; *mandibles*, small, brown, vertical, superior margin of fang groove with three teeth, inferior margin with two teeth; *sternum* brown, little longer than wide, pointed in front of IV coxae, IV coxae touching; *abdomen* as wide as long, widest near base, a pair of widely separated small tubercles between shoulder angles, slightly larger than in male, a pair of dark basal spots extending to tubercles and vague paired dark marks on posterior two-thirds, that suggest a folium, on a cream color ground, many dark bristles, venter dark with a pair of cream-colored spots anterior to spinnerets; *legs*, 1-2-4-3, rather short, dark brown, tibiae with median pale band, very few spines, femora, 0, anterior patellae, dorsal, 1 long spine at tip, 1 short spine at base, prolateral, 2, retrolateral, 1; *epigynum* rather small, area wider than long, a slender wrinkled white scape at anterior end, with tip much narrowed and abruptly turned out, best seen in a lateral view, above the fold are two widely separated black spots and slightly above them, smaller circles that are probably the openings.

Holotype ♂ Dom. Rep.; Villa Altagracia, July 1938, (Darlington)

Allotype ♀ Haiti; La Visite, 6,000-7,000 feet, 16-23 September 1934, (Darlington)

The male and female of this species were not found together, but they have similar markings and are about the same size. They are the only species seen from the island with tubercles between the shoulder angles. The genus was erected for Central American species, all much larger than *darlingtoni*, with small tubercles at the tip of the abdomen. The presence or absence of spines on the posterior trochanters is a variable character in the genus. The arrangement of spines on the second tibia of the male is very similar to that found in *Wixia*.

Genus VERRUCOSA McCook 1888

VERRUCOSA ARENATA (Walckenaer)

Epeira arenata Walckenaer, 1837, 2, p. 133. "♂ ♀ La Georgie"

♀ Haiti; Grande Riviere, January 1913, (Mann)

♀ Dom. Rep.; Puerto Plata, 30 August 1938, (Darlington)

Genus WAGNERIANA F.O.P.—Cambridge 1904

WAGNERIANA TAURICORNIS (O.P.—Cambridge)

Epeira tauricornis O.P.—Cambridge, 1889, p. 44, pl. 6, figs. 2, 3. "♂ ♀
Guatemala ——— Panama"

♀ Haiti; Port-au-Prince, (Crew), Banks Coll.

♀ Haiti; Port-au-Prince, July 1941, (Audant)

♂ Haiti; hills near Port-au-Prince, 2,000 feet, 2 October 1934,
(Darlington)

Subfamily METINAE

Key to Genera

1. Fourth femur with a prolateral row of curved cilia 2
Fourth femur with no prolateral row of cilia 4
2. Curved cilia on basal half of femur, abdomen with posterior truncate tubercle *Alcimospheus*
Curved cilia on entire length of femur, abdomen with no posterior tubercle 3
3. First tibia and metatarsus with rows of triangular cuspules *Plesiomete*
First tibia and metatarsus with no rows of cuspules *Leucauge*
4. Lateral eyes widely separated on separate tubercles *Azilia*
Lateral eyes touching on a common tubercle 5
5. Mandibles with group of black nodules on inner margin *Metargyra*
No black nodules on mandibles 6
6. Third femur with one or two rows of long straight colorless trichobothria
(both ♂ and ♀), paracymbium of male palpus much divided
Pseudomete
Third femur with no rows of colorless trichobothria 7
7. P.M.E. larger than A.M.E. *Meta* (?)
A.M.E. larger than P.M.E. *Meta* (?)

Genus ALCIMOSPHEUS Simon 1895

ALCIMOSPHEUS LICINUS Simon

Alcimospheus licinus Simon, 1895, p. 930. "♀ Jamaica, S. Domingo."

Simon based this genus on females of this species from Jamaica and San Domingo. It probably is found on all of the islands of the West Indies, but as far as known, it has never been reported from either Central or South America. The male is still unknown. Because of the rows of curved cilia on the fourth femur, it should be placed with *Leucauge* in the *Metinae*.

♀ Haiti; Trouin, 26 June 1934, (Loomis)

♀ s Dom. Rep.; Puerto Plata, July–August 1941, (Hurst)

Genus AZILIA Keyserling 1881

AZILIA sp.

♀ pullus Haiti; La Visite, 6,000–7,000 feet, 16–23 September 1934, (Darlington)

This specimen is probably one moult from maturity and it may be *Azilia montana* Bryant, known only from the holotype, a female found on the south side of Pico Turquino, Cuba, at an elevation of from 3,000–5,000 feet.

Genus LEUCAUGE White 1841

LEUCAUGE REGNYI (Simon)

Argyropeira regnyi Simon, 1897, p. 871. “♂ ♀ St. Vincent”

Meta bigibbosa Banks, 1903, p. 341 *nec* Keyserling, 1863

♀ Haiti; Grande Riviere, January 1913, (Mann)

♀ Haiti; Kenskoff, 4,500–5,500 feet, 2 September 1934, (Darlington)

♀ Haiti; Trou Caiman, 4 September 1934, (Bates)

♀ Haiti; hills near Port-au-Prince, 2,000 feet, October 1934, (Darlington)

♂ ♀ Haiti; Kenskoff, 4,300 feet, May 1935, (Roys)

♂ ♀ Dom. Rep.; Puerto Plata, April–May 1941, (Hurst)

Genus META C. Koch 1836

META (?) BLANDA spec. nov.

Figure 22

Female. Length, 2.6 mm., ceph. 1.0 mm., abd. 1.5 mm.

Cephalothorax pale, with a wide dark line above coxae, moderately convex, anterior margin narrowed, no thoracic groove, a long bristle posterior to lateral eyes; *eyes* cover anterior margin, anterior row recurved, eyes equidistant, a.m.e. slightly larger than a.l.e., posterior row only slightly recurved, lateral eyes touching on a common tubercle, p.m.e. heavily ringed with black, separated by about a radius and from p.l.e. by more than two diameters, p.m.e. slightly larger than

a.m.e.; *quadrangle* narrower behind and higher than wide; *clypeus* less than a diameter of a.m.e.; *mandibles* pale, vertical, no boss, fang groove oblique, superior margin with three small teeth; *labium* wider than long, tip rebordered; *maxillae* more than twice as long as labium, margins parallel; *sternum* brown, slightly convex, triangular, almost as wide as long, ending in a blunt point in front of IV coxae; *abdomen* oval, white with an indistinct folium on basal third, and a heavier dark folium on distal third, venter dark with an irregular white spot in middle and curved white lines each side, that do not reach spinnerets; *legs*, 1-2-4-3, pale with a few hairs and not many true spines, all patellae with a long apical spine, spines I pair, femur, 1 prolateral about middle, patella, 1 dorsal near base, 1 apical, tibia, dorsal, 2, prolateral, 2, retrolateral, 1, ventral, 0, metatarsus, no true spines but a prolateral row of stiff bristles; *epigynum*, area wider than long, a very broad short median scape that protrudes outward, openings on extreme lateral margins, large, surrounded by a wide heavily chitinized ring, dark tubes below the skin lead to small black dots below tip of scape.

Holotype ♀ Haiti; Kenscoff, 4,300 feet, 1 May 1935, (Roys)

Paratypes ♀s Dom. Rep.; Loma Rucilla Mountains, Cordillera Central, 5,000-8,000 feet, June 1938, (Darlington)

Meta (?) *blanda* is congeneric with *Meta adjuntaensis* Petrunkevitch, from Puerto Rico, also described from a female. Dr. Petrunkevitch describes another species of *Meta* from Puerto Rico in the same paper and states that they do not conform strictly to the type of the genus.

The genus *Meta* is based on *menardi*, a common species of Europe and North America. It is large, with an oval abdomen, rounded and very high at the base, quite unlike the species reported here. In 1899, O.P.-Cambridge erected the genus *Metabus* for the female *gravidus* found in Guatemala. The diagnosis differs little from *Meta* and F.O.P.-Cambridge in 1903, (Biol. Centr. Amer., 2 : 446) places *Metabus gravidus* in the genus *Meta* but states that it is possible that with material of both sexes, the genus *Metabus* could be separated from *Meta*. It is not impossible, that *blanda* and *adjuntaensis* Petr. belong to this genus, for they certainly are not congeneric with *Meta*.

META (?) HOTTEIENSIS spec. nov.

Figure 25

Female. Length, 4.0 mm., ceph. 1.5 mm., abd. 3.0 mm. long, 2.2 mm. wide.

Cephalothorax pale yellow, slightly darker in eye area, with a few long bristles on cephalic portion, anterior margin less than half the greatest width, cephalic portion not high, and not separated from thoracic, thoracic groove a small round depression; *eyes* cover entire anterior margin, anterior row strongly recurved, a.m.e. largest of the eight, separated by a diameter and from a.l.e. by less, a.l.e. little more than a radius of a.m.e., posterior row almost straight, lateral eyes touching and subequal, p.m.e. more than a radius of a.m.e. and separated by a radius; *quadrangle* wider in front and higher than wide; a long bristle between a.m.e.; *clypeus* below a.m.e. about a radius of a.m.e.; *mandibles* pale, geniculate, vertical, no boss, superior margin of fang groove with three teeth, inferior margin with three smaller teeth; *labium* dark, wider than long, with a rebordered tip; *maxillae*, margins dark, twice as long as labium; *sternum* pale, with a few hairs about margins, sides almost parallel, pointed in front of IV coxae; *abdomen* oval, grayish-brown, no pattern but scattered silvery dots, venter with a dark rectangular spot from fold to spinnerets, pale each side; *legs*, 1-2-4-3, anterior femora dark, posterior femora pale with dark ring at tip, tibiae with broad middle and distal dark rings, most distinct on ventral side, spines, femora, no ventral spines, spines few and weak on tibiae, no spines on metatarsi; *epigynum*, a broad, short median scape, with lateral margins wrinkled and median area depressed, tip abruptly narrowed and turned out, best seen in a lateral view, a pair of very long divergent bristles at base of scape, on each side are broad ear-shaped openings with heavily chitinized margins; a pair of small black dots at tip of scape.

Holotype ♀ Haiti; foot hills northeast of Massif de la Hotte, 3,000-4,000 feet, October 1934, (Darlington)

This species has an epigynum that is similar to *Aranea detrimentosa* (Cambr.) from Guatemala. But in this species, the tip of the scape is rounded, the openings on each side are smaller and the pair of long bristles at the base of the scape are lacking.

GENUS METARGYRA F.O.P. Cambridge 1903

METARGYRA MACULATA spec. nov.

Figure 15

Female. Length, 6.0 mm., ceph. 2.2 mm., abd. 4.0 mm., long 3.6 mm. wide.

Cephalothorax pale, cephalic portion high, covered with short hairs

and a few long bristles in the middle area anterior to the depression, no thoracic groove; *eyes* do not cover entire anterior margin, anterior row recurved, a.m.e. largest of the eight, separated by a radius, and from a.l.e. by a diameter, posterior row straight, lateral eyes touching and subequal, p.m.e. separated by less than a diameter and from p.l.e. by more than a diameter; *quadrangle* slightly wider in front and higher than wide; *clypeus* below a.m.e. less than a radius of a.m.e.; *mandibles* pale, vertical, geniculate, no boss, superior margin of fang groove with three teeth, and a row of six stiff bristles above groove, each bristle from a distinct nodule, and on inner margin of mandibles, above the groove a group of black nodules, inferior margin of groove with three teeth; *labium* wider than long, heavily rebordered; *maxillae* twice as long as labium, sides parallel; *sternum* pale, with many long bristles, convex, three-quarters as wide as long, ending in a truncate lobe in front of IV coxae; *abdomen* oval, almost as wide as long, dull gray, with small pale spots and irregular darker spots, venter gray, with a median square of pale dots with a darker triangle in the middle; *legs*, 1-2-4-3, anterior pairs very long, I femur as long as cephalothorax, legs pale, femora of first and second pairs with dark ventral dots, no specialized cilia on III and IV tibiae, spines, femora with no ventral spines, I pair, femur, prolateral, 3, retrolateral, 1 small spine near tip, dorsal, 1 small spine at base, patella, dorsal, 1 slender spine at tip, 1 smaller spine at base, lateral, 0, tibia, dorsal, 2, prolateral, 2, retrolateral, 1, ventral, 0, metatarsus, 0, but many hairs and bristles, II pair, femur, dorsal, 1 small spine at base, lateral, 1-1, patella, same as I pair, tibia, dorsal, 1 at tip, 1 at base, prolateral, 1, ventral, 0, metatarsus, 0, III pair, femur, ventral, 2 parallel rows of long bristles, posterior pairs with very few spines; *epigynum*, area wider than long, a broad median septum with ear-shaped openings each side.

Holotype ♀ Haiti; Ennery, 7 September 1934, (Darlington)

Paratype ♀ Dom. Rep.; Cordillera Central, 2,000-4,000 feet, Constanza to Jarabacoa, August 1938, (Darlington)

The generic position of this species is doubtful. In the key for genera, given by F.O.P.-Cambridge, in the Biol. Centr. Amer., 1902, 2:439, for the genera of Metinae, the first femur is three times as long as the carapace for the genus *Metargyra*. This character may be confined to males, but not females. The row of bristles from nodules above the margin of the fang groove is very unusual.

Genus PLESIOMETA F.O.P.—Cambridge 1903

PLESIOMETA ARGYRA (Walckenaer)

Tetragnatha argyra Walckenaer, 1837, 2, p. 219, pl. 19, fig. 1. "♂ ♀ ———
Antilles, ——— La Guadeloupe"

Haiti; Port-au-Prince, (Crew), Banks Coll.

♀ Haiti; Diquini, November 1912, (Mann)

♀ Haiti; Grande Riviere, January 1913, (Mann)

♂ Haiti; Trou Caiman, 4 September 1934, (Bates)

♂ Dom. Rep.; Sanchez, July 1938, (Darlington)

♂ ♀ Dom. Rep.; Puerto Plata, April–August 1941, (Hurst)

♀ Haiti; Dame-Marie, 1941, (Audant)

Genus PSEUDOMETA F.O.P.—Cambridge 1903

The genus *Pseudometa* was based on the species *flava* of O.P.—Cambridge from Tabasco, Mexico, known only from the male. Unfortunately, no specimen of this species is in the museum collection. The definition of the genus is short, and emphasis is laid on how it differs from related genera. It is separated from *Leucauge* and *Mecynometa* by the lack of curved cilia on the fourth femur and in the male by the fine silky hairs on the legs. The male palpus, however, is distinct, as the embolus and conductor are in a flat coil at the apex of the bulb, and the paracymbium is broken into several irregular apophyses. F.O.P.—Cambridge places in the genus six species, three known only from males and three from females. The figures of the epigynums of the three females are of two distinct types and there is a possibility that all are not adult.

The museum collection has males and females of *alboguttata* (O.P.—Cambr.) from Barro Colorado, C. Z., a male of *bella* Banks from Costa Rica, and the following from the West Indies, *distincta* Bryant, ♂, ♀, Cuba, *linguiformis* (Frang.) ♀, Cuba, *hamata* Bryant, ♂, ♀, Puerto Rico, and four species from Hispaniola, *cornuta* Bryant, ♂, ♀, *conspersa* Bryant, ♀, *linguiformis* (Frang.), ♀, and *obscura* Bryant, ♀.

A careful examination of the females of all these species, show on the third femur, a retrolateral row of long colorless bristles. In some species, there are but four bristles near the base, again, the row extends the length of the joint and in *linguiformis* (Frang.), there are two parallel ventral rows. In the males examined, the bristles are some-

times absent. In *cornuta* spec. nov., there are retrolateral rows on the third and fourth femora, and in *hamata* Bryant, the row extends the entire length of the femur, as in the female, but *distincta* Bryant, male has no bristles. So probably these bristles have a generic value only in the female and can not be used, as are the short curved cilia found on the fourth femur of *Leucauge*.

PSEUDOMETA CONSPERSA spec. nov.

Figure 29

Female. Length, 5.0 mm., ceph. 2.1 mm., abd. 3.1 mm.

Cephalothorax pale, darker from eyes to groove, cephalic portion high, rising behind posterior eyes and falling gradually to groove, a few bristles above groove; *eyes* about cover anterior margin, anterior row recurved, a.m.e. separated by less than a diameter and from a.l.e. by more than a diameter, posterior row only slightly recurved, same length as anterior row, lateral eyes subequal on a common tubercle and separated by a line, p.m.e. largest of the eight, separated by less than a diameter and from p.l.e. by more than a diameter; *quadrangle* about square; *clypeus* less than a radius of a.m.e.; *mandibles* brown, vertical, swollen at base, boss faint, superior margin of fang groove with three teeth, one farthest from base of fang largest, above teeth a row of four short stiff bristles, inferior margin with four teeth, middle two small and subequal; *labium* brown, wider than long, tip rebordered; *maxillae* more than twice as long as labium; *sternum* triangular, pale, with a dark margin; *abdomen* oval, convex, widest at base, pale, mottled with brown, on posterior half the brown forms indistinct cross bars, venter pale, with a large dark spot in middle; *legs*, 1-2-4-3, anterior pairs much longer, covered with short hairs, pale, with brown rings most distinct on ventral side, no ventral femoral spines, spines, I pair, femur, prolateral, 1, patella, 1 at tip, tibia, dorsal, 2, basal and median, prolateral, 0, retrolateral, 2, near tip, ventral, 0, metatarsus, 0, II pair, femur, 0, patella, 1 at tip, tibia, dorsal, 2, prolateral, 1, retrolateral, 1, ventral, 0, metatarsus, 0, III pair, femur, a basal, retrolateral, row of 5 long, colorless bristles; *epigynum*, dark reddish-brown, heavily chitinized, area wider than long, a wide transverse dark plate, below a broad median septum, openings probably small depressions below upper margins of plate, in anterior portion below skin, two oval oblique spermathecae.

Holotype ♀ Haiti; La Visite, 6,000-7,000 feet, 16-23 September 1934, (Darlington).

PSEUDOMETA CORNUTA spec. nov.

Figures 26, 27, 28

Male. Length, 3.0 mm., ceph. 1.8 mm., abd. 2.0 mm.

Cephalothorax a dull yellow, cephalic portion marked off by heavy gray lines, higher than thoracic, thoracic depression deep, but of indefinite shape; *eyes* cover anterior margin, anterior row recurved, eyes subequal, a.m.e. separated by little more than a diameter and from a.l.e. by a little more, posterior row very slightly recurved, lateral eyes touching, p.m.e. little larger than a.m.e., separated by a diameter and from p.l.e. by a little more; *quadrangle* same width in front as behind, higher than wide; *clypeus* more than a radius of a.m.e.; *mandibles* vertical, long, basal portion swollen, not smooth, distinct longitudinal ridge on outer margin, no boss, inner margin on distal half with three long colorless bristles that interlace with bristles of opposite margin, fang groove slightly oblique, superior margin with three small teeth, inferior margin with two teeth; *labium* wider than long, rebordered; *maxillae* more than twice as long as labium, tips widened; *sternum* pale, triangular, as wide as long, carried between IV coxae in a broad lobe; *abdomen* oval, pale yellow with scattered white blotches, very few colorless hairs and long colorless bristles, venter pale; *legs*, 1-2-4-3, little darker than abdomen, with colorless hairs, anterior pairs very long, spines few and dark, no spines on metatarsi, III and IV femora, retrolateral basal row of long colorless bristles; *palpus* as long as cephalothorax, patella with one long bristle, tibia with an equally long bristle, base of cymbium divided into a long, straight black process and a smaller hook directed forward, a thin leaf-like apophysis about the middle, best seen in a dorsal view; the most conspicuous part of the palpus is the large smooth black process at the base with a large posterior part ending in a rather slender tip and a much smaller anterior portion, all parts are heavily chitinized; embolus a small black circle at the tip, coiled with the conductor.

Female. Length, 4.0 mm., ceph. 1.7 mm., abd. 2.5 mm.

Cephalothorax and *eyes* as in male; *mandibles* vertical, no long bristles on inner margins as in male, fang groove slightly oblique, superior margin with three teeth, inferior with two teeth; *mouth parts* and *sternum* same as in male; *abdomen* a broad oval, yellowish gray, covered with pale blotches, venter pale; *legs*, 1-2-4-3, pale, with faint narrow rings at tips and middle of tibiae and metatarsi, very few spines but many fine hairs, spines, I pair, femur, prolateral, 3, patella, 1 at tip, tibia, dorsal, 1, retrolateral, 2, ventral, 0, metatarsus, 0, II pair,

femur, 0, patella, 1 at tip, tibia, dorsal, 1, prolateral, 2, ventral, 0, metatarsus, 0, III pair, femur, a retrolateral row of colorless bristles, posterior pairs with very few spines; *epigynum*, large, area wider than long, a pale recurved tip, twice as long as wide, with very dark areas each side separated by half a diameter.

Holotype ♂ Dom. Rep.; Cordillera Central, Loma Viega, south of Constanza, 6,000 feet, August 1938, (Darlington)

Allotype ♀ Dom. Rep.; Cordillera Central, Loma Viega, south of Constanza, 6,000 feet, August 1938, (Darlington)

Paratypes ♂ ♀ Dom. Rep.; Loma Viega, 6,000 feet, August 1938, (Darlington)

Paratypes ♂ ♀ Dom. Rep.; Loma Rucilla Mountains, north of Cordillera Central, 5,000–8,000 feet, June 1938, (Darlington)

Paratypes ♂ ♀ Dom. Rep.; Cordillera Central, rain forest, north of Valle Nuevo, 6,000+ feet, August 1938, (Darlington)

The male of *Pseudometa cornuta* has an enormous hook at the base of the cymbium and a thin leaf-like process at the middle of the cymbium on the dorsal side, this is not found in the Central American species. The embolus and conductor are very small. The three pairs of bristles on the inner margin of the mandibles is unusual.

PSEUDOMETA LINGUIFORMIS (Frang.)

Figure 32

Meta linguiformis Franganillo, 1930, p. 20; 1936, p. 94, fig. 47. "♀ Cuba; Sierra Maestra"

Pseudometa linguiformis Bryant, 1940, p. 353, fig. 128.

Female. Length, 4.5 mm., ceph. 2.0 mm., abd. 3.0 mm. long, 2.6 mm. wide.

Cephalothorax pale yellow, cephalic portion high and outlined with gray, anterior margin two-thirds the greatest width, no thoracic groove; *eyes* do not cover anterior margin, anterior row recurved, a.m.e. separated by fully a diameter, slightly larger than a.l.e., posterior row very slightly recurved, p.m.e. largest of the eight, separated by slightly less than a diameter and from p.l.e. by a diameter and a half, lateral eyes contiguous and slightly raised; *quadrangle* little wider in front than behind and higher than wide; *clypeus* less than a diameter of a.m.e. and retreating; *mandibles* pale, geniculate, no boss, superior margin with three teeth, inferior margin with three smaller teeth, inner margin above fang groove with many dark granules; *labium* dark

brown, wider than long, tip rebordered; *maxillae* more than twice as long as labium, tip dark and transverse; *sternum* dark brown, triangular, convex, as wide as long, sides emarginate, ending in a truncate lobe in front of IV coxae; *abdomen* a broad oval, base high, dull brown, mottled with paler dots, a pale red median stripe on posterior half, venter with a mottled rectangle with a distinct dark spot in center, two diagonal stripes on sides; *legs* pale, with no dark rings, anterior pairs very long, spines black, spines, I pair, femur, dorsal, 0, prolateral, 3, retrolateral, 2 small near tip, ventral, 0, two rows of black dots, very few hairs, patella, dorsal, 1 at tip, tibia, dorsal, 2, basal and median, prolateral, 3, retrolateral, 3, ventral, 0, few short hairs and a few black dots, metatarsus, 0, but rows of black hairs, II pair, femur, prolateral, 2, patella, dorsal, 1 at tip, tibia, dorsal, 2, prolateral, 1, retrolateral, 1, ventral, 0, metatarsus, 0, posterior pairs, spineless except for spine at tip of patellae and dorsal basal spine on tibiae, III femur, two ventral rows of long colorless bristles; *epigynum* area wider than long, the median scape short, triangular and turned forward, with heavily chitinized margins each side, spermatheca widely separated anterior to openings, anterior to median scape are two depressions.

♀ Haiti; Kenscoff, 4,500–5,500 feet, 2 September 1934, (Darlington)

PSEUDOMETA OBSCURA spec. nov.

Figure 30

Female. Length, 4.3 mm., ceph. 2.0 mm., abd. 2.6 mm. long, 2.3 mm. wide.

Cephalothorax dull yellow, cephalic portion high, veined with dark gray, with the heaviest markings near posterior end, two-thirds as wide as long, anterior margin more than half the greatest width, no groove but a depression; *eyes* do not cover anterior margin, anterior row recurved, a.m.e. separated by fully a diameter and from a.l.e. by less, posterior row very slightly recurved, eyes equidistant, heavily ringed with black, p.m.e. slightly larger than a.m.e., separated by about a diameter, lateral eyes touching on a low tubercle, p.l.e. larger than a.l.e.; *quadrangle* slightly wider behind than in front and higher than wide; *clypeus* about as high as diameter of a.m.e.; *mandibles* vertical, no boss, superior margin of groove with three teeth and a parallel row of three bristles, inferior margin with three smaller teeth; *labium* pale, wider than long; *maxillae* more than twice as long as labium; *sternum* pale, longer than wide, (3.0 : 2.5); *abdomen* triangular, nearly as wide as long, dorsum flattened, dull grayish-brown, with small yellow

flecks and two widely divergent rows of dark spots on posterior half, the largest about the middle of the dorsum, venter dull brown; *legs*, 1-2-4-3, anterior pairs much longer, same color as cephalothorax, with faint dark rings at middle and tips of anterior tibiae, and tips of anterior metatarsi, very few spines, I pair, femur, prolateral, 3, from a raised base, patella, 1 small spine at tip, tibia, prolateral, 2 small, basal and distal, metatarsus, 0, III femur with a retrolateral row of long colorless bristles, posterior tibiae with dorsal basal spine; *epigynum*, chitinized area wider than long, openings large transverse, directly above fold, anterior half a confused mass of dark oval sacs beneath the surface.

Holotype ♀ Dom. Rep.; Mt. Diago de Ocampo, north range, 3,000-4,000 feet, July 1938, (Darlington)

Subfamily NEPHILINAE

Genus NEPHILA Leach 1815

NEPHILA CLAVIPES (Linn.)

Aranea clavipes Linnaeus, 1867, p. 1034, no. 27. "♀ in America"

- ♀ s Haiti; Diquini, November 1912, (Mann)
- ♀ Haiti; Grande Cayemitte Island, 1 August 1927, (Eyerdam)
- ♀ Haiti; Cap Haitien, March 1934, (Utawana Exped.)
- ♀ Dom. Rep.; Constanza, 3,000-4,000 feet, August 1938, (Darlington)
- ♀ Haiti; Port-au-Prince, July 1941, (Audant)

Subfamily TETRAGNATHINAE

According to some recent arachnologists, the old sub-family *Tetragnathinae* has been split into *Tetragnathinae* and *Glenognathinae* based upon the position of the opening of the posterior spiracle. Each is supposed to have a row of trichobothria on the fourth femur. Other workers following Menge, (1866), have raised the sub-family to family rank.

While only five genera of this sub-family have been seen from Hispaniola, it is sufficiently evident that the position of the opening of the spiracle has little systematic value for the group. Again, the presence or absence of trichobothria as a character is difficult to use, more particularly on very small spiders, since trichobothria are often colorless, and their base is little differentiated from the bases of surrounding hairs and bristles.

Simon's division of the sub-family into two groups seems equally difficult to use. He separates the *Tetragnatheae* from the *Pachygnatheae* by the relative width and length of the labium and straight or inclined maxillae. With the Hispaniola material, these characters are not constant and can not be used to divide the *Tetragnathinae* into two groups, so the five genera are treated here as a unit. The male palpi of all are similar, with a narrow paracymbium parallel to the cymbium, a large spherical bulb only partly covered by the cymbium, and embolus and conductor at tip of the bulb. The mandibles of the male may be divergent, porrect, geniculate or vertical.

Key to Genera

Males

1. Opening of posterior spiracle a transverse slit midway between genital fold and spinnerets. *Glenognatha*
 Opening of posterior spiracle close to spinnerets. 2
2. Second femur with a retrolateral specialized spine from a raised base. . . .
Agriognatha
 Second femur with no specialized spine. 3
3. Mandibles vertical, only slightly divergent. 4
 Mandibles divergent or porrect. 5
4. Superior margin of fang groove with three or four small teeth, inferior margin with granules, opening of posterior spiracle not chitinized.
Antillognatha
 Only small teeth on fang groove, opening of posterior spiracle a transverse chitinized slit, divided by a median septum. *Mimognatha*
5. A large spur above base of fang, usually many teeth on both margins of fang groove. *Tetragnatha*
 No spur above at base of fang, three sharp teeth on superior margin of groove, four small teeth on inferior margin. *Hispanognatha*

Females

1. Opening of posterior spiracle midway between genital fold and spinnerets. *Glenognatha*
 Opening of spiracle near spinnerets. 2
2. Opening of spiracle divided. *Mimognatha*
 Opening of spiracle entire. 3
3. Small spiders with an oval abdomen. *Hispanognatha*
 Large spiders with a long, cylindrical abdomen. 4
4. Fang groove with many graduated teeth on both margins. . . . *Tetragnatha*
 Only three or four teeth on upper margin of fang groove. . . . *Agriognatha*

Genus AGRIOGNATHA O.P.—Cambridge 1896

The genus *Agriognatha* was based by O.P.—Cambridge in 1896, on the species *bella* from Costa Rica. At the same time, he realized that a species that he had described previously as *Tetragnatha pachygnathoides* belonged to the same genus. Later, F.O.P.—Cambridge in revising the genus, added one more species, *Argyropeira lepida* O.P.—Cambridge. At this time, it was found that the genus *Cyrtognatha* Keyserling, 1881, was the same but that the name was preoccupied by Faldermann, 1835, in Coleoptera. The type of *Cyrtognatha* is *nigritata* Keys. from Peru and was described from a male. The abdomen of this species extends beyond the spinnerets and the mandibles are widely divergent with a large tooth or cusp above at the base of the fang. Later, Simon described a male and female of this genus from St. Vincent and Franganillo has described two more species from Cuba giving little more than the bare generic characters.

No mention is made of the trichobothria on the posterior femora in any of these species. This is not surprising, as they are colorless and difficult to see except under high magnification. In *A. simoni* Bryant from Cuba and *A. rucilla* spec. nov., the trichobothria are short and colorless and form a median ventral row on the third and fourth femora. In *A. argyra* spec. nov. and *A. espanola* spec. nov. they are in a basal prolateral row on the third and fourth femora and are much longer in the female than in the male. All three species from Hispaniola have similar mandibles with the same number of teeth on the fang groove. In the males, the specific difference is in the size and the palpi.

In all species, the opening of the posterior spiracle is close to the spinnerets.

AGRIOGNATHA ARGRYA spec. nov

Figure 35

Male. Length, 4.7 mm., ceph. 2.0 mm., abd. 3.1 mm., spread of mand. 2.2 mm.

Cephalothorax pale brown, darker about margins and in median area, low and flat, anterior margin narrowed, groove very near posterior margin and punctiform, a pair of deep pits midway between lateral eyes and groove and in line between eyes and groove; *eyes* cover anterior margin, in three groups, lateral eyes touching, on a tubercle higher in front than behind, anterior row strongly recurved, a.m.e.

separated by less than a diameter, posterior row slightly recurved, p.m.e. little larger than a.m.e., separated by little more than a radius; *quadrangle* higher than wide and slightly wider in front; *clypeus* almost wanting below a.m.e.; *mandibles* vertical, strongly divergent, so that greatest width is more than length of cephalothorax, brown, smooth, a large cusp over base of fang, suggestive of *Pachygnatha*, fang groove horizontal, superior margin with three teeth, one very near median margin, inferior margin with four teeth, the two middle teeth quite close together, fang longer than groove, sinuous, with tooth about middle, tip abruptly bent; *labium* brown, wider than long with tip rebordered; *maxillae* brown, more than twice as long as labium, sides parallel, tip abruptly widened; *sternum* pale brown, triangular, as wide as long, ending in a slender point between IV coxae, convex, excavate opposite III and IV coxae; *abdomen* cylindrical, pale, with many silvery spots, a faint gray median stripe with irregular margins on posterior half, venter pale, opening of spiracle close to spinnerets; *legs*, 1-2-4-3, anterior pairs very long, pale, with tips slightly darker, spines, I pair, femur, ventral, row of 3 short spines near base, prolateral, 6 long black spines, retrolateral, 4 long spines and an irregular group of short spines that are not the same on the right and left legs, tibia, with few short spines, metatarsus longer than tibia, with a row of small spicules on basal two-thirds, II pair, femur, ventral, 2 short spines near base, retrolateral, an irregular row of long spines ending with a slender specialized spine near tip, this spine from a raised base, not as long and heavy as in most species of the genus, rubs against a groove on the patella, a very small median spine at apex easily overlooked, metatarsus little longer than tibia, with smaller spicules than on I pair, III and IV pairs much shorter than anterior pairs, with scattered spines and a basal row of 4 very long colorless trichobothria on dorsal prolateral side of femora, longer on IV femur than on III; *palpus* pale, about as long as cephalothorax, trochanter long, femur very long and slender, patella and tibia of equal length, paracymbium very slender, with tip slightly enlarged, with no hairs, scarcely reaches middle of bulb, bulb a flattened sphere with embolus and conductor at top.

Female. Length, 6.5 mm., ceph. 3.0 mm., abd. 4.0 mm.

Cephalothorax same as in male but not as strongly colored, and the pair of pits not as distinct; *eyes* same as in male but p.m.e. not quite as close together; *clypeus* almost wanting below a.m.e.; *mandibles* same color as cephalothorax, vertical, strongly geniculate, no boss, fang groove oblique, superior margin with three strongly chitinized teeth,

inferior margin with four teeth, second from base of fang very small, fang evenly curved; *labium*, *maxillae* and *sternum* same as in male; *abdomen* cylindrical, twice as long as wide, widest at posterior end, pale brown with many silvery spots and two pairs of brown spots above spinnerets, venter pale brown with scattered silvery spots; *legs*, 1-2-4-3, anterior pairs very long and the dark bands more distinct than on posterior pairs, spines scattered, no cusps or spines on anterior metatarsi, no specialized spine on II femur, trichobothria of prolateral row on posterior femora longer than in male; *epigynum* a curved chitinized fold between book lungs, that shows no structure.

Holotype ♂ Dom. Rep.; Cordillera Central, rain forest north of Valle Nuevo, 6,000+ feet, August 1938, (Darlington)

Allotype ♀ Dom. Rep.; Cordillera Central, rain forest north of Valle Nuevo, 6,000+ feet, August 1938, (Darlington)

Paratype ♂ Dom. Rep.; Loma Rucilla Mountains, north of Cordillera Central, 5,000-8,000 feet, June 1938 (Darlington)

Paratype ♂ ♀ Dom. Rep.; foot hills of Cordillera Central, south of Santiago 2,000-5,000 feet June 1936, (Darlington)

AGRIOGNATHA ESPANOLA spec. nov.

Figure 34

Male. Length, 3.4 mm., ceph. 1.0 mm., abd. 2.5. mm.

Cephalothorax pale brown, median area darker, anterior margin much narrowed, cephalic portion slightly higher than thoracic, groove very near posterior margin and punctiform, a pair of grooves midway between lateral eyes and thoracic groove; *eyes* cover entire width of head, lateral eyes touching, anterior row recurved, eyes subequal, a.m.e. separated by more than a diameter and from a.l.e. by more than two diameters, posterior row straight, p.m.e. slightly larger than a.m.e. and surrounded by a much wider dark ring; *quadrangle* higher than wide and the same width in front as behind; *clypeus* equals about a radius of a.m.e.; *mandibles* dark brown, basal portion roughened and distal half narrowed, strongly divergent, two-thirds as long as cephalothorax, no boss, and a very small tooth or cusp over base of fang, fang groove horizontal, poorly defined, superior margin with two widely separated sharp teeth and a few long bristles, inferior margin with four widely separated teeth, all smaller than those on opposite margin, fang longer than groove, sinuous, with tip abruptly bent; *labium* dark brown, slightly wider than long, tip strongly rebordered; *maxillae* more

than twice as long as labium, sides parallel and tips slightly widened; *sternum* light brown, triangular, about as wide as long, with tip pointed between IV coxae, only slightly excavate between coxae; *abdomen* cylindrical, silvery, with three pairs of divergent black spots on posterior third, venter with two parallel silvery stripes and silvery spots, opening of spiracle directly anterior to spinnerets; *legs*, 1-2-4-3, anterior pairs very long, pale brown with ends of anterior tibiae darker, spines, all patellae with a long strong spine at tip, I pair, femur, ventral, 4 black basal spines, all longer than the diameter of the joint, a retrolateral row of 11 shorter spines from base to tip, tibia with a few lateral and ventral spines, metatarsus longer than tibia, with a ventral row of 13-14 short dark cusps or spicules, tarsus about two-thirds length of metatarsus, II pair, femur with ventral row of 8 short spines on basal third, retrolateral row of 11 short spines from base to tip, prolateral row of longer spines, a slender retrolateral spine from a raised base near tip which rubs against a ventral ridge on patella, tibia with a few lateral and ventral spines, tibia longer than metatarsus, metatarsus with ventral row of cusps smaller than on I pair, posterior pairs much shorter, no ventral spines on femora, a short prolateral basal row of long trichobothria on III femur; palpus pale, shorter than cephalothorax, patella and tibia of equal length, each about diameter of joint, paracymbium very slender, extending beyond middle of the bulb and tip expanded, cymbium slender, sides almost parallel, with tip curved in towards bulb, bulb almost spherical, with conductor and embolus in an elliptical coil, ending with slender spine-like processes, the apical longer and more curved than the preapical.

Female. Length, 5.0 mm., ceph. 2.0 mm., abd. 3.0 mm. long, 20. mm. high.

Cephalothorax very low, not as much narrowed as in male, coloring same as male, groove in a deep depression very near posterior margin; *eyes* same as in male; *mandibles* brown, vertical, geniculate, no boss, fang groove oblique, superior margin with two teeth, inferior margin with three teeth, fang evenly curved; *labium* and *maxillae* same as in male; *sternum* dark brown, convex, triangular, as wide as long; *abdomen* pale, oval, with a large dorsal tubercle posterior to middle, a broad dark median stripe from base to spinnerets, sides dull with small silvery spots and dark stripes, venter with a broad median dark stripe from pedicel to spinnerets, with a pale stripe each side, two silvery spots each side of spinnerets, opening of posterior spiracle obscure; *epigynum* a simple curved fold; *legs*, 1-2-4-3, brown, darker at tips of joints, pale ventral spots at tip of anterior femora and patellae quite

conspicuous, anterior pairs very long, no row of ventral spines on femora, prolateral row of 3 strong spines near base on first femur, no cusps on tibia or metatarsus, II and III metatarsi and tarsi with prolateral row of short stiff bristles, much heavier on III pair, III and IV femora with prolateral row of trichobothria on basal half of joint.

Holotype ♂ Haiti; Kenskoff, 3,000–4,000 feet, 1 May 1935, (Roys)

Allotype ♀ Haiti; Kenskoff, 3,000–4,000 feet, 1 May 1935, (Roys)

Paratypes ♂ ♀ Haiti; Kenskoff, 3,000–4,000 feet, 1 May 1935, (Roys)

Paratype ♂ Haiti; Dame-Marie, 1941, (Audant)

The female of *Agriognatha espanola* quite unlike others in the genus, has a large tubercle on the abdomen.

AGRIOGNATHA RUCILLA spec. nov.

Figure 33

Male. Length, 5.0 mm., ceph. 2.1 mm., abd. 3.5 mm., spread of mand. 3.5 mm.

Cephalothorax brown, darker about margin and in median area, low and flat, anterior margin narrowed, thoracic groove very near posterior margin and punctiform, faint lateral grooves from margin to near thoracic groove; *eyes* cover entire margin, in three groups, lateral eyes touching and subequal, anterior row recurved, a.m.e. separated by a full diameter, posterior row straight, p.m.e. larger than a.m.e., separated by about a radius; *quadrangle* higher than wide, and wider in front; *clypeus* below a.m.e. not as high as diameter of a.m.e.; *mandibles* pale brown, widely divergent, so that greatest spread is more than length of cephalothorax, base slightly swollen, a large outward turning cusp at base of fang, groove horizontal, superior margin with three sharp teeth, one very near median margin, inferior margin with four sharp teeth, two middle close together, fang longer than groove, slender, a large tooth about middle on left fang and a swelling at same place on right, tip abruptly bent; *labium* brown, wider than long, tip rebordered; *maxillae* more than twice as long as labium, sides parallel, tip only slightly widened; *sternum* brown, triangular, slightly longer than wide, emarginate opposite III and IV coxae; *abdomen* cylindrical, dull gray, with median dark stripe from base to spinnerets, margins much darker, each side thickly covered with silvery spots, venter mottled with silvery spots and a pair of vague dark spots about middle, inconspicuous opening of posterior spiracle; *legs*, 1–2–4–3, pale with

vague darker rings on femora and tibiae, anterior pairs longer, spines, I pair, femur, ventral, a median row of 6 short spines near base, scattered prolateral, retrolateral and dorsal spines, tibia, scattered long black spines, metatarsus longer than tibia, with a few ventral spicules, II pair similar to I pair but fewer median ventral spines on femur and a retrolateral clasping spine from a raised base near tip, metatarsus longer than tibia, III metatarsus with prolateral and retrolateral rows of bristles, III and IV femora with median ventral row of very short trichobothria, so small that they are easily overlooked; *palpus* pale, about as long as cephalothorax, trochanter about one-third as long as femur, tibia little longer than patella, paracymbium very slender, tip much widened, not reaching middle of bulb, cymbium with parallel sides, hairy, bulb, a flattened sphere, with embolus and conductor at tip.

Female. Length, 5.5 mm., ceph. 2.1 mm., abd. 4.0 mm.

Cephalothorax, coloring same as male, anterior margin not as much narrowed, low and flat, thoracic groove not as near posterior margin as in male; *eyes* same as in male; *mandibles* brown, vertical, geniculate, no boss, fang groove oblique, superior margin with three sharp teeth, inferior margin with four large sharp teeth, fang evenly curved; *labium*, *maxillae* and *sternum* same as in male; *abdomen* cylindrical, more than twice as long as broad, base slightly bifid, with a median dark herringbone stripe with darker margins, sides with silvery spots, venter with a broad dark stripe, abruptly widened about middle, with a narrow stripe of silvery spots each side, openings of spiracle obscure, spinnerets at end of abdomen; *legs*, 1-2-4-3, much broken, brown, femora and tibiae with wide dark rings, spines long and black, no ventral row of short spines on anterior femora, and trichobothria very inconspicuous in ventral row on III and IV femora; *epigynum*, a simple curved fold showing no structure.

Holotype ♂ Dom. Rep.; Loma Rucilla Mountains, north of Cordillera Central, 5,000-8,000 feet, June 1958, (Darlington)

Allotype ♀ Dom. Rep.; Loma Rucilla Mountains, north of Cordillera Central, 5,000-8,000 feet, June 1938, (Darlington)

Paratypes 2♂ Dom. Rep.; Loma Rucilla Mountains, 5,000-8,000 feet, June 1938, (Darlington)

The two male paratypes are much smaller than the holotype but the teeth are the same on the fang groove and the tooth is on the fang.

Genus ANTILLOGNATHA gen. nov.

Cephalothorax low; eyes, anterior row strongly recurved, posterior row almost straight, lateral eyes on separate tubercles and separated by a line, p.m.e. largest of the eight; quadrangle longer than wide; mandibles vertical, only slightly divergent, upper margin of fang groove with three or four very small teeth, lower margin with a row of granules; labium wider than long, sides almost parallel, tip rebordered; maxillae narrow, fully twice as long as labium; abdomen oval, more than half as wide as long, opening of posterior spiracle very near spinnerets and not chitinized. Male only known.

Genotype *Antillognatha lucida* spec. nov.

Antillognatha differs from *Hispanognatha* by the lateral eyes almost touching, the small granules on lower margin of the fang groove, and the much shorter abdomen. It differs from *Dyschiriognatha* and *Glenognatha* by the granules on the fang groove, and the opening of the posterior spiracle. It differs from *Pachygnatha* by the width of the labium, the very small teeth on the fang groove and the small size.

ANTILLOGNATHA LUCIDA spec. nov.

Figure 31

Male. Length, 1.9 mm., ceph. 1.0 mm., abd. 1.1 mm. long, 0.6 mm. wide.

Cephalothorax pale brown, rather low, anterior margin not much narrowed, thoracic depression quite near posterior margin and transverse; *eyes* cover anterior margin, anterior row strongly recurved, a.m.e. separated by a diameter and a little more from a.l.e., posterior row same length as anterior, almost straight, eyes equidistant, lateral eyes on separate tubercles that touch at base, p.m.e. separated by more than a diameter, largest of the eight; *quadrangle* longer than wide, and wider behind than in front; *clypeus* little higher than diameter of a.m.e.; *mandibles* vertical, only slightly divergent, distal half granular, with a small hook above base of fang, fang groove oblique, superior margin with three or four minute teeth and a row of colorless bristles, inferior margin with a row of minute granules, fang long, slender and sinuous; *labium* dark brown, wider than long, tip rebordered and about as wide as base; *maxillae* fully twice as long as labium, narrow, tips not widened, slightly inclined; *sternum* dark brown, triangular, as wide as long, convex, carried between II and III coxae, ending in a broad

lobe between IV coxae, so that coxae are separated by almost a diameter, posterior coxae globular; *abdomen* oval, two-thirds as wide as long, shining, no hairs, paler brown than cephalothorax, with a pair of widely separated lines of silvery spots from base to spinnerets, venter brown, genital fold only slightly posterior to openings of book lungs, opening of posterior spiracle directly anterior to spinnerets and not chitinized; *legs*, 1-2-4-3, paler than cephalothorax, no spines and very few hairs, I pair very long, tarsus short, IV femur with a dorsal row of trichobothria; *palpus* not as long as cephalothorax, bulb very large, both patella and tibia as long as diameter of joint, paracymbium very slender, not reaching tip of bulb, tip widened and ending in a truncate lobe, bulb a much flattened sphere, cymbium long and slender, extending beyond the bulb, conductor and embolus form a narrow loop at top of bulb with long straight free ends which rest against the tip of cymbium.

Antillognatha lucida is smaller than *Mimognatha foxi* (McCook) found in North and Central America and some of the islands of the Caribbean. The opening of the posterior spiracle is entire, not chitinized and is very near the spinnerets, the labium has almost parallel sides and the embolus and conductor form a much larger loop at the tip of the bulb.

Genus GLENOGNATHA Simon 1887

The genus *Glenognatha* was based by Simon on a small spider from Arizona and named for Mr. J. H. Emerton. Unfortunately, this species is not in the museum collection. The genus differs from *Pachygnatha* by the anterior legs that are much longer than the posterior, (in *Pachygnatha* there is little difference in the length of legs), the longer labium, and the position of the posterior spiracle which is midway between the genital fold and the spinnerets and opens by a transverse slit with heavily chitinized margins.

The small spider figured by McCook, (1893), as *Theridion foxi* was recognized by Banks in 1929 as his *Mysmena bulbifera* that had been placed in the genus *Glenognatha* by Barrows in 1924, who found the spider in its web. Banks, (1929), erected the genus *Mimognatha* for it, separating it from *Glenognatha* by the small mandibles, that are not divergent, and with only small teeth on the fang groove. The opening of the spiracle also is a chitinized transverse slit but it is divided by a median septum and is very near the spinnerets. The third femur has two parallel ventral rows of trichobothria.

It is not impossible that the species from St. Vincent described by Simon as *Dyschiriognatha montana* is a *Glenognatha*, as the male is described as with very long anterior legs and the genus *Dyschiriognatha* is based on a species from Sumatra in which the legs vary little in length.

GLENOGNATHA MIRA spec. nov.

Female. Length, 3.0 mm., ceph. 1.2 mm., abd. 1.7 mm.

Cephalothorax dark brown, cephalic portion elevated, thoracic depression one-third from posterior margin, a transverse pit; *eyes* cover anterior margin, anterior row strongly recurved, a.m.e. largest of the eight, separated by fully a diameter and from a.l.e. by a little less, posterior row straight, lateral eyes touching on a common tubercle, p.m.e. little smaller than a.m.e., separated by little more than a diameter and from p.l.e. by more than a diameter more; *quadrangle* wider in front, and as high as wide; *clypeus* higher than quadrangle, concave, with a distinct groove midway between a.m.e. and margin; *mandibles* brown, vertical, slightly roughened, upper margin of groove with three equidistant teeth, lower margin with four small teeth; *labium* dark brown, wider than long, and wider at base than at tip; *maxillae* twice as long as labium, slightly inclined, sides parallel; *sternum* dark brown, triangular, longer than wide, convex, carried between II and III coxae, emarginate opposite III and IV coxae, ending in a broad lobe between IV coxae, posterior coxae globular; *abdomen* globular, dorsum infusate, a few silvery dots, sides silvery, venter convex, with a broad dark stripe from pedicel to spinnerets and a pair of widely separated silvery spots about middle, opening of posterior spiracle a strongly chitinized slit midway between epigynum and spinnerets; *legs* 1-2-4-3, anterior pairs very long, pale brown, spineless, but rows of hairs, I tibia longer than I metatarsus, III femur, two parallel ventral rows of trichobothria from base which disappear before reaching tip; *epigynum* a procurved line ending in silvery spots, midway between pedicel and spinnerets.

Holotype ♀ Haiti; Miragoane, 2 November 1934, (Darlington)

Genus HISPANOGNATHA gen. nov.

Cephalothorax oval, low; both rows of eyes recurved, lateral eyes on separate tubercles; quadrangle narrowed in front and as high as wide behind; mandibles divergent, two-thirds as long as cephalothorax,

upper margin of fang groove with three sharp separated teeth, lower margin with four smaller teeth; labium wider than long, sides parallel with tip strongly rebordered; maxillae more than twice as long as labium, narrow, slightly inclined; abdomen twice as long as wide, opening of posterior spiracle obscure; legs spineless, anterior pairs long, a short dorsal basal row of long trichobothria on all femora; palpus very similar to *Pachygnatha*. Male only known.

Genotype, *Hispanognatha guttata* spec. nov.

The genus *Hispanognatha* differs from *Dyschiriognatha* and *Glenognatha* by the opening of the posterior spiracle near the spinnerets, by the elongate abdomen, and the labium as wide at tip as at the base. It differs from *Pachygnatha* by the divergent mandibles, the labium, the long maxillae, and the elongate abdomen.

HISPANOGNATHA GUTTATA spec. nov.

Figure 36

Male. Length, 3.5 mm., ceph. 1.3 mm., abd. 2.4 mm. long, 1.1 mm. wide.

Cephalothorax dull brown, with darker stripes converging from below lateral eyes to thoracic groove, a dark marginal line, low and flat, anterior margin only slightly narrowed, thoracic depression quite near the posterior margin; *eyes* cover entire anterior margin, anterior row recurved, a.m.e. separated by fully a diameter and from a.l.e. by more than two diameters, a.l.e. slightly smaller than a.m.e., posterior row slightly longer than anterior, and not as much recurved, eyes equidistant, p.m.e. largest of the eight, separated by more than a diameter and from p.l.e. by fully a diameter and a half, lateral eyes on separate tubercles that are connected at base, separated by more than a diameter, a.l.e. smaller than p.l.e.; *quadrangle* narrower in front and higher than wide behind; *clypeus* below a.m.e. higher than diameter of a.m.e.; *mandibles* two-thirds as long as cephalothorax, slightly divergent, no boss, with a strong curved tooth that projects forward near exterior margin about one-third above base of fang, several long bristles on distal third, fang groove oblique, superior margin with three long slender teeth, inferior margin with four much smaller teeth, fang as long as groove, curved, with distinct swelling near basal third; *labium* dark brown, wider than long, sides parallel, tip rebordered; *maxillae* nearly three times as long as labium, slightly inclined, narrow; *sternum* four-fifths as wide as long, triangular, convex, carried between coxae

and continued in a broad lobe between IV coxae; *abdomen* light brown, covered with pale silvery spots, two irregular converging dark lines from before the middle to spinnerets, about twice as long as wide, widest at basal third, venter with a wide dark stripe from pedicel to spinnerets, with silvery spots each side, opening of posterior spiracle indistinct; *legs*, 1-2-4-3, anterior pairs very long, pale brown with femora darker, no spines or cusps but rows of very fine hairs, a few long trichobothria in a dorsal basal row on all femora; *palpus* longer than cephalothorax, femur long and slender, tibia slightly longer than patella, paracymbium very narrow, sides almost parallel, tip bent, bulb a flattened sphere with embolus and conductor at tip in a small circle, free ends of both in a simple curve beyond bulb.

Holotype ♂ Dom. Rep.; Cordillera Central, Valle Nuevo, south west of Constanza, 7,000 feet, August 1938, (Darlington)

Genus TETRAGNATHA Latreille 1804

TETRAGNATHA ELONGATA Walckenaer

Tetragnatha elongata Walckenaer, 1805, p. 69. "Bosc manuscrit sur les araignées de la Caroline, pl. 5, fig. 5."

♀ Dom. Rep.; Puerto Plata, July 1941, (Hurst)

TETRAGNATHA FESTINA spec. nov.

Figures 38, 39, 40, 41

Male. Length, 7.4 mm., ceph. 2.7 mm., abd. 5.0 mm., mand. 2.6 mm.

Cephalothorax pale brown, no markings; *eyes* about cover anterior margin, both rows recurved, space between lateral eyes less than between median, lateral eyes on separate tubercles; *mandibles* porrect, almost as long as cephalothorax, dorsal spur pointed with a large ventral tooth, the first tooth at base of fang not large and directed forward, second tooth larger than first and directed upward, followed by two teeth, then a space and eight graduated teeth, the last only a granule, only six are seen from dorsal side, inferior margin with a shorter row of eleven graduated teeth, fang with a small ventral tooth near middle and thickened near base; *labium* longer than wide, tip re-bordered; *sternum* triangular, carried between I and II and II and III

coxae; *abdomen* cylindrical, nearly four times as long as wide, spinnerets at tip, pale brown with paler flecks, no distinct markings; *legs*, 1-2-4-3, first pair very long, few spines, a few trichobothria at base of IV femur; *palpus* as long as cephalothorax, tibia one and a half times as long as patella, paracymbium with the usual chitinized lobe about middle, with tip bifid.

Female. Length, 11.5 mm., ceph. 2.6 mm., abd. 9.0 mm., mand. 2.1 mm.

Cephalothorax and *eyes* as in male; *mandibles* porrect, but not as long as in male, thicker at base and more divergent, no dorsal spur, two cone-shaped teeth on superior margin near base of fang, followed by a space and then eight graduated teeth as in male, inferior margin with eleven graduated teeth from fang to base, fang long and sinuous but with no ventral tooth as in male, a thickened area near base is produced in a dorsal tooth; *labium* and *sternum* as in male, more trichobothria on IV femur than in male; *epigynum* a small curved slit posterior to openings of the book lungs.

Holotype ♂ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 1,000-3,000 feet, June 1938, (Darlington)

Allotype ♀ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 1,000-3,000 feet, June 1938, (Darlington)

Paratype ♂ Haiti; Diquini, November 1912, (Mann)

Tetragnatha festina is separated from other species of the genus found in Hispaniola, in the male, by the second tooth from the base of the fang that is directed upward and outward, from the plane of the mandible, and in the female, by the long sinuous fang with a distinct tooth near the base.

TETRAGNATHA HAITIENSIS spec. nov.

Figure 37

Female. Length without mand., 8.0 mm., ceph. 2.6 mm., abd. 5.6 mm., mand. 2.4 mm.

Cephalothorax brown, with darker brown shading, quite flat, thoracic depression very near posterior margin; *eyes*, anterior row recurved, a.m.e. separated by about a diameter and slightly larger than p.m.e., posterior row very slightly recurved, p.m.e. separated by more than a diameter, less space between lateral eyes than between median eyes; *quadrangle* longer than wide, and slightly narrower in front; *mandibles* slender, divergent, superior margin, no dorsal spur, one sharp tooth

at base of fang, followed by a space, then a small tooth directed forward, followed by six equally spaced, graduated teeth, inferior margin with a very long tooth or lobe at base of fang, directed forward, as seen from dorsal side, a short heavily chitinized tooth at inner base of the fang, followed by a space, then two small subequal teeth and a row of 10-12 graduated teeth; fang not as long as groove but extending the length of the rows of teeth, sinuous, with a ventral tooth about middle; *sternum* longer than wide, and carried between I and II coxae and between II and III coxae; *abdomen*, base not bifid, pale brown, with a pair of wavy darker stripes from base to spinnerets; *legs*, 1-2-4-3, brown, I pair very long, spines irregular, III and IV femora with a prolateral row of short trichobothria best seen from ventral side.

Holotype ♀ Haiti; Ennery, 7 September 1934, (Darlington)

Paratype ♀ Haiti; Grand Riviere, January 1913, (Mann)

Paratype ♀ Haiti; Kenskoff, 4,300 feet, 3 May 1935, (Roys)

Tetragnatha haitiensis belongs near *T. antillana* Simon. The latter species has evidently been misidentified by Seely, (1929, p. 105) and F.O.P.-Cambridge, in the Biol. Centr. Amer., 1903, 2: 433, pl. 41, figs. 5, 6, the specimens that they describe and figure do not have the two subequal but strongly divergent teeth near the base of the fang on the dorsal side of the male mandible and the single isolated tooth on the lower margin of the female mandible that Simon describes. However, the female described by Seely and Cambridge, has the long tooth or lobe that is directed forward at the base of the fang on the lower side.

Tetragnatha haitiensis known only from the female, differs from *T. antillana* Simon, by the smaller size, the long sinuous fang with a tooth on the ventral side, the two rather widely separated teeth, instead of one, and the more numerous teeth on the lower margin of the fang groove. Both have the long lobe or tooth at the base of the fang on the ventral side that projects forward.

TETRAGNATHA ORIZABA (Banks)

Eugnatha orizaba Banks, 1898, p. 248, pl. 15, fig. 16. "one pair from Mt. Orizaba"

2 ♂ Dom. Rep.; Puerto Plata, July 1941, (Hurst)

2 ♂ 1 ♀ Dom. Rep.; San Jose de las Matos, 1,500+ feet, June 1938, (Darlington)

TETRAGNATHA PALLESCENS F.O.P.—Cambridge

Tetragnatha pallida Banks, 1892, p. 51, pl. 5, figs. 88, 88a. "2 ♂ Upper Cayuga Lake Basin" nec *pallida* O. P.—Cambridge, 1889.

Tetragnatha pallescens F.O.P.—Cambridge, 1905, p. 436

♀ Haiti; Port-au-Prince, 1–5 September 1934, (Darlington)

♂ ♀ Haiti; Trou Caiman, 4 September 1934, (Bates)

TETRAGNATHA TENUISSIMA O.P.—Cambridge

Tetragnatha tenuissima O.P.—Cambridge, 1889, p. 9, pl. 1, figs. 1, 2. "♂ ♀ Guatemala, upper road to Chichocnee near Coban, Tomahu; Costa Rica; Panama."

♀ Haiti; hills near Port-au-Prince, 2,000 feet, 2 October 1934, (Darlington)

♀ Dom. Rep.; Puerto Plata, April 1941, (Hurst)

Subfamily THERIDIOSOMATINAE

Key to Genera

1. Abdomen much wider than long. *Allototua*
Abdomen globose. 2
2. A.M.E. largest of the eight, sternum triangular. *Wendilgarda*
P.M.E. largest of the eight, sternum rectangular. *Ogulnius*

Genus ALLOTOTUA gen. nov.

Cephalothorax as wide as long, slightly convex, no thoracic groove, anterior margin much narrowed; eyes, anterior row recurved, a.m.e. diurnal, separated by a diameter and a little nearer a.l.e., posterior row straight, eyes equidistant, p.m.e. largest of the eight, lateral eyes on a common tubercle and almost touching; quadrangle wider than long, as wide behind as in front; clypeus as high as quadrangle; labium fused to sternum, wider than long; maxillae very broad, inclined over labium; sternum wider than long, convex, posterior margin little narrower than anterior; abdomen wider than entire length of spider, widest posterior to middle, does not extend over cephalothorax; legs rather short, no spines, with a distinct bristle at tip of patella and a median dorsal bristle on posterior tibia; epigynum small. Male not known.

Genotype *Allototua guttata* spec. nov.

Allototua differs from *Theridiosoma* by the very wide sternum, equidistant eyes of the posterior row and the bristles at the tip of the patellae; it differs from *Totua* Keyserling 1891, by the shorter legs, fewer bristles on tibiae and the eyes of the posterior row; from *Ogulnius* O.P.—Cambridge, 1882, by the very wide abdomen that does not extend over the cephalothorax, the higher clypeus, and the eyes of the anterior row.

Ogulnius Cambridge, 1882, is based on a very small spider, (1/24 inch=0.5 mm.), with a globular abdomen that extends far over the cephalothorax. Keyserling, Theridiidae, 2: 249, has placed in the genus two more species, both known only from females from Southern Brazil. Both are 2.0 mm. long. One is described with a strong bristle at the tip of the patellae and a dorsal basal bristle on tibiae. The genus *Totua* was described by Keyserling in the Brasilianische Spinnen, 1891, (p. 216) but was omitted by Simon in the Histoire Naturelle des Araignées. *Totua* is also from southern Brazil. The quadrangle of eyes is narrower in front, clypeus lower than quadrangle, abdomen oval, and not extending over cephalothorax, legs long, with a bristle at tip of patellae and two bristles on tibiae.

ALLOTOTUA GUTTATA spec. nov.

Figures 42, 45

Female. Length, 2.0 mm., ceph. 0.7 mm., abd. 1.6 mm. long 2.0 mm. wide.

Cephalothorax pale yellow with a distinct marginal black stripe and three pairs of small black spots inside margin, no thoracic groove, moderately convex, a pair of very long bristles directed forward on thoracic slope, about as wide as long, anterior margin very narrow; *eyes* cover anterior margin, anterior row recurved, a.m.e. diurnal, strongly convex, separated by a diameter and from a.l.e. by a little less, posterior row almost straight, eyes equidistant, p.m.e. largest of the eight, rather flat, separated by a little less than a diameter, lateral eyes almost touching, on a common tubercle; *quadrangle* as wide behind as in front and wider than high; *clypeus* as high as quadrangle; *mandibles* pale and weak, vertical, fang groove horizontal; *labium* pale, fused to sternum, wider than long; *maxillae* pale, twice as long as labium, broad, inclined over labium, so that tips almost meet; *sternum* pale, with many gray dots irregularly placed, strongly convex, wider

than long, with a few hairs, posterior margin fully two-thirds the anterior, so that IV coxae are separated by more than a diameter; *abdomen* as wide as entire length of spider, not extending over cephalothorax, widest posterior to middle, basal half very high, pale, with irregular dark blotches and smaller cream-colored spots, distal third slopes rapidly, with two parallel transverse rows of dark spots, followed by three longitudinal pairs of dark dots, venter pale, two distinct pairs of dark spots just above spinnerets; *legs*, 1-2-4-3, rather short, pale, with paired lateral dark spots on femora, patellae and tibiae, many long colorless hairs, and a long bristle at tip of patellae, a dorsal basal bristle on III and IV tibiae; *epigynum* rather small, a pale oval lobe, with heavily chitinized margins.

Holotype ♀ Dom. Rep.; Loma Viega, Cordillera Central, south of Constanza, 6,000 feet, August 1938, (Darlington)

Genus OGULNIUS O.P.—Cambridge 1882

OGULNIUS FULVUS spec. nov.

Figures 46, 47

Female. Length, 1.4 mm.

Cephalothorax pale yellow, about as wide as long, cephalic portion very high, with a few long bristles posterior to eyes on margins, three pairs of dark elongated radial striae, abdomen extends so far over cephalothorax obscuring the thoracic groove; *eyes* raised on a turret, anterior row recurved, a.m.e. diurnal, largest of the eight, separated by less than a line, a.l.e. smaller, and separated from a.m.e. by almost a diameter of a.m.e., posterior row slightly procurved, lateral eyes touching, p.m.e. separated by more than a diameter; *quadrangle* narrower in front and higher than wide; *labium* wider than long, not fused to sternum, tip narrowed; *maxillae* almost twice as long as labium, inclined, very broad; *sternum* as wide as long, convex, not carried between coxae, posterior margin two-thirds as wide as anterior, with a circular pit each side of labium; *abdomen* globose, higher than long, covering the thoracic portion of the cephalothorax, to the ocular tubercle, pale brown with a few paler blotches, a pair of dark spots directly posterior to anterior muscle spots, smooth, with very few hairs, anterior muscle spots close together, posterior muscle spots widely separated, venter pale, colulus present; *legs* 4-1-2-3, pale yellow, quite short and stout, a long bristle at tip of patellae and middle of tibiae, I tibia enlarged and little longer than patella; *epigy-*

num very near to pedicle, a broad curved chitinized slit, showing no structure.

Holotype ♀ Dom. Rep.; foot hills of Cordillera Central, south of Santiago, 2,000–5,000 feet, June 1938, (Darlington)

Paratype ♀ Dom. Rep.; San Jose de las Matas, 1,500 feet, June (1938, (Darlington)

The genus *Ogulnius* was based by Cambridge in 1882, on a species from the Amazon known only from a female. Later, Simon has added to the genus, one species from Ceylon and one from St. Vincent. Cambridge has several figures which show that *fulvus* agrees with the genotype in the three pairs of diagonal dark marks on the margin of the cephalothorax and a larger pair directly posterior to the p.m.e. but the a.m.e. are much longer than the figure of the genotype. The male is not known.

Genus WENDILGARDA Keyserling 1886

WENDILGARDA THERIDIONINA Simon

Vendilgarda theridionina Simon, 1895, 1, p. 919, fig. 986. "♂ ♀ Venezuela; San Esteban"

♀ Haiti; Grande Anse, (Uhler)

♂ ♀ Dom. Rep.; Puerto Plata, 30 August 1938, (Darlington)

♀ Dom. Rep.; Cordillera Central, Constanza, 3,000–4,000 feet, August 1938, (Darlington)

This species was first described from Venezuela and has since been found widely distributed among the islands of the Caribbean. Petrunkevitch has a full description of both sexes in his *Spiders of Porto Rico*, 1930, p. 297. With strong direct light, small circular pits are seen on the sternum, each side of the labium. These are larger and more distinct in the female than in the male.

Subfamily GASTERACANTHINAE

Key to Species

1. Head elevated, abdomen extending over thorax, wider than long 2
 Head not elevated, abdomen not extending over thorax, longer than wide 3
2. Abdomen with 2 pairs of spines *Gasteracantha tetracantha*
 Abdomen with 3 pairs of spines *Gasteracantha cancriformis*
3. Abdomen with 2 pairs of spines, posterior pair very long, sharp and divergent *Micrathena armata*
 Abdomen with 3 pairs of spines, all relatively short, 2 posterior pairs, swollen, with sharp tips, subparallel *Micrathena similis* sp. n.

Genus GASTERACANTHA Sundevall 1833

GASTERACANTHA CANCRIFORMIS (Linn.)

Aranea cancriformis Linnaeus, 1758, p. 624. "♀ Jamaica"

Gasteracantha hexacantha Banks, 1903, p. 341.

Gasteracantha sexserrata Banks, 1903, p. 341.

A common spider found in all parts of Haiti and the Dominican Republic.

GASTERACANTHA TETRACANTHA (Linn.)

Aranea tetracantha Linnaeus, 1767, p. 1037. "♀ St. Thomas"

Gasteracantha hilaris Banks, 1903, p. 341.

3 ♀ Haiti; Port-au-Prince, (Crew), Banks Coll.

Genus MICRATHENA Sundevall 1833

MICRATHENA MILITARIS (Fabr.)

Aranea militaris Fabricius, 1775, p. 434, [♀] "in America"

Aranea armata Olivier, 1791, 4, p. 202. "no locality"

Plectana armata Walckenaer, 1841, 2, p. 179, pl. 22, fig. 1. "♀ Nouveau-Monde — Archipel occid. — Saint Dominique."

nec *Micrathena sexspinosa* Reimoser, 1919, p. 126.

This species must be very common on the island from the number found by collectors. Walckenaer figures a female under the name *Plectana armata*. The anterior pair of spines are about one-third from the base and are sharp, black, vertical, close together and so little divergent that they are almost parallel. The posterior spines are much longer and are strongly divergent. In a few specimens there is a third pair of spines on the lateral margins midway between the anterior and posterior pairs. These are short and little more than cusps in most specimens.

Reimoser in his revision of the genus, places *Plectana armata* Walckenaer as a synonym of *Micrathena sexspinosa* Hahn. This is an error as in the latter species, the posterior spines are thick, not sharply pointed, only a little divergent, and the first and second pairs of spines are about subequal and the middle pair of spines is not on the margin. The figure of the epigynum also shows that the middle section is broad.

Micrathena militaris is probably confined to the islands of the Caribbean. Petrunkevitch reports it from the Virgin Islands and Puerto Rico and it is not uncommon in Cuba. Specimens are in the museum collection from at least a dozen localities in Hispaniola.

MICRATHENA SIMILIS spec. nov.

Figures 8, 43, 44

Female. Length, 5.0 mm., ceph. 2.0 mm., abd. 4.0 mm. long, 4.0 mm. wide at posterior margin.

Cephalothorax pale brown, cephalic portion fairly high, thoracic groove punctiform, each side on thoracic portion, midway between groove and margin, three small depressions; *eyes* in three groups, lateral eyes subequal, touching and on extreme margin, quadrangle of median eyes higher than wide, slightly narrower in front, p.m.e. a little larger than a.m.e., and separated by less than a diameter, a.m.e. separated by a scant diameter; *clypeus* almost wanting below a.m.e. and below lateral eyes equal to more than a diameter of a.m.e.; *mandibles* brown, vertical, no boss, three teeth on inferior margin of fang groove; *labium* wider than long, tip rounded; *maxillae* twice as long as labium, sides parallel; *sternum* dark brown, iridescent, strongly convex, pentagonal, with sides almost parallel, as wide as long with a distinct swelling opposite the first three pairs of coxae; *abdomen* as long as wide, much narrowed at base, with three pairs of spines, basal pair small, with blunt tips, extending far over cephalothorax, other two pairs of spines at posterior end, one above the other, distal pair slightly larger, rather short, with sharp points, sequilla best seen in figure, the two pairs of muscle spots form a quadrangle longer than wide, height of abdomen above spinnerets, two-thirds length of abdomen, sides creased, dorsum pale with sides and distal area black, venter black; *legs*, spineless and rather short; *epigynum*, area wider than long, a small median finger protrudes from plane of abdomen, with tip colorless and much narrowed, each side above fold are circular openings.

Holotype ♀ Dom. Rep.; Puerto Plata, 30 August 1938, (Darlington)

Paratype ♀ Dom. Rep.; Mt. Diego de Ocampo, north range, 3,000–4,000 feet, July 1938, (Darlington)

Micrathena similis is closely related to *M. cubana* (Banks). Both have three pairs of spines in similar positions, but in *cubana* the two posterior pairs of spines are not parallel, the spines are much sharper and the abdomen usually has a large dark median spot which is lacking in *similis*. The epigynums are quite unlike. Both species have a punctiform thoracic groove with the three pairs of depressions each side on the thoracic portion and a pentagonal sternum as wide as long.

BIBLIOGRAPHY

BANKS, NATHAN

1892. The Spider Fauna of the Upper Cayuga Lake Basin. *Proc. Acad. Nat. Sci. Phila.*, pp. 11-81, pls. 1-5.
1898. Arachnida from Baja California and other Parts of Mexico. *Proc. Cal. Acad. Sci.*, 3rd. ser., **1**, pp. 205-296, pls. 13-17.
1903. A List of Arachnida from Hayti, with descriptions of New Species. *Proc. Acad. Nat. Sci. Phila.*, **55**, pp. 340-345, pl. 15.

BRYANT, ELIZABETH B.

1940. Cuban Spiders in the Museum of Comparative Zoology. *Bull. Mus. Comp. Zool.*, **86**, pp. 249-532, pl. 1-22.

CAMBRIDGE, F. O. P.-

- 1897-1905. Arachnida; Araneidae and Opiliones. **2**, pp. XII +610, 54 pls. *Biologia Centrali-Americana*.

CAMBRIDGE, O.P.-

1882. On new Genera and Species of Araneidae. *Proc. Zool. Soc. London*, pp. 423-442, pls. 29-31.
1889-1902. Arachnida; Araneidea, **1**, pp. XV 317, 39 pls. *Biologia Centrali-Americana*.

DAHL, FRIEDR.

1914. Die Gasteracanthien des Berliner Zoologische Museums und deren geographische Verbreitung. *Mitt. Zoolog. Mus. Berlin*, **7**, pp. 235-501, figs.

FABRICIUS, J. C.

1775. *Systema Entomologiae*, etc. Aranea, pp. 431-439.

FORSKÅL, P.

1775. *Descript. Anim.*

FRANGANILLO, PELEGRIN BALBOA, S. J.

1930. Mas Aracnidos Nuevos de la Isla de Cuba. *Mem. Inst. Nat. de Investigue. Cientif. Habana*, **1**, pp. 47-99, 21 figs. (A reprint or reissue by the author is separately paged, beginning with page 1.)

HENTZ, N. M.

1847. Descriptions and Figures of the Araneides of the United States. *Journ. Boston Soc. Nat. Hist.*, **5**, pp. 444-478, pls. 23-24, and 30-31.
1850. (continuation), **6**, pp. 18-35, pls. 3-4.
1875. The Spiders of the United States. *Occ. Papers Boston Soc. Nat. Hist.*, **2**, pp. XIII + 171, pls. 1-21.

KEYSERLING, GRAF EUGEN VON

1864. Beschreibungen neuer und wenig bekannter Arten aus der Familie Orbitelae, etc. Sitz-Bericht Isis, Dresden, (Jhg. 1863), pp. 63-98, 119-154, pls. 1-7.
1865. Beitrage zur Kenntniss der Orbitelae. Verh. z.-b. Ges. Wien, **15**, pp. 799-856, pls. 18-21.
1884. Neue Spinnen aus Amerikas. Ibid., **34**, pp. 489-534, pl. 13.
1884-1886. Die Spinnen Amerikas. vol. 2, Theridiidae, in 2 parts, pp. 1-222, pls. 1-10, and pp. 1-295, pls. 11-21.
1891. Ibid., Brasilianische Spinnen. vol. 4, pp. 1-278, pls. 1-10.

KOCH, LUDWIG

1875. Aegyptische und Abyssin., Arachniden, ges. von Jickeli. (Nürnberg)

LINNAEUS, CAROLUS

1758. Systema Naturae, etc. Editio X, reformata.
1766-68. Systema Naturae, etc. XII, reformata.

MARX, GEORGE

1889. Catalogue of the described Araneae of temperate North America. Proc. U. S. Nat. Mus., **12**, pp. 497-594.

MCCOOK, HENRY C.

1887. Note on *Cyrtophora bifurca* n.sp. and her Cocoons. Proc. Acad. Nat. Sci. Phila., p. 342.
1889-1893. American Spiders and their Spinning Work. In 3 volumes published by the author, Philadelphia, vol. 1, 1889, vol. 2, 1890, vol. 3, 1893.

OLIVIER, GUILL. ANT.

1791. Araignée. Encyclopédie Méthodique. pp. 173-240, pls. 256-261

PETRUNKEVITCH, ALEXANDER

1911. A Synonymic Index-Catalogue of Spiders of North, Central, and South America, etc. Bull. Amer. Mus. Nat. Hist., New York, **29**, pp. 1-791.
1926. Spiders from the Virgin Islands. Trans. Conn. Acad. Arts Sci., **28**, pp. 21-78, 28 figs.
1930. The Spiders from Porto Rico. Ibid., **30**, pp. 159-355, figs.

REIMOSER, EDUARD.

1917. Die Spinnengattung *Micrathena* Sundevall. Verh. z.-b. Ges. Wien, **67**, pp. 73-160, pls. 1-9.

SEELEY, RALPH M.

1938. Revision of the Spider Genus *Tetragnatha*. Bull. N. Y. State Mus., Albany, no. 298, pp. 99-150, pls. 1-4.

SIMON, EUGÈNE

- 1892-1903. Histoire Naturelle des Araignées. 2nd. edition, Paris, 2 vols., Vol.1, 1892, pp. I-VII, 1-1084, 1098, figs.; vol. 2, fasc. 1, 1897; pp. 1-192, figs. 1-200, fasc. 2, 1898, pp. 193-380, figs. 201-384, fasc. 3, 1901, pp. 381-668, figs. 385-792, fasc. 4, 1903, pp. 669-1080, figs. 793-1122.
1897. On the Spiders of St. Vincent. Part III. Proc. Zool. Soc. London, pp. 860-890.

WALCKENAER, BARON DE C. A.

1802. Faune Parisienne, 2 volumes, Paris. Aranea in vol. 2, pp. 187-250.
1805. Tableau des Aranéides. Paris, XII + 88 pages, 9 pls.
- 1837-1847. Histoire Naturelle des Insectes Aptères. 4 volumes, Paris. Atlas with 52 plates.

PLATES

PLATE 1

PLATE 1

- Fig. 1. *Aranea*(?) *crewi* (Banks); right palpus, retrolateral view.
Fig. 2. *Aranea*(?) *hispaniola* Bryant; epigynum.
Fig. 3. *Aranea*(?) *crewi* (Banks); right palpus, prolateral view.
Fig. 4. *Eustala perdita* Bryant; epigynum.
Fig. 5. *Eustala bisetosa* Bryant; left palpus, prolateral view.
Fig. 6. *Eustala bisetosa* Bryant; epigynum.
Fig. 7. *Eustala vegeta* (Keys.); left palpus, prolateral view.
Fig. 8. *Micrathena similis* Bryant; epigynum, lateral view.
Fig. 9. *Eustala perdita* Bryant; left palpus, prolateral view.
Fig. 10. *Drexelia minor* Bryant; epigynum.
Fig. 11. *Eustala delasmata* Bryant; left palpus, prolateral view.

cl. = clavis; emb. = embolus; para. = paracymbium; unc. = unca.



Bryant, Elizabeth B. 1945. "The Argiopidae of Hispaniola." *Bulletin of the Museum of Comparative Zoology at Harvard College* 95, 357–422.

View This Item Online: <https://www.biodiversitylibrary.org/item/20774>

Permalink: <https://www.biodiversitylibrary.org/partpdf/3597>

Holding Institution

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Sponsored by

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.