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STUDIES OF THE PHALANGID FAUNA OF CENTRAL AMERICA

BY CLARENCE J. AND MARIE L. GOODNIGHT¹

As a result of receiving several new collections, the writers have been able to continue their studies on the taxonomic and distributional problems of the Central American phalangids. In the study of these collections, the material from Central America at the Museum of Comparative Zoölogy, Cambridge, Massachusetts, was consulted. Here the authors were enabled to study various types through the kindness of Mr. Nathan Banks.

Dr. Alexander Petrunkevitch of Yale

University generously allowed the authors to study his collection of Central American phalangids. Types redescribed from these two collections are acknowledged in this paper.

The new species described below were collected mainly by Dr. and Mrs. Charles D. Michener with the assistance of Dr. Edson H. Fichter.

All holotypes of new species are deposited in the collection of the American Museum of Natural History.

SUBORDER LANIATORES THORELL

PHALANGODIDAE Simon

Phalangodinae Roewer

Cerroa floresia, new species

Figures 3-6

Metapachylus gracilis (nec Cambridge, 1904)
PETRUNKEVITCH, 1925, Trans. Connecticut Acad. Arts and Sci., vol. 27, p. 61.

Cerroa gracilis ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, p. 533.

TYPE: Total length of body, 5.1 mm. Cephalothorax, 1.3 mm. Width of body at widest portion, 3.2 mm.

	I	II
Trochanter	0.2 mm.	0.3 mm.
Femur	1.1	2.3
Patella	0.3	0.4
Tibia	0.9	1.7
Metatarsus	1.2	2.1
Tarsus	1.1	1.8
Total	4.8 mm.	8.6 mm.
	III	IV
Trochanter	0.3 mm.	0.5 mm.
Femur	1.6	2.4
Patella	0.5	0.9
Tibia	1.2	2.1
Metatarsus	2.2	2.3
Tarsus	1.3	1.5
Total	7.1 mm.	9.7 mm.

Dorsal scute with five areas, the boundaries of which are parallel. First area without a median line. All areas and free tergites without median armature. Eye tubercle on the anterior margin of the cephalothorax, prolonged into a forward pointing spine. One large and several small spines present at the anterior-lateral margin of the cephalothorax. All dorsal areas and free tergites with transverse rows of small, hair-tipped tubercles. Free sternites with rows of hair-tipped tubercles. Anal operculum similarly armed. Spiracle not visible. Second coxa with several retrolateral spines; fourth coxa with a row of large lateral tubercles which are visible from above.

Legs: all segments except tarsi very tuberculate. A row of spines on the third femur. First femur with a dorsal and ventral row of spinose tubercles. Tarsal segments: 3-7-5-6. Distitarsus of first tarsus with two segments, second with three. Tarsal claws smooth, without false claw or scopula.

Palpus: trochanter, 0.3 mm. long; femur, 0.8 mm.; patella, 0.7 mm.; tibia, 0.6 mm.; and tarsus, 0.5 mm. Total length, 2.9 mm. Palpus armed retro-

¹ Department of Biology, Purdue University, West Lafayette, Indiana.

laterally as in figure 6. Prolaterally armed as follows: femur with one median apical spine; patella with one median spine; tibia with two spines; and tarsus with two.

Chelicera normal.

Color of entire animal reddish brown with darker mottlings. Appendages somewhat lighter.

TYPE LOCALITY: Type from Cerro Flores, Panama. Deposited in the collection of Dr. Alexander Petrunkevitch of Yale University, New Haven, Connecticut. The above description was made from the type specimen.

Pellobunus insularis Banks

Figures 14-16

Pellobunus insularis BANKS, 1905, Proc. Ent. Soc. Washington, vol. 7, p. 22, fig. 4a-d; ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 147; 1923, Die Weberknechte der Erde, p. 111, fig. 112.

TYPE: Total length of body, 2.6 mm. Cephalothorax, 0.8 mm. Width of body at widest portion, 2.1 mm.

	I	II
Trochanter	0.2 mm.	0.3 mm.
Femur	0.7	1.2
Patella	0.4	0.5
Tibia	0.5	1.0
Metatarsus	0.7	1.1
Tarsus	0.6	1.3
Total	3.1 mm.	5.4 mm.
	III	IV
Trochanter	0.2 mm.	0.3 mm.
Femur	0.9	1.0
Patella	0.4	0.6
Tibia	0.7	1.1
Metatarsus	1.1	1.4
Tarsus	0.7	0.8
Total	4.0 mm.	5.2 mm.

Dorsum with five distinct areas, the boundaries of which are parallel. First area without a median line. All areas and free tergites without median armature. All dorsal areas with many small, hair-tipped tubercles which are arranged more or less in rows. Eye tubercle clearly removed from the anterior margin of the cephalothorax, low, oval, unarmed except for small granulations. Each free tergite with a row of minute tubercles. Cephalothorax granulate. Each free sternite

with a transverse row of small tubercles, anal operculum granulate, venter and coxae granulate. Lateral teeth present on the anterior and posterior margins of coxa III, larger granulations present on the margins of coxae I and II. Spiracles not visible.

Legs clothed throughout with scattered hairs, smooth except for a few granulations on the fourth femur. Third and fourth femora slightly curved. Metatarsi not divided into astragali and calcanea. Tarsal segments: 4-6-5-6. Distitarsus of first tarsus with two segments, second with three. Tarsal claws smooth, without false claw or scopula.

Palpus: trochanter, 0.3 mm. long; femur, 0.7 mm.; patella, 0.4 mm.; tibia, 0.6 mm.; and tarsus, 0.5 mm. Total length, 2.5 mm. Palpus armed retrolaterally as in figure 15. Prolaterally armed as follows: femur with an apical median spine; patella with an apical median spine (this is visible in the drawing); tibia and tarsus each with two hair-tipped tubercles.

Chelicera normal, with scattered hairs.

Body light reddish brown, appendages yellowish.

TYPE LOCALITY: Type from Cocos Islands, Costa Rica. Type deposited in the collection of the Museum of Comparative Zoology, Cambridge, Massachusetts. The above description was made from the type specimen.

ADDITIONAL RECORDS: Juan Mina, Canal Zone, Panama, February, 1945 (C. D. Michener); Barro Colorado Island, Canal Zone, March, 1945 (C. D. Michener).

STYGNOLEPTES BANKS

Stygnoleptes BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 682; ROEWER, 1931, Abhandl. Naturwiss. Ver. Bremen, vol. 28, p. 160.

Dorsal scute with five areas, the boundaries of which are parallel. First area without a median line. All dorsal areas and first free tergite without median armature. Second and third free tergites with median paired spines. Eye tubercle low, unarmed, removed from the anterior margin of the cephalothorax. Anal operculum with a long median spine. Spiracles concealed. Femur of palpus with an apical

median spine. Tarsal segments: 3-6-4-5. Distitarsus of first tarsus with two segments, second with three. Third and fourth tarsal claws without scopula, claws smooth.

GENOTYPE: *Stygnoleptes analis* Banks.

Stygnoleptes analis Banks

Figures 7-10

Stygnoleptes analis BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 682, pl. 28, figs. 6, 13; ROEWER, 1931, Abhandl. Naturwiss. Ver. Bremen, vol. 28, p. 160, fig. 25.

TYPE: Total length of body, 3.1 mm. Cephalothorax, 0.7 mm. Width of body at widest portion, 1.9 mm.

	I	II
Trochanter	0.2 mm.	0.3 mm.
Femur	0.7	1.1
Patella	0.4	0.6
Tibia	0.5	1.0
Metatarsus	0.7	1.4
Tarsus	0.6	1.1
Total	3.1 mm.	5.5 mm.
	III	IV
Trochanter	0.2 mm.	0.4 mm.
Femur	1.1	1.6
Patella	0.4	0.5
Tibia	0.7	1.1
Metatarsus	1.2	1.5
Tarsus	0.8	0.8
Total	4.4 mm.	5.9 mm.

Body pyriform, dorsum with five areas, the boundaries of which are parallel. Boundaries of areas not very distinct. First area without a median line. Dorsum very finely granulate, a row of small tubercles along the lateral margin of the scute. Median paired spines on the second and third free tergites. First free tergite and all dorsal areas without median armature. Eye tubercle low, unarmed, clearly removed from the anterior margin of the cephalothorax. Anal operculum tuberculate, with a long median spine. Free sternites finely granulate; coxae with larger granulations. Third coxa with anterior and posterior rows of teeth on the lateral borders. Spiracle hidden by a spine from the fourth coxa.

Legs clothed throughout with hairs. Femora and tibiae with small tuberculations, larger on the third femora. Fourth leg with heavy spines, arranged as in figure 7. Tibia of third leg slightly swollen. Tarsal segments: 3-6-4-5. Distitarsus of first tarsus with two segments; second, with three. Proximal segment of third tarsus elongate. Third and fourth tarsi without scopulae and without teeth on the claws.

Palpus: trochanter, 0.2 mm. long; femur, 0.5 mm.; patella, 0.3 mm.; tibia, 0.3 mm.; and tarsus, 0.3 mm. Total length, 1.6 mm. Palpus armed retrolaterally as in figure 10. Prolaterally armed as follows: femur with an apical median spine; patella with an apical median spine; tibia with three spine-bearing tubercles; and tarsus with two spine-bearing tubercles.

Chelicera normal, with a slight dorsal elevation on the proximal segment.

Entire animal light reddish brown, dorsal spines and palpus pale.

TYPE LOCALITY: Type from Turrialba, Costa Rica. Type deposited in the collection of the Museum of Comparative Zoology, Cambridge, Massachusetts. The above description was made from the type specimen.

COSMETIDAE Simon

Cosmetinae Cambridge

Cosmetus pulchrus Goodnight and Goodnight

Cosmetus pulchrus GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 4, fig. 18.

RECORD: Colon, Panama, March 17, 1945 (C. D. Michener).

Cynorta flavornata Banks

Figure 19

Cynorta flavornata BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 681; ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, p. 559.

MALE: Total length of body, 5.5 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 4.9 mm.

	I	II
Trochanter	0.7 mm.	0.7 mm.
Femur	4.6	10.4
Patella	1.3	1.8
Tibia	2.8	8.3
Metatarsus	4.2	10.2
Tarsus	2.9	5.2
Total	16.5 mm.	36.6 mm.

	III	IV
Trochanter	0.8 mm.	0.9 mm.
Femur	6.8	10.5
Patella	1.6	2.1
Tibia	3.7	5.4
Metatarsus	6.4	10.3
Tarsus	3.7	4.5
Total	23.0 mm.	33.7 mm.

Dorsum smooth. Paired tubercles on the first area, paired spines on the third. Remaining dorsal areas and free tergites without median armature. Free sternites with transverse rows of small tubercles. Coxae somewhat granulate.

Legs clothed throughout with hairs. Basitarsus of first tarsus enlarged. Tarsal segments: 6-15-9-10. Distitarsus of first tarsus with three segments; second, with three segments.

Palpus: trochanter, 0.7 mm. long; femur, 1.5 mm.; patella, 0.8 mm.; tibia, 1.2 mm.; and tarsus, 0.8 mm. Total length, 5 mm. Palpus flattened, normal.

Chelicera normal.

Body reddish brown. Spines and tubercles of dorsal areas somewhat darker at the base, points of the spines lighter. White markings on dorsum as in figure 19. Two large white spots on the anal operculum, and a large white spot on the lateral portion of the fourth coxa. A white fleck over each eye and white flecks on the free tergites. Appendages yellowish, mottled with grayish brown.

TYPE LOCALITY: Type from San Jose, Costa Rica. Type deposited in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type specimen.

Cynorta pleuralis Chamberlin

Cynorta pleuralis CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 241; ROEWER, 1923, Abhandl. Naturwiss. Ver. Bremen, vol. 26,

p. 567; GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 7, fig. 15.

RECORDS: Barro Colorado Island, Canal Zone, March 20, 1945, and October 25, 1945 (C. D. Michener). Piña, Colon Province, Republic of Panama, December 30, 1945 (C. D. Michener).

Cynortula pedalis (Banks)

Figure 20

Cynorta pedalis BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 227.

Eucynortella pedalis ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 53; 1923, Die Weberknechte der Erde, p. 327.

MALE: Total length of body, 5.5 mm. Cephalothorax, 2.0 mm. Width of body at widest portion, 4.4 mm.

	I	II
Trochanter	0.5 mm.	0.6 mm.
Femur	2.8	5.6
Patella	1.1	1.4
Tibia	2.1	4.5
Metatarsus	3.4	6.0
Tarsus	2.5	3.8
Total	12.4 mm.	21.9 mm.

	III	IV
Trochanter	0.8 mm.	0.8 mm.
Femur	4.4	6.1
Patella	1.3	1.6
Tibia	2.7	3.8
Metatarsus	4.0	6.0
Tarsus	2.7	3.0
Total	15.9 mm.	21.3 mm.

Dorsum finely granulate. First and third areas with median paired tubercles. Those of the third area are somewhat larger than those of the first. Remaining areas and free tergites without median armature. Free tergites and posterior margin of the fifth areas each with a transverse row of low tubercles. Venter and coxae smooth, with scattered hairs.

Legs smooth, with scattered hairs. Third and fourth legs of normal size, not enlarged over the first and second. Tarsal segments: 6-10-7-8. Distitarsus of first tarsus with three segments, second with three. Basitarsus of first tarsus slightly enlarged.

Palpus: trochanter, 0.8 mm. long; femur, 1.7 mm.; patella, 0.7 mm.; tibia, 1.5 mm.;

and tarsus, 0.6 mm. Total length, 5.3 mm. Palpus characteristically flattened.

Chelicera slightly enlarged.

Dorsum reddish brown. Color pattern as in figure 20.

TYPE LOCALITY: Type from San Isidro, Tristan, Costa Rica. Type deposited in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type specimen.

Cynortellana oculata (Banks)

Figure 38

Cynorta oculata BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 681.

Cynortula oculata ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen., vol. 26, p. 576.

Cynortellana circulata ROEWER, 1932, Ann. Naturhist. Mus. Bremen, vol. 46, pp. 283-284, fig. 7.

♀: Total length of body, 5.1 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 3.8 mm.

	I	II
Trochanter	0.4 mm.	0.5 mm.
Femur	3.4	8.1
Patella	0.9	1.4
Tibia	2.0	6.7
Metatarsus	3.3	8.5
Tarsus	1.8	5.0
Total	11.8 mm.	30.2 mm.
	III	IV
Trochanter	0.7 mm.	0.7 mm.
Femur	5.7	8.1
Patella	1.3	1.4
Tibia	3.0	4.1
Metatarsus	5.4	8.0
Tarsus	2.2	3.6
Total	18.3 mm.	25.9 mm.

Dorsum smooth. First area with paired low spines; third area with paired large spines. Remaining areas and free tergites without median armature. Anal operculum, venter, and coxae with only scattered hairs.

Legs smooth. Tarsal segments: 6-14-9-9. Distitarsus of first tarsus with three segments, second with three.

Palpus: trochanter, 0.4 mm. long; femur, 0.9 mm.; patella, 0.5 mm.; tibia, 0.9 mm.; and tarsus, 0.5 mm. Total length, 3.2 mm. Palpus normal, flattened.

Chelicera normal, proximal segment with some dorsal tuberculations.

Body dark reddish brown, mottled. Spines somewhat lighter. Each spine encircled by a white ring. Appendages yellowish, mottled with gray.

TYPE LOCALITY: Type from St. Maria, Costa Rica. Type in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

ADDITIONAL RECORDS: Waldeck Farm, Hamburg Farm, and Rio Parismina, Costa Rica. These localities were recorded by Roewer in 1932.

Eucynorta insularis (Banks)

Figure 21

Cynorta insularis BANKS, 1905, Proc. Ent. Soc. Washington, vol. 7, p. 22, fig. 5.

Metawonones insularis ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 28; 1923, Die Weberknechte der Erde, p. 308.

♀: Total length of body, 4.3 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.5 mm.

	I	II
Trochanter	0.5 mm.	0.5 mm.
Femur	1.9	4.5
Patella	0.8	1.1
Tibia	1.5	3.6
Metatarsus	2.5	5.0
Tarsus	1.4	3.3
Total	8.6 mm.	18.0 mm.
	III	IV
Trochanter	0.6 mm.	0.6 mm.
Femur	3.0	4.2
Patella	1.1	1.2
Tibia	1.9	2.3
Metatarsus	3.0	3.4
Tarsus	2.0	4.7
Total	11.6 mm.	16.4 mm.

Dorsum smooth except for a pair of low spines on the third area. Remaining areas and free tergites without median armature. Posterior margin of the fifth area and each free tergite with a transverse row of granulations. Venter and coxae with granulations and scattered hairs.

Legs clothed throughout with scattered hairs. A few granulations on the fourth femur, otherwise the segments are smooth. Tarsal segments: 6-13-7-9. Distitarsus of

first tarsus with three segments, second with three.

Palpus: trochanter, 0.6 mm. long; femur, 1.4 mm.; patella, 0.7 mm.; tibia, 1.4 mm.; and tarsus, 0.6 mm. Total length, 4.7 mm. Palpus characteristically flattened. A row of small tubercles on the ventral margin of the femur.

Chelicera normal.

Dorsum light reddish brown, with white markings as illustrated in figure 21. Legs pale yellowish. Palpus and chelicera concolorous with the body.

TYPE LOCALITY: Type from Cocos Island, Costa Rica. Type deposited in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

***Eucynortella panamensis* Goodnight and Goodnight**

Eucynortella panamensis GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1184, p. 13, fig. 28.

RECORD: Old Panama City, Republic of Panama, February, 1945 (C. D. Michener).

***Eucynortoides parvulus* (Banks)**

Figures 23-24

Erginus parvulus BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 229.

Erginulus parvulus ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 82; 1923, Die Weberknechte der Erde, p. 353.

MALE: Total length of body, 3.2 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 2.7 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.6	—
Patella	0.5	—
Tibia	1.1	—
Metatarsus	1.6	—
Tarsus	1.4	—
Total	6.6 mm.	
	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	2.2	2.9
Patella	0.8	1.0
Tibia	1.4	1.7
Metatarsus	2.2	3.2
Tarsus	1.4	1.4
Total	8.4 mm.	10.6 mm.

Dorsum finely granulate. Paired spines on the third area; low paired tubercles on the first and fourth areas. Very small tubercles on either side of the median line on the second area; these are midway between the median line and the lateral border. A transverse row of tubercles across the posterior margin of the fifth area and across each free tergite. Eye tubercle with a few small tubercles over each carina. Venter and coxae with scattered hairs. Fourth coxa with a large dorsal apical spine. Anal operculum tuberculate.

Legs clothed throughout with hairs. Third and fourth trochanters each with a retrolateral apical spine. Tuberculations on all segments but the metatarsi and tarsi. Basal segments of third and fourth legs somewhat enlarged; fourth femur clavate, two rows of spines on the ventral side, dorsally tuberculate. Tarsal segments: 6-?-7-7. Distitarsus of first tarsus with three segments. Basitarsus of first tarsus slightly enlarged.

Palpus: trochanter, 0.5 mm. long; femur, 1.0 mm.; patella, 0.5 mm.; tibia, 0.8 mm.; and tarsus, 0.5 mm. Total length, 3.3 mm. Palpus characteristically flattened, with a ventral row of teeth on the femur.

Chelicera normal, second segment with a dorsal elevation.

Dorsum light reddish brown, spines lighter. Legs light. White markings of the dorsum as in figure 23.

TYPE LOCALITY: Type from San Isidro, Costa Rica. Type in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

This species appears to be most closely related to *Eucynortoides brasiliensis* Roewer; however, the dorsal color pattern is considerably different. This species differs somewhat from the other members of the genus *Eucynortoides* by having the femur of the fourth leg somewhat enlarged.

***Eucynortula nannocornuta* (Chamberlin)**

Cynorta nannocornuta CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 242; ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, p. 271; GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, pp. 6, 7, fig. 16.

Eucynortula dorsata GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 8, fig. 19.

Eucynortula sexpunctata GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 9, fig. 21.

The study of a long series of this species revealed that the specimens originally described represented extremes of variation in a single species.

RECORDS: Old Panama City, Republic of Panama, February, 1945 (C. D. Michener). La Campana, Republic of Panama, August 5, 1945 (E. H. Fichter). Santa Rosa, Colon Province, Republic of Panama, September, 1945 (C. D. Michener).

***Eupaecilaema panamaensis*, new species**

Figure 28

MALE: Total length of body, 4.8 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 4.2 mm.

	I	II
Trochanter	0.8 mm.	0.9 mm.
Femur	7.0	16.0
Patella	2.0	2.3
Tibia	13.5	12.0
Metatarsus	18.7	19.0
Tarsus	3.0	9.0
Total	45.0 mm.	59.2 mm.
	III	IV
Trochanter	1.2 mm.	1.2 mm.
Femur	12.0	16.0
Patella	2.0	1.7
Tibia	6.0	9.0
Metatarsus	12.0	17.0
Tarsus	5.0	6.5
Total	38.2 mm.	51.4 mm.

Dorsum smooth. Eye tubercle low, smooth. First and third areas with median paired tubercles. Remaining areas and free tergites without median armature. Free tergites without tuberculations. Venter and coxae smooth, with scattered hairs. A row of tuberculations across the first coxa; fourth coxa without dorsal apical spine.

Legs long and slender, clothed throughout with hairs. Several rows of small granulations on the femora. Tarsal segments: 7-18-10-12. Distitarsus of first tarsus with three segments, second with three.

Palpus: trochanter, 0.9 mm. long; femur, 2.2 mm.; patella, 1.3 mm.; tibia, 2.1 mm.; and tarsus, 1.3 mm. Total length, 7.8 mm. Palpus characteristically flattened. Ventral margin of the femur with a row of small tuberculations.

Chelicera slightly enlarged, with a few scattered hairs.

Dorsum dark reddish brown, with a lighter brown mottled triangle crossing the eye tubercle. A netted yellow pattern covers most of the cephalothorax except the median section anterior to the eye tubercle. This netted pattern extends onto the abdominal scute, forming a border around the lateral and posterior margins. It is somewhat reduced on the lateral border in the region of the second area. This pattern is so arranged as to give a suggestion of a V between the cephalothorax and abdomen. A few light flecks on the median line. Scattered spots over the surface of the eye tubercle, free tergites without such markings. Venter and coxae dark reddish brown, chelicera and palpus lighter, with darker brown mottlings. Legs light brown, with much darker brown mottling on the patellae and apical portion of the femora.

FEMALE: Total length of body, 5.1 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 3.9 mm.

Similar to male in appearance, but without the enlarged chelicerae.

TYPE LOCALITY: Male holotype and male and female paratypes from Cerro Azul, Republic of Panama, January 1, 1945 (C. D. and M. Michener). Female paratype from Barro Colorado Island, Canal Zone, December, 1939 (E. C. Williams).

Eupaecilaema panamaensis is related to *E. magnum* Roewer from Costa Rica; however, the dorsal color pattern is different.

***Flirtea lateralis* (Banks)**

Figures 29-30

Vonones lateralis BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 228; ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 23; 1923, Die Weberknechte der Erde, p. 304. *Cymorta conspersa* (n. sp.): C. L. Koch, 1839. BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 682.

Eucynorta conspersa ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, pp. 582-583.

MALE: Total length of body, 5.0 mm. Cephalothorax, 1.6 mm. Width of body at widest portion, 4.1 mm.

	I	II
Trochanter	0.5 mm.	0.5 mm.
Femur	3.8	8.2
Patella	1.1	1.3
Tibia	2.4	7.2
Metatarsus	4.5	9.6
Tarsus	2.1	5.4

Total 14.4 mm. 32.2 mm.

	III	IV
Trochanter	0.6 mm.	0.9 mm.
Femur	5.8	8.1
Patella	1.4	1.7
Tibia	3.2	4.6
Metatarsus	5.5	7.8
Tarsus	2.7	3.6

Total 19.2 mm. 26.7 mm.

Dorsum finely granulate. First area with small paired median tubercles; third area with paired spines. Remaining areas and free tergites without median armature. Small scattered granulations over the dorsum, and a transverse row of larger ones across the fifth area and each free tergite. Venter and coxae with scattered hairs.

Legs: third and fourth legs somewhat larger than the first and second. Fourth femur tuberculate, armed distally as in figure 29; patella and tibia tuberculate. Tarsal segments: 6-15-11-13. Distitarsus of first tarsus with three segments, second with three. Basitarsus of first tarsus somewhat enlarged.

Palpus: trochanter, 0.8 mm. long; femur, 1.4 mm.; patella, 0.7 mm.; tibia, 1.4 mm.; and tarsus, 0.5 mm. Total length, 4.8 mm. Palpus characteristically flattened.

Chelicera normal.

Body reddish brown. Light pattern present as in figure 30. Granulations of the dorsum surrounded by white spots. A white spot on the fourth coxa. Several white spots on the anal operculum.

FEMALE: Total length of body, 4.6 mm. Cephalothorax, 1.6 mm. Width of body at widest portion, 4.5 mm.

Identical in appearance with the male, but with the spination of the femur of the fourth leg reduced.

TYPE LOCALITY: Male type from Turrialba, Costa Rica. Female from Juan Vinas, Costa Rica. Both types in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type material.

In the original descriptions by Banks, the name *Vonones lateralis* was given to a male specimen, and the name *Cynorta conspersa* was given to a female.

Flirtea picta (Perty)

Cosmetus pictus PERTY, 1833, Delectus animalium articulorum, fasc. 3, p. 208, pl. 40, fig. 5.

Flirtea picta C. L. KOCH, 1839, in Hahn, C. W., and C. L. Koch, Die Arachniden, vol. 7, p. 99, fig. 581.

Cosmetus pictus GERVAIS, 1844, in Walckenaer, C. A., and F. L. P. Gervais, Histoire naturelle des insectes. Aptères, vol. 3, p. 115.

Cynorta picta SIMON, 1879, Ann. Soc. Ent. Belgique, vol. 22, p. 200.

Flirtea picta ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 75; 1923, Die Weberknechte der Erde, p. 346, fig. 391.

RECORD: Cerro Azul, Republic of Panama, January 1, 1945 (C. D. Michener).

The specimens found agreed with the animal described by Roewer as *Flirtea picta* (Perty).

Meterginoides inermis (Banks)

Figures 25-26

Meterginus inermis BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 229.

Meterginoides inermis ROEWER, 1912, Arch. Naturgesch., vol. 78, sect. A, no. 10, p. 103; 1923, Die Weberknechte der Erde, p. 379.

MALE: Total length of body, 5.6 mm. Cephalothorax, 2.4 mm. Width of body at widest portion, 4.6 mm.

	I	II
Trochanter	0.7 mm.	0.8 mm.
Femur	3.0	4.5
Patella	1.1	1.3
Tibia	2.2	3.8
Metatarsus	3.6	5.4
Tarsus	2.7	4.5
Total	13.3 mm.	20.3 mm.

	III	IV
Trochanter	0.8 mm.	1.1 mm.
Femur	3.6	4.8
Patella	1.1	1.5
Tibia	2.7	3.9
Metatarsus	4.1	5.4
Tarsus	3.2	3.6
Total	15.5 mm.	20.3 mm.

Dorsum smooth, clothed with scattered hairs. All dorsal areas and free tergites without median armature. Venter with scattered hairs. Each sternite with a transverse row of small tubercles. Fourth coxa with a dorsal apical spine.

Legs clothed throughout with hairs. Tuberculations on the femora. These tuberculations are larger on the third and fourth femora. Basal segments of the third and fourth legs somewhat enlarged. Fourth femur with several rows of tubercles on the ventral surface and several rows of small tubercles on the dorsal. These tubercles larger at the proximal portion. Tarsal segments: 7-14-8-8. Distitarsus of first tarsus with three segments, second with three. Basitarsus of first tarsus enlarged.

Palpus: trochanter, 0.5 mm. long; femur, 2.1 mm.; patella, 1.1 mm.; tibia, 1.8 mm.; and tarsus, 0.9 mm. Total length, 6.4 mm. Palpus normal, with a row of tubercles on the ventral portion of the femur.

Chelicera enlarged. A dorsal elevation on the proximal segment.

Entire animal reddish brown. White markings present as indicated in figure 25. Boundaries of areas and median line lighter.

TYPE LOCALITY: Type from Toblago, Costa Rica. Type in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

Paecilaemella eutypa (Chamberlin)

Figure 27

Meterginoides eutypa CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 240; ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, p. 610; GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 9.

TYPE: Total length of body, 5.9 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 4.1 mm.

	I	II
Trochanter	0.5 mm.	0.6 mm.
Femur	3.9	7.4
Patella	1.0	1.4
Tibia	2.3	7.2
Metatarsus	4.1	10.2
Tarsus	2.1	4.5
Total	13.9 mm.	31.3 mm.

	III	IV
Trochanter	0.7 mm.	0.8 mm.
Femur	6.5	9.1
Patella	1.7	1.5
Tibia	3.3	5.4
Metatarsus	6.3	9.2
Tarsus	3.0	3.2
Total	21.5 mm.	29.2 mm.

Dorsum smooth. All dorsal areas and free tergites without median armature. Eye tubercle low, unarmed. Venter, free sternites, and coxae with scattered hairs.

Legs long and slender. All segments entirely smooth except for scattered hairs. Tarsal segments: 7-17-10-11. Distitarsus of first tarsus with three segments, second with three.

Palpus: trochanter, 0.5 mm. long; femur, 1.4 mm.; patella, 0.8 mm.; tibia, 1.2 mm.; and tarsus, 0.7 mm. Total length, 4.6 mm. Palpus flattened, normal. With a row of tuberculations on the ventral margin of the femur.

Chelicera normal. Proximal segment with a few tuberculations.

Body reddish brown. Yellow marking conspicuous, arranged as shown in figure 27. All appendages lighter.

TYPE LOCALITY: Type from Barro Colorado Island, Canal Zone (W. C. Allee). Type in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

ADDITIONAL RECORDS: Piña, Colon Province, Republic of Panama, December 30, 1945 (C. D. Michener).

Paecilaemana quadripunctata Goodnight and Goodnight

Paecilaemana quadripunctata GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, pp. 9-10, fig. 25.

RECORD: Madden Forest, Canal Zone, October 2, 1945 (C. D. Michener). Santa

Rosa, Colon Province, Republic of Panama, September, 1945 (C. D. Michener).

Paracynorta confluens (Chamberlin)

Cynorta confluens CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 241; ROEWER, 1928, Abhandl. Naturwiss. Ver. Bremen, vol. 26, p. 570.

Paracynorta confluens GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 10, fig. 17.

RECORD: Santa Rosa, Colon Province, Republic of Panama, September, 1945 (C. D. Michener).

SOARESELLA, NEW GENUS

Dorsum with five areas. First, third, and fourth areas with median paired tubercles. The paired tubercles of the fourth area are much lower and closer together than those of the first and third. Anal operculum and free tergites without median armature, second and fifth areas likewise unarmed. Basal segments of the third and fourth legs not enlarged over those of the first and second. Tarsal segments: all with more than six. Distitarsus of first tarsus with three segments, second with three.

GENOTYPE: *Soaresella gracilis*, new species.

This genus is related to *Eupaecilaema* Roewer, differing by having paired median tubercles on the fourth area.

This genus is dedicated to Dr. and Mrs. B. M. Soares of the National Museum at Rio de Janeiro, Brazil.

***Soaresella gracilis*, new species**

Figure 22

TYPE: Total length of body, 4.8 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 4.2 mm.

	I	II
Trochanter	0.5 mm.	0.7 mm.
Femur	5.3	15.0
Patella	1.0	1.1
Tibia	2.9	10.9
Metatarsus	5.4	12.8
Tarsus	2.1	7.0
Total	17.2 mm.	47.5 mm.

	III	IV
Trochanter	0.8 mm.	0.8 mm.
Femur	8.0	11.6
Patella	1.3	1.0
Tibia	3.9	5.9
Metatarsus	7.4	11.2
Tarsus	3.3	3.9
Total	24.7 mm.	34.4 mm.

Dorsum strongly arched, smooth. The abdomen covered with small white spots, many of which are slightly elevated. Free tergites entirely smooth. First, third, and fourth areas with paired tubercles. Second and fourth areas without median armature. The paired tubercles of the fourth area somewhat smaller and much closer together than those of the preceding areas. Anal operculum and free sternites with granulations; granulations arranged in rows on the free sternites. Venter and coxae with scattered hairs. Lateral proximal surface of the fourth coxa with a few small tubercles, which are visible from above. Distal portion of fourth coxa without a spine.

Legs long and thin, smooth, with a few scattered hairs. Basal segments of third and fourth legs not enlarged over those of the first and second. Tarsal segments: 7-19-12-15. Distitarsus of first tarsus with three segments, second with three.

Palpus: trochanter, 0.5 mm. long; femur, 1.3 mm.; patella, 0.7 mm.; tibia, 1.3 mm.; and tarsus, 0.6 mm. Total length, 4.4 mm. Palpus characteristically flattened, covered with scattered hairs. A row of teeth on the ventral margin of the femur.

Chelicera normal, with scattered hairs. Not enlarged, a few granulations on the elevated portion of the first segment.

Dorsum dark velvety brown, cephalothorax lighter with darker mottlings. A broad white band begins at the region of the second coxa and forms a lateral border to the remainder of the dorsum. A few brown spots scattered irregularly in this band. Free tergites also white. Paired tubercles of the first, third, and fourth areas white. Scattered white spots over the entire abdominal scute, a few white spots on the cephalothorax. Dorsum without a white V or median line. Venter and coxae dark brown, the small tubercles on the lat-

eral portion of the fourth coxa white. Dorsal half of anal operculum with several irregular white spots. Patellae of legs dark brown; remaining segments, including the trochanter, yellow. Palpus and chelicera dark brown, mottled with lighter.

TYPE LOCALITY: Type from 3 miles north of Summit, Canal Zone, Panama, April 8, 1945 (C. D. Michener).

GONYLEPTIDAE Sundevall

Cranainae Roewer

BARRONA GOODNIGHT AND GOODNIGHT

Barrona GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 11.

The generic description of *Barrona* should be modified as follows:

Dorsal scute with four areas. First area with an indefinite median line. First and third areas with paired median spines. Fourth area with paired median tubercles. Second area without median armature. First, second, and third free tergites, each with median paired low spines. Eye tubercle with paired low spines. Fourth coxa not widened laterally. Femur of palpus without median apical or dorsal apical spine. Tarsal segments: 6—more than 6—more than 6. Distitarsus of first tarsus with three segments; second, with three.

GENOTYPE: *Barrona williamsi* Goodnight and Goodnight.

Barrona williamsi Goodnight and Goodnight

Figures 1-2

Barrona williamsi GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 11, fig. 26.

RECORD: Juan Mina, Canal Zone, February, 1945 (C. D. Michener). Barro Colorado Island, Canal Zone, March 20, 1945 (C. D. Michener).

Santinezia micheneri, new species

Figures 31-33

FEMALE: Total length of body, 8.0 mm. Cephalothorax, 3.8 mm. Width of body at widest portion, 5.7 mm.

	I	II
Trochanter	1.0 mm.	1.2 mm.
Femur	6.5	14.1
Patella	1.5	2.1
Tibia	4.0	11.0
Metatarsus	6.5	12.5
Tarsus	2.5	7.5
Total	22.0 mm.	48.4 mm.
	III	IV
Trochanter	1.6 mm.	1.5 mm.
Femur	12.0	14.2
Patella	2.2	2.7
Tibia	11.0	8.5
Metatarsus	13.5	14.5
Tarsus	4.0	5.0
Total	44.3 mm.	46.4 mm.

Dorsum with four areas. First area with a median line. First area with paired tubercles, a smaller tubercle laterad to each of the median tubercles. Second area without median armature, but with a row of small tubercles on either side of the median division. Third area with a pair of large spines, two small tubercles laterad to each spine. A pair of small tubercles in the median posterior portion of the third area. Fourth area with only two small tubercles near the lateral margin. Lateral margin of scute with a few small tubercles in the region of the fourth coxa. First free tergite with only a few tubercles at the lateral portion. Second and third free tergites each with a median pair of spines, those of the second free tergite larger than those of the third. A few small tubercles at the lateral margin of the second and third free tergites. Anterior margin of the cephalothorax with a median projection between the chelicerae and with a row of several tubercles at the lateral portion. Eye tubercle robust, with a pair of large spines. A few small tubercles posterior to each of these spines. Anal operculum with a few scattered tubercles. Each free sternite with a transverse row of small hair-tipped tubercles. Coxae covered with scattered hair-tipped tubercles, some of these arranged as indefinite transverse rows across each; tubercles of the first coxa longer. A large heavy tubercle in the mid-ventral portion of the fourth coxa; a dorsal apical spine also present on the fourth coxa which is not widened laterally.

Legs: trochanters tuberculate, these tubercles particularly heavy on the third and fourth ones. All segments of the legs clothed with scattered hairs. Femora and patellae with tuberculations which are arranged more or less in rows on the femora. The tuberculations of the third and fourth femora very heavy, a small spine at the distal dorsal portion of the third femur, two smaller ones at the distolateral portion. Fourth femur with three large distal spines on the proteral surface, two spines in one row, the other separated. All spines curved. A small apical spine at the retro-lateral apical margin. A few tuberculations on the fourth tibia. Tarsal segments: 8-15-9-11. Distitarsus of first tarsus with three segments, second with three. Tarsal claws simple, and tarsi without scopulae. Third and fourth femora straight.

Palpus: trochanter, 1.3 mm. long; femur, 4.0 mm.; patella, 2.0 mm.; tibia, 2.7 mm.; and tarsus, 2.5 mm. Total length, 12.5 mm. Palpus armed retro-laterally as in figure 33. Prolaterally armed as follows: femur has a few tubercles at the distal third, without median apical spine, but with a dorsal apical spine; patella with only a few small tuberculations; tibia with four spines, the penultimate one being the largest; tarsus with two spines and several very small spines.

Chelicera somewhat enlarged, first segment with a few scattered tubercles. Second segment with scattered hairs and with two heavy tubercles in the median anterior portion.

Dorsum light brown, with darker mottlings. Spines of the eye tubercle lighter. A large white spot at the lateral portion of the second and third areas, a double white line beginning behind the eye tubercle and extending to the spines of the third area. First and second areas outlined in white as in figure 31. Median spines of the second and third free tergites white. Third free tergite with a posterior strip of white and a few white flecks in the median portion of all free tergites. Venter dark brown, appendages dark brown, mottled with lighter brown.

MALE: Total length of body, 10.2 mm.

Cephalothorax, 4.2 mm. Width of body at widest portion, 9.1 mm.

Similar in appearance to the female. Chelicera enlarged; the large tubercles on the ventral surface of the fourth coxa of the female are prolonged into spines on the male.

TYPE LOCALITY: Female holotype from Barro Colorado Island, Canal Zone, March 20, 1945 (C. D. Michener). Male and female paratypes from El Valle de Antón, Cocle Province, Republic of Panama, December 22, 1945 (C. D. Michener). The holotype was taken in a small tree hole; the paratypes were among leaves of arboreal bromeliads and beneath leaf sheaths of banana plants.

Santinezia micheneri is related to *Santinezia albilineata* Roewer. The color pattern of the dorsum is different, however.

Zygopachylus albimarginis Chamberlin

Zygopachylus albimarginis CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 243; ROEWER, 1929, Abhandl. Naturwiss. Ver. Bremen, vol. 27, p. 231; GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1198, p. 12, fig. 28.

Panamella gracilis ROEWER, 1932, Arch. Naturgesch., new ser., vol. 1, no. 2, p. 314, fig. 30.

A series of *Zygopachylus albimarginis* Chamberlin was found on examination to be a member of the subfamily Cranainae. It is identical with *Panamella gracilis* Roewer. The differences in generic diagnoses between Roewer and the authors are due to variations in different individuals. In some specimens the three spinules over each eye are of equal length, hence could hardly be considered paired. In others the median ones are larger and would be considered paired spines as Roewer has stated. The same holds true for the first area, some specimens having distinctly paired tubercles. This same variation is also found in the median tubercles of the first and second free tergites. The lateral rows of tubercles may vary in color from shining white to a pale yellow.

RECORD: Barro Colorado Island, Canal Zone, March 20, 1945 (C. D. Michener). Madden Forest, Republic of Panama, January 18, 1945 (C. D. Michener). Piña, Colon Province, Republic of Panama, December 30, 1944 (C. D. Michener).

Gonyleptinae Simon

Glysterus scutatus Roewer

Glysterus scutatus ROEWER, 1931, Abhandl. Naturwiss. Ver. Bremen, vol. 28, p. 163, fig. 26.

Rooma caudaspina GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, no. 1184, p. 16, fig. 35.

Some females in a long series of *Rooma caudaspina* Goodnight and Goodnight were found to be identical with the drawing of *Glysterus scutatus* Roewer. Roewer's drawing is of a female rather than a male. While the dorsal areas are not clear, four may be distinguished in some specimens. Hence the authors feel that *G. scutatus* Roewer can be placed in the subfamily Gonyleptinae.

HERNANDRIA BANKS

Hernandria BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 230; ROEWER, 1913, Arch. Naturgesch., vol. 79, sect. A, no. 5, p. 463; 1923, Die Weberknechte der Erde, p. 583.

Dorsum with four areas, first area without a median line. First and second areas with median paired tubercles, third area with median paired low spines. Second free tergite with a median spine. Fourth area and first and third free tergites without median armature. Eye tubercle oval, with a small spine over each eye. Fourth coxa widened laterally, with a dorsal apical spine. Tarsal segments: 6-more than 6-6-6. Distitarsus of first tarsus with three segments, second with three. Tarsal claws smooth, no scopula present; false claw of the third and fourth tarsi very large. Femur of patella without dorsal apical or median apical spines.

GENOTYPE: *Hernandria spinosa* Banks.

Hernandria spinosa Banks

Figures 34-35

Hernandria spinosa BANKS, 1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 230; ROEWER, 1913, Arch. Naturgesch., vol. 79, sect. A, no. 5, p. 463; 1923, Die Weberknechte der Erde, p. 583.

TYPE: Total length of body, 4.2 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 3.5 mm.

	I	II
Trochanter	0.5 mm.	0.7 mm.
Femur	1.9	3.5
Patella	0.8	1.0
Tibia	1.4	2.6
Metatarsus	2.3	3.2
Tarsus	1.4	2.9
Total	8.3 mm.	13.9 mm.
	III	IV
Trochanter	0.7 mm.	0.6 mm.
Femur	2.8	3.4
Patella	1.1	1.4
Tibia	1.6	2.2
Metatarsus	2.5	3.6
Tarsus	2.0	2.2
Total	10.7 mm.	13.4 mm.

Dorsum finely granulate, with four areas. First area without a median line. First and second areas with median paired tubercles. Third area with median paired low spines. Second free tergite with a median spine. Fourth area and first and third free tergites without median armature. A few very small tubercles along the lateral margin of the dorsal scute, a small tubercle laterad to the spines of the third area. A transverse row of small tubercles on the second and third free tergites. Anal operculum with a few scattered tubercles. Eye tubercle oval, with a small spine and a few minute tubercles over each eye. Anterior margin of cephalothorax smooth. Venter, coxae, and free sternites with transverse rows of tubercles. Venter and coxae with scattered tuberculations. A transverse row of tuberculations across the first to third coxae. Fourth coxa with dorsal and lateral tubercles which are visible from above. A dorsal apical spine present on the fourth coxa; this coxa is widened laterally.

Legs clothed throughout with hairs, all segments but the tarsi with hair-tipped tuberculations. These are larger on the fourth leg. Fourth trochanter with an apical retrolateral spine. Tarsal segments: 6-11-6-6. Distitarsus of first tarsus with three segments, second with three. Tarsal claws smooth, no scopula present. The false claw of the third and fourth tarsi very large.

Palpus: trochanter, 0.5 mm.; femur, 1.4 mm.; patella, 0.7 mm.; tibia, 1.0 mm.;

and tarsus, 0.8 mm. Total length, 4.4 mm. Palpus armed retrolaterally as in figure 35. Prolaterally armed as follows: femur and patella unarmed; tibia and tarsus, each with four spine-tipped tubercles, two large and two small. No apical median or apical dorsal spines on either the femur or patella.

Chelicera slightly enlarged, a slight bulge on the prolateral surface of the proximal segment. Both segments smooth except for scattered hairs.

Entire animal reddish brown with a median lighter line. Tarsi and palpus somewhat lighter.

TYPE LOCALITY: Type from Santa Maria Dota, Costa Rica. Type in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts. The above description was made from the type.

PARAHERNANDRIA, NEW GENUS

Hernandria (part) BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 680; ROEWER, 1931, Abhandl. Naturwiss. Ver. Bremen, vol. 28, p. 163.

Dorsum with four areas, first area with a median line. Low paired tubercles on the first, second, and third areas. Second free tergite with a median spine. Fourth area and first and third free tergites without median armature. Fourth coxa widened laterally, fourth femur with spines. Tarsal segments: 5-more than 6-6-6. Distitarsus of first tarsus with three segments, second with three. Tarsal claws smooth; tarsi without scopulae. Femur of palpus without median apical or dorsal apical spines.

GENOTYPE: *Parahernandria ventralis* (Banks).

Parahernandria is related to *Hernandria* Banks; however, the first tarsus has five rather than six segments, the first area has a median line, and the armature of the palpus differs.

Parahernandria ventralis (Banks)

Figures 36-37

Hernandria ventralis BANKS, 1914, Proc. Acad. Nat. Sci. Philadelphia, vol. 65, p. 680; ROEWER, 1931, Abhandl. Naturwiss. Ver. Bremen, vol. 28, p. 163.

FEMALE: Total length of body, 4.7 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 3.5 mm.

	I	II
Trochanter	0.3 mm.	0.4 mm.
Femr	1.4	2.2
Patella	0.5	0.7
Tibia	1.0	1.6
Metatarsus	1.5	2.0
Tarsus	1.1	1.8
Total	5.8 mm.	8.7 mm.
	III	IV
Trochanter	0.4 mm.	0.6 mm.
Femur	1.9	2.2
Patella	0.8	0.9
Tibia	1.3	1.6
Metatarsus	1.8	2.5
Tarsus	1.2	1.4
Total	7.4 mm.	9.2 mm.

Dorsum finely granulate, with four areas. First area with a median line. Low paired tubercles on the first, second, and third areas. Second free tergite with a median spine. Third area with a pair of tubercles laterad to the median tubercles. Fourth area and free tergites, each with a transverse row of small tubercles. A row of tubercles on the bulge of the lateral margin. Eye tubercle rounded, a row of small tubercles over each eye. Anterior margin of the cephalothorax smooth except for two small spines at the anterior lateral border. Underneath the margin of the cephalothorax, a median projection which extends between the chelicerae. Venter and coxae smooth, a transverse row of small tubercles across the first coxa. Each free sternite with a transverse row of small tubercles. Anal operculum tuberculate; fourth coxa widened laterally, tuberculate dorsally and laterally, and with a dorsal apical spine.

Legs clothed throughout with hairs. All segments but the tarsi and metatarsi with hair-tipped tubercles which are arranged more or less in rows; these tubercles are larger on the fourth leg. The trochanter of the fourth leg with a spine on the apical retrolateral portion and one spine on the distal portion of the femur, another on the distal portion of the patella. Tarsal segments: 5-7 or 8-6-6. Distitarsus of first tarsus with three segments, second with three. Tarsal claws smooth, without scopulae.

Palpus: trochanter, 0.3 mm. long; femur, 1.4 mm.; patella, 0.5 mm.; tibia, 0.8 mm.;

and tarsus, 0.8 mm. Total length, 3.8 mm. Palpus armed retrolaterally as in figure 36. Prolaterally armed as follows: femur and patella unarmed; tibia and tarsus, each with two large and two small spine-tipped tubercles.

Chelicera normal, clothed throughout with hairs. First segment with a small dorsal elevation.

Body reddish brown, darker brown mottlings present. With a lighter median line on the dorsum. Tubercles and median spine light, a light area around each tubercle. Appendages yellowish, with much dark brown mottling.

TYPE LOCALITY: Type from Santa Maria Dota, Costa Rica. Type in the collection of the Museum of Comparative Zoology, Cambridge, Massachusetts. The above description was made from the type.

Pachylinae Roewer

Hernandariodes plana Cambridge

Figures 17-18

Hernandariodes plana CAMBRIDGE, 1904, *Biologia Centrali-Americana*, Arachnida, vol. 2, p. 574, pl. 54, figs. 1, 1a; ROEWER, 1913, *Arch. Naturgesch.*, vol. 79, sect. A, no. 5, p. 464; 1923, *Die Weberknechte der Erde*, p. 583.

Kaluga elongata GOODNIGHT AND GOODNIGHT, 1942, *Amer. Mus. Novitates*, no. 1184, p. 18, fig. 33.

A restudy of the type of *Kaluga elongata* leads the writers to believe that their species is the same as that described by Cambridge.

Nesopachylus monoceras Chamberlin

Nesopachylus monoceras CHAMBERLIN, 1925, *Bull. Mus. Comp. Zool.*, vol. 67, p. 244; ROEWER, 1929, *Abhandl. Naturwiss. Ver. Bremen*, vol. 27, p. 228; GOODNIGHT AND GOODNIGHT, 1942, *Amer. Mus. Novitates*, no. 1198, p. 13, fig. 27.

RECORD: Juan Mina, Canal Zone, February 1, 1945 (C. D. Michener).

SUBORDER PALPATORES THORELL

Tribe EUPNOI Hansen and Soerensen

PHALANGIIDAE Simon

Gagrellinae Thorell

Geaya annulipes (Banks)

Leibonium annulipes BANKS, 1909, *Proc. Acad. Nat. Sci. Philadelphia*, vol. 61, p. 232; ROEWER, 1923, *Die Weberknechte der Erde*, p. 1088.

Prionostemma annulipes ROEWER, 1910, *Abhandl. Ver. Hamburg*, vol. 19, no. 4, p. 171.

FEMALE: Total length of body, 5.7 mm. Cephalothorax, 1.3 mm. Width of body at widest portion, 3.6 mm. Length of femora: I, 7.2 mm.; II, 12.4 mm.; III, 7.2 mm.; IV, 10.1 mm.

Dorsum coarsely granulate. Eye tubercle slightly canaliculate, smooth above. Venter and coxae granulate. A row of teeth present on the anterior margins of all coxae and on the posterior margins of the first and fourth coxae. Supracheliceral lamella prolonged into an obtuse projection.

Legs clothed with scattered hairs. Nodules: 0-3-0-0.

Palpus: trochanter, 0.3 mm. long; femur, 1.3 mm.; patella, 0.4 mm.; tibia, 0.8 mm.;

and tarsus, 1.4 mm. Total length, 4.2 mm. Palpus clothed throughout with hairs. Patella with an apophysis.

Chelicera normal.

Body yellowish, with darker brown mottlings. A median lighter stripe surrounded by darker on the dorsum. Eye tubercle light, eyes ringed with black. Coxae with much darker brown markings. Trochanters likewise mottled. Legs light brown, femora and tibiae with narrow yellow rings, giving a striking annulate appearance. Remainder of legs mottled. Palpus and chelicera mottled.

TYPE LOCALITY: Type from Tablazo, Tristan, Costa Rica. Type in the collection of the Museum of Comparative Zoology, Cambridge, Massachusetts. The above description was made from the type.

Prionostemma fichteri, new species

Figure 13

MALE: Total length of body, 2.5 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 2.6 mm. Length of femora: I, 11.4 mm.; II, 19.1 mm.; III, 10.2 mm.; IV, 15.1 mm.

Entire body, dorsum, venter, and coxae thickly covered with rounded flat elevations, giving the whole animal a marked reticulate appearance. Eye tubercle at the posterior third of the cephalothorax, somewhat constricted at the base, canaliculate smooth above, with a few tuberculations over each eye. Supracheliceral lamella in the form of an expanded plate, median portion of which projects. All coxae with anterior and posterior rows of teeth; the individual teeth are large and usually end in four or five acute points.

Legs clothed throughout with hairs. All segments except metatarsi and tarsi with a few small spines which are arranged more or less in rows. Nodules: 0-3-0-1.

Palpus: trochanter, 0.2 mm. long; femur, 1.1 mm.; patella, 0.4 mm.; tibia, 0.6 mm.; and tarsus, 1.1 mm. Total length, 3.4 mm. Apophysis of the patella, 0.1 mm. long. Palpus but slightly elevated above the anterior margin of the cephalothorax. Clothed throughout with hairs which are very numerous on the tarsus, many investing hairs also present on the tarsus. A row of small spines on the ventral margin of the femur and a few small scattered spines on the dorsal portion of the femur and patella. Patella with a rounded apophysis which is covered with hairs.

Chelicera normal, with a few scattered hairs.

Dorsum golden yellow. Eye tubercle dark brown to black. A small dark brown spot on the surface of the cephalothorax just posterior to the eye tubercle. A dark brown stripe in the median portion of the posterior part of the abdominal scute. This stripe is extended onto the anal operculum, where it widens. In some specimens this dark stripe is broad and is continuous from the eye tubercle to the anal operculum; in some it is reduced to only a spot on the anal operculum. Venter and coxae concolorous with the gold of the dorsum. Trochanters and bases of femora very dark brown, contrasting strongly with the coxae. Remainder of legs light brown. Patellae and distal portion of femora somewhat lighter than the remainder of the legs. Palpus and chelicera yellow, the tips of the cheliceral claws black.

FEMALE: Total length of body, 4.7 mm. Cephalothorax, 1.7 mm. Width of body at widest portion, 3.7 mm.

Identical in appearance with the male.

TYPE LOCALITY: Male holotype and male and female paratypes from Chagres River, Santa Rosa, Colon Province, Republic of Panama, December 22, 1944 (C. D. Michener). Additional male and female paratypes from the following localities: Cerro Azul, Republic of Panama, January 1, 1945 (C. D. and M. Michener); La Campana, Republic of Panama, August 5, 1935 (E. H. Fichter); Piña, Colon Province, Republic of Panama, December 30, 1944 (C. D. Michener); and Barro Colorado Island, Canal Zone, July 5, 1938 (A. Petrunkevitch). The specimens from the last locality are in the collection of Dr. Alexander Petrunkevitch of Yale University, New Haven, Connecticut.

***Prionostemma fuscamaculata*, new species**

Figures 11-12

MALE: Total length of body, 3.1 mm. Cephalothorax, 1.1 mm. Width of body at widest portion, 2.4 mm. Length of femora: I, 9.2 mm.; II, 14.8 mm.; III, 8.7 mm.; IV, 12.1 mm.

Dorsum covered with small depressions of varying sizes (0.05-0.1 mm.), giving a reticulate appearance. Eye tubercle canaliculate, with a row of very small tubercles over each carina. Eye tubercle at posterior third of cephalothorax. Supracheliceral lamella extended medially into a projection. Venter and coxae covered with small tuberculations. Lateral teeth present on the anterior and posterior margins of all coxae. Each lateral tooth with three points.

Legs clothed throughout with hairs and investing hairs present on the tibiae, metatarsi, and tarsi. A few small spines present on the basal segments of the legs. Nodules: 0-3-0-1. Nodules very small.

Palpus: trochanter, 0.3 mm. long; femur, 0.8 mm.; patella, 0.4 mm.; tibia, 0.6 mm.; and tarsus, 1.1 mm. Total length, 3.2 mm. Apophysis of the patella, 0.1 mm. long. Palpus clothed throughout with hairs.

Femur only slightly elevated above the margin of the cephalothorax. Investing hairs present on the tarsus. Ventral portion of the femur with a row of small spines. Patella and tibia covered with small brownish spines, a rounded apophysis present on the patella.

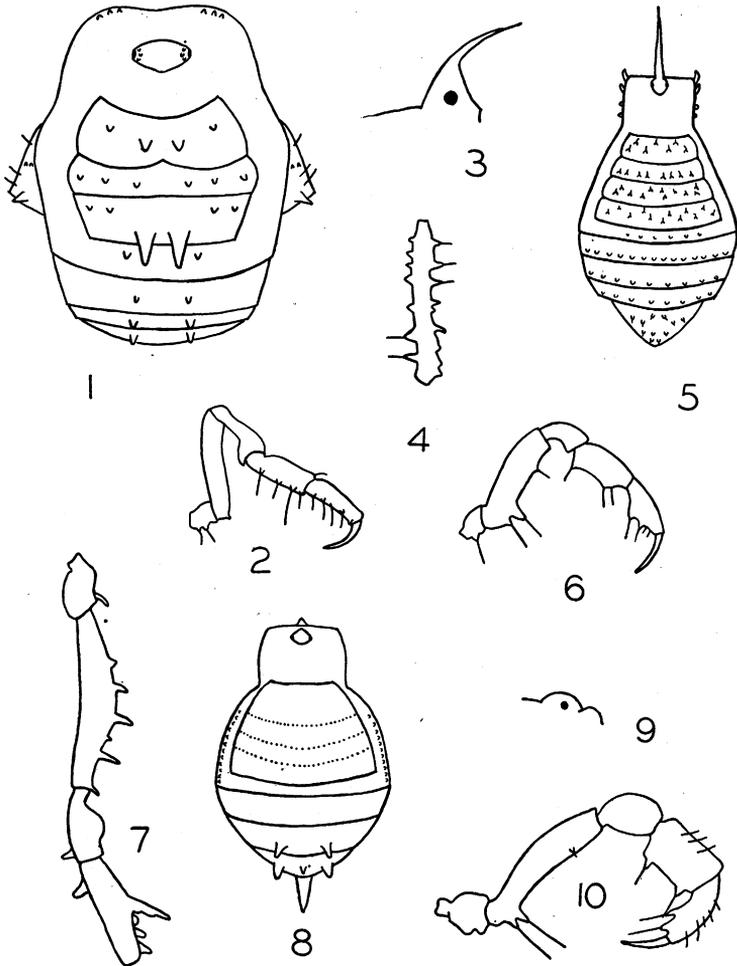
Dorsum yellowish, eye tubercle dark brown, light brown posterior to the eye tubercle. Abdomen with two parallel rows of dark brown, the darker color being found only on the raised reticulate portion. These parallel rows of darker brown are missing in some specimens. The same dark markings extend laterally to the margin in the region of the fourth coxa. Some darker shading present on the posterior portion of the scute. Venter and coxae

yellow, trochanters and bases of femora brown on the anterior and posterior margins, contrasting slightly. Remainder of legs lighter brown. Palpus and chelicera yellowish, tips of cheliceral claws black.

FEMALE: Total length of body, 3.4 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 2.9 mm.

Identical in appearance with the male.

TYPE LOCALITY: Male holotype from Old Panama City, Republic of Panama, February, 1945 (C. D. Michener). Male and female paratypes from the same locality, February, 1945, and August, 1945 (C. D. Michener and E. H. Fichter). Male and female paratypes from Santa Rosa, Colon Province, Republic of Panama, September, 1945 (C. D. Michener).



- Fig. 1. *Barrona williamsi* Goodnight and Goodnight, dorsal view of male.
 Fig. 2. Idem, retrolateral view of palpus.
 Fig. 3. *Cerroa floresta*, new species, lateral view of eye tubercle of type.
 Fig. 4. Idem, dorsal view of femur of first leg of type.
 Fig. 5. Idem, dorsal view of type.
 Fig. 6. Idem, retrolateral view of palpus of type.
 Fig. 7. *Stygnoleptes analis* Banks, prolateral view of left femur of fourth leg of type.
 Fig. 8. Idem, dorsal view of type.
 Fig. 9. Idem, lateral view of eye tubercle of type.
 Fig. 10. Idem, retrolateral view of palpus of type.

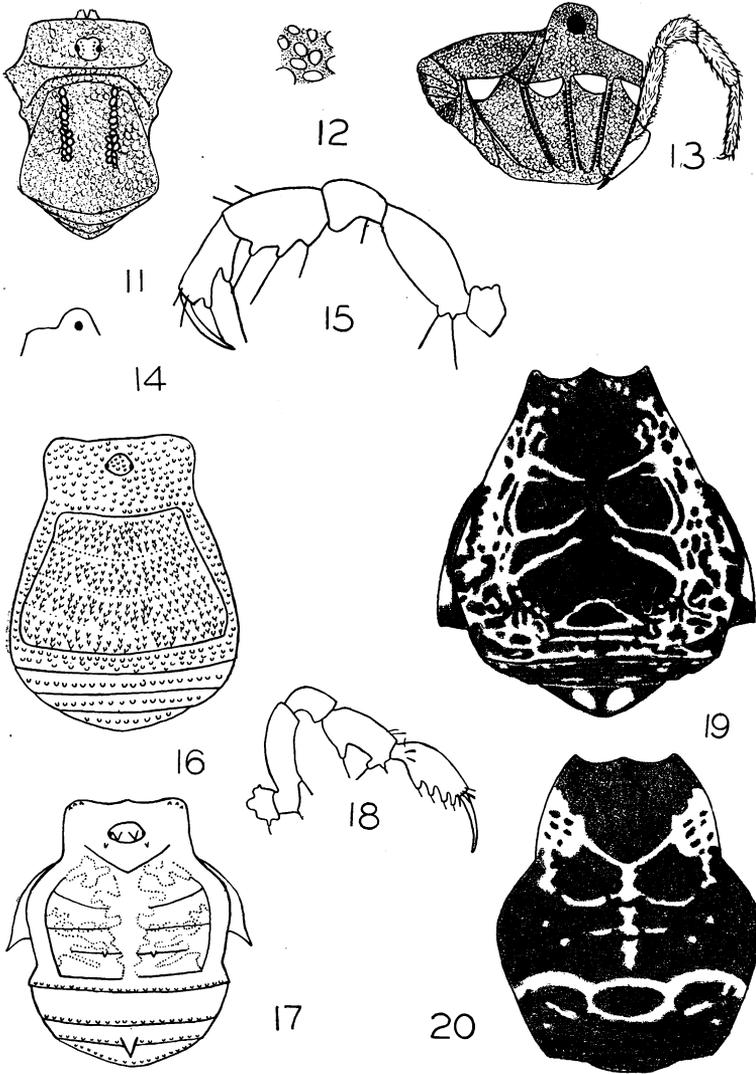
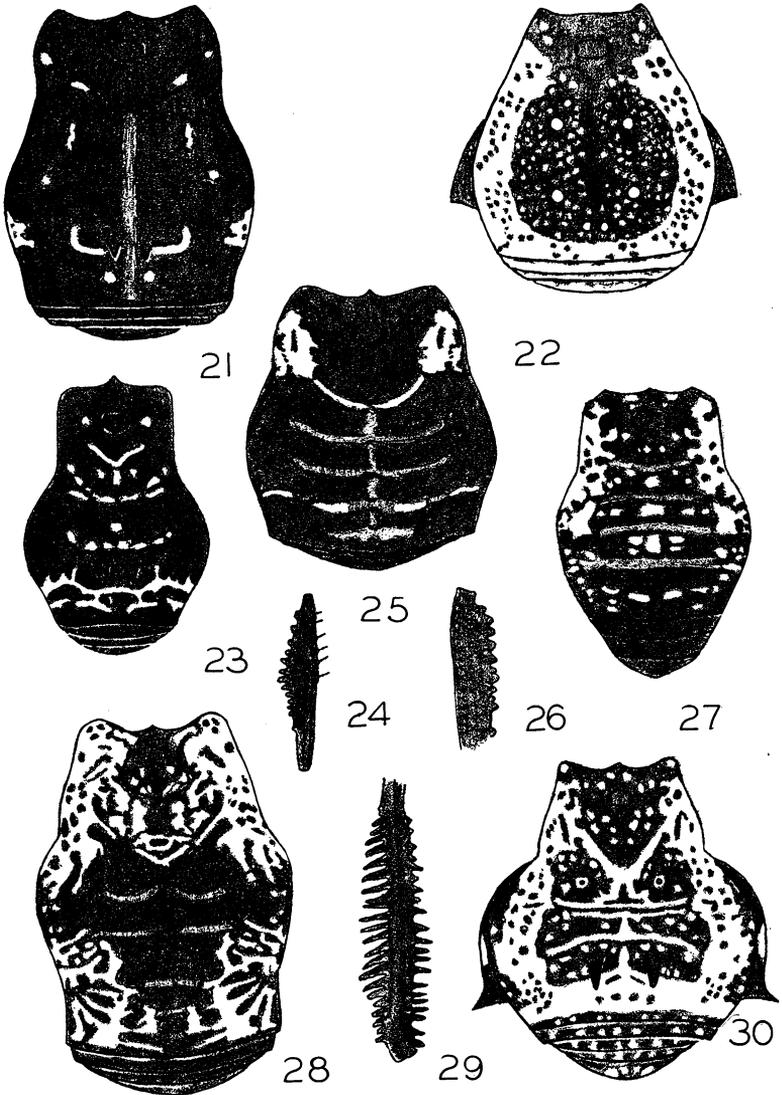
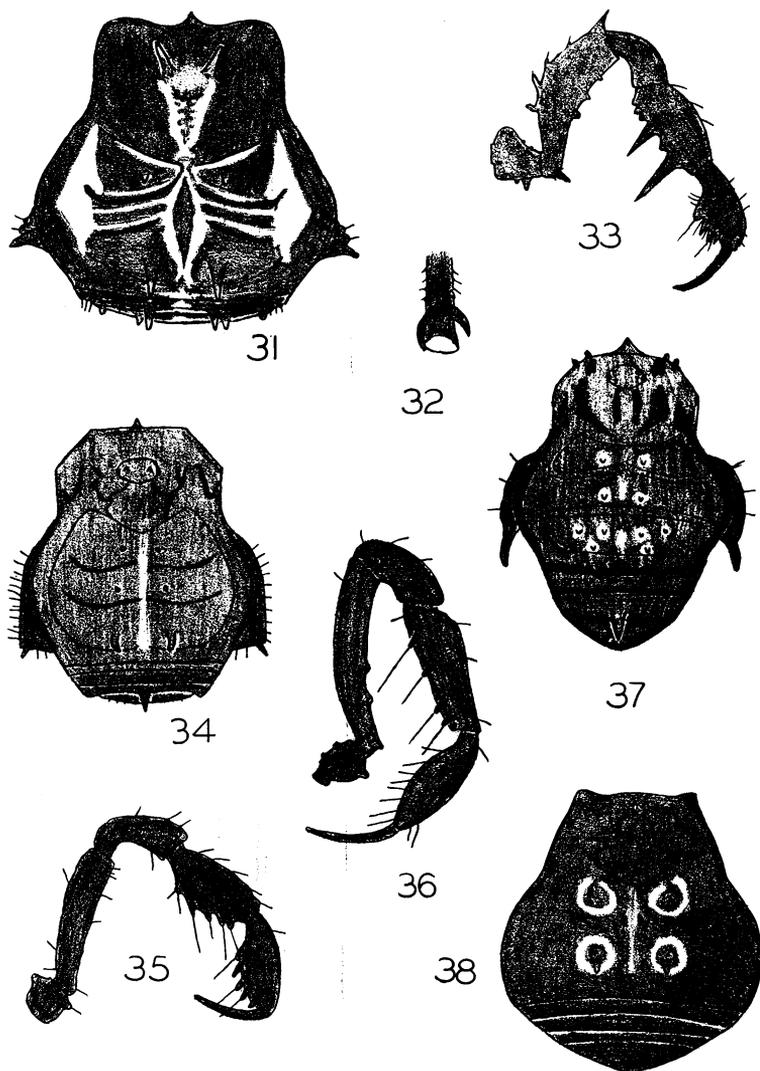


Fig. 11. *Prionostemma fuscamaculata*, new species, dorsal view of male.
 Fig. 12. Idem, view of a section of the dorsum.
 Fig. 13. *Prionostemma fichteri*, new species, lateral view of male.
 Fig. 14. *Pellobunus insularis* Banks, lateral view of eye tubercle of type.
 Fig. 15. Idem, retrolateral view of palpus of type.
 Fig. 16. Idem, dorsal view of type.
 Fig. 17. *Hernandariodes plana* Cambridge, dorsal view of female.
 Fig. 18. Idem, retrolateral view of palpus of female.
 Fig. 19. *Cynorta flavornata* Banks, dorsal view of male.
 Fig. 20. *Cynortula pedalis* (Banks), dorsal view of male.



- Fig. 21. *Eucynorta insularis* (Banks), dorsal view of type.
 Fig. 22. *Soaresella gracilis*, new species, dorsal view of type.
 Fig. 23. *Eucynortoides parvulus* (Banks), dorsal view of male.
 Fig. 24. Idem, ventral view of femur of left fourth leg.
 Fig. 25. *Meterginoides inermis* (Banks), dorsal view of male.
 Fig. 26. Idem, dorsal view of the proximal portion of the femur of the right fourth leg.
 Fig. 27. *Paecilaemella eutypa* (Chamberlin), dorsal view of type.
 Fig. 28. *Eupaecilaema panamaensis*, new species, dorsal view of male.
 Fig. 29. *Flirtea lateralis* (Banks), dorsal view of femur of left fourth leg.
 Fig. 30. Idem, dorsal view of male.



- Fig. 31. *Santinezia micheneri*, new species, dorsal view of female.
 Fig. 32. Idem, dorsal view of distal portion of femur of fourth left leg of female.
 Fig. 33. Idem, retrolateral view of palpus of female.
 Fig. 34. *Hermandria spinosa* Banks, dorsal view of type.
 Fig. 35. Idem, retrolateral view of palpus of type.
 Fig. 36. *Parahernandria ventralis* (Banks), retrolateral view of palpus of female.
 Fig. 37. Idem, dorsal view of female.
 Fig. 38. *Cynortellana oculata* (Banks), dorsal view of female.

