

ARACHNIDA FROM COSTA RICA.

BY NATHAN BANKS.

During the past few years the writer has received large series of spiders and daddy-longlegs from Costa Rica for identification. Most of these were collected and sent by Prof. J. Fid. Tristan, of San José. For a few years the late Dr. Paul Biolley sent me several lots, but soon turned the whole matter over to Prof. Tristan. Most of the specimens were collected at or near San José, but there are a considerable number from the Pacific slope of the country.

The majority of the species are of course already recorded by the *Biologia Centrali-America*, but about 70 species are new and about 20 more not treated in that work. A few species recorded from Costa Rica in the *Biologia* are not in the collections sent me. Many of the Costa Rican records in the *Biologia* are based on collections from Dr. Biolley and Prof. Tristan, although not expressly so stated in that work. The collection is similar to most tropical collections of spiders—a large number of Attidæ, Epeiridæ, and Clubionidæ, few Drassidæ and Thomisidæ. The number of Phalangida is truly remarkable.

The web-building species show a considerable number that also occur in our country, but of those not building webs there are very few that extend into our borders. About seven or eight are species commonly found in houses in the tropics of America.

Altogether there are 288 species, 65 of which are Epeiridæ, 48 Attidæ and 33 Phalangida. Records without any name are all from Prof. Tristan; elsewhere the collectors are given, "B. and T." signifying "Biolley and Tristan." Some species were collected by Mr. Picado; a few by Messrs Lankester and Maxon.

THERAPHOSIDÆ.

Eurypelma longipes Cambridge.

Biol. C. Am. Arachn. Aran., II, 21, 1897.

Machuca.

Eurypelma seemanni Cambridge.

Biol. C. Am. Arachn. Aran., II, 26, 1897.

Atenas, August (Picado), and Pozo Azal de Pirris (Pac.), 150 m., April (Biolley).

Eurypelma vagans Ausserer.

Verh. zool. bot. Ges. Wien, 1875, 197.

Uricuajo (Pac.), 200 m., January (B. and T.), and San Joaquin.

Tapinauchenius reduncus Karsch.

Zeitschr. f. ges. Naturw., LIII, 387, 1880.

Turrijal, San José; Pacaca; Cangrial de Aserri; Rio Reventazon, near Santa Clara (Pac.), December (Biolley); Turrialba; and San José.

Sphærobothria hoffmanni Karsch.

Zeitschr. f. ges. Naturw., LII, p. 536, 1879.

Herran; and San José, in the houses and in trunks of old trees.

Schizopelma bicarinatum Cambridge.

Biol. C. Am. Arachn. Aran., II, 28, 1897.

Pacayas, N. de Cervantes (Atl.), March, 1,500 m. (Biolley).

Acanthopelma rufescens Cambridge.

Biol. C. Am. Arachn. Aran., II, 34, 1897.

Esparte (B.).

Ischnothele guianensis Walckenaer.

Hist. Nat. Apt., I, 23, 1837.

El Higuito, near San Mateo (Pac.), 230 m. (B. and T.); and Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Hapalopus pentaloris Simon.

Ann. Soc. Ent. France, 1888, 216.

San José, under stones (B.); Aserri, February (B.); Atenas (Picado), and Salinas de Albina (Pac.), January (B. and T.).

Fufius atromentarius Simon.

Ann. Soc. Ent. France, 1888, 213.

Machuca.

Pachylomerus rugosus Karsch.

Zeitschr. f. ges. Naturw., LIII, p. 388, 1880.

San José; and Santa Maria Dota, January, one with nest from the ground.

Metriopelma zebrata n. sp.

Carapace red-brown, clothed with golden or tawny hairs, most dense on the sides near margin. Legs, sternum, and venter black, black-haired, but the legs with some long tawny hairs. Abdomen black, with four nearly vertical golden bands on each side, reaching up to a middle golden area on dorsum; many long tawny hairs on the abdomen. Legs long and slender; with many spines on the hind pairs; tibiæ I and II of male without spurs, but with the two pairs of spines,

as in the other species of the genus. Metatarsi I and II scopulate on apical half; tarsus IV with scopula divided by a row of hairs. Length 33 mm.

From Jesus Maria, Costa Rica (Biolley), and San Domingo de San Mateo (Maxon).

Metriopelma morosus n. sp.

Black; carapace reddish, venter black, coxæ and sternum dark red-brown. Clothed with fine red-brown hairs and long, erect bristles, hind legs with many spines, tarsus IV with scopula divided by a row of hairs; the long hairs on abdomen more tawny. Legs long and slender; tibiae I and II each with two pairs of spines below, as in the other species of the genus, no spurs. Length 25 mm.

From Embouchure du Rio Jesus Maria, Platanal, Costa Rica, January (Biolley and Tristan). El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.), and Uricuajo (Pac.), 200 m., January (B. and T.). Differs at once from the two known species by the shape of bulb of palpus.

FILISTATIDÆ.

Filistata hibernalis Hentz.

Spiders U. S., 23, 1875.

San José, in the houses; and Tiribi.

OÖNOPIDÆ.

Dysderina plena Cambridge.

Biol. C. Am. Arachn. Aran., I, 143, 1895.

La Palma.

SCYTODIDÆ.

Scytodes championi Cambridge.

Biol. C. Am. Arachn. Aran., II, 51, 1899.

From El Higuito, near San Mateo (Pac.), 200 m., January (B. and T.).

Scytodes fusca Walckenaer.

Ins. Apt., I, 272, 1837.

Huacaste.

Scytodes intricata n. sp.

Cephalothorax yellowish, with black markings as indicated in the figure, very heavy behind; legs densely banded and spotted with black, the bands narrow, often oblique and sometimes connected to the spots; mandibles each with a black stripe curved outward near

the tip. Abdomen densely streaked with black, a larger median black spot behind middle, and behind this the abdomen is pale with a few triangular black spots near the spinnerets, venter black on base extending back each side, median area pale; tips of coxæ black, sternum mostly black, a pale median stripe and some spots each side; vulva shows two plates each side similar to *S. longipes*, but farther apart, and not narrowed at base. Cephalothorax rather longer than in many species. Length 6.5 mm.

Specimens from Tegas de Cartágo (Tristan and Biolley), Tiribi (T.), San José (T.), Guayabo (Alfaro), Turricares (T.), Cartago (Picado), La Palma (T.), Surubres (B.), and Embouchure du Rio Jesus Maria (Pac.) (B. and T.).

DRASSIDÆ.

Echemus tropicalis n. sp.

Cephalothorax yellowish, A. M. E. on black spots; legs rather more brownish on basal joints; abdomen brown, venter paler brown; sternum and spinnerets yellowish. P. M. E. oval, about one diameter apart, closer to oval P. S. E., which nearly touch A. S. E.; A. M. E. one diameter apart, closer to the A. S. E. Sternum one and one-fourth times longer than broad, pointed behind. Legs rather long, a couple of small spines under tibiæ I and II, all femora with several spines above. Readily distinguished from *E. pedestris* by the P. M. E. well separated, and by the color of the legs, etc. Length 4.5 mm.

From Chiral Paraiso, Costa Rica (Tristan and Biolley).

CLUBIONIDÆ.

Trachelas morosus n. sp.

Cephalothorax, mandibles, and sternum red-brown; cephalothorax granulate, sternum nearly smooth, maxillæ without apical process, rounded at tip. Legs yellowish brown, leg I more red-brown, especially at base; abdomen dark brown, hairy, without scutum. By these characters it would be near the *T. spirifer* of the *Biologia*, but differs at once in the shape of the style to the palpal bulb, which here is short and stout; the tibial process is quite large and long. Length 7 mm.

One male from Aguas Caliente, Costa Rica (Picado).

Trachelas bispinosus Cambridge.

Biol. C. Am. Arachn. Aran., II, 79, 1899.

La Palma; Tablazo; Santa Maria Dota; and Chiral Paraiso (B. and T.).

Trachelas similis Cambridge.

Biol. C. Am. Arachn. Aran., II, 80, 1899.

Tejar de Cartágo.

Corinna pictipes n. sp.

Cephalothorax dark red-brown, almost black, mandibles the same, sternum also; abdomen black, with a median triangular yellow spot, behind clothed with some yellowish hair; cephalothorax with some golden hair. Legs variegated; coxæ pale, trochanters with black spot in front and behind; femora black near base and near tip each side; patellæ dark near tip; tibiæ mostly brown, apical half of I and tip of IV pale, metatarsi and tarsi mostly pale brown. Cephalothorax nearly twice as long as wide, narrowed behind, above with a curved transverse furrow in front of the dorsal groove; the posterior eye-row is slightly procurved, the eyes almost equidistant; the mandibles large and slightly porrect; about six fine teeth on lower margin of fang groove; palpi long, very hairy and black, except the basal joint; the sternum is plainly longer than broad, and shows each side near coxæ I a distinct oval depression; abdomen elongate; legs slender, with few spines. Length 8 mm.

From Tejar de Cartágo, Costa Rica (Tristan).

Corinna modesta n. sp.

Carapace, sternum, and tips of legs red-brown, basal part of legs yellow-brown, mandibles nearly black; abdomen dark brown, paler beneath. Clypeus plainly higher than A. M. E.; six teeth on lower margin of the fang groove; sternum and legs not granulose; four pairs of spines under tibia I, no apicals, two under metatarsi, three pairs under tibia III; vulva with two circular cavities in a hard plate, this plate is punctate in front and on the sides. Length 10 mm.

From Santa Maria, Costa Rica (Tristan).

Corinna mucronata Cambridge.

Biol. C. Am. Arachn. Aran., II, 69, 1899.

San José; La Palma; Escazii; Tablazo (B.); and Cartágo (Picado).

Megalotrata formidabilis Cambridge.

Biol. C. Am. Arachn. Aran., I, 106, 1893.

Santa Maria Dota; Cartágo; and San José.

Clubiona tristani n. sp.

Carapace yellowish brown, darker in eye-region; mandibles red-brown; legs yellowish, metatarsi and tarsi darker. Abdomen black above, a pale median area to the middle, and a series of pale chevrons behind; venter pale. A. M. E. barely, if any, larger than the P. M. E.,

not one-half diameter apart and still nearer to the laterals; P. M. E. fully two diameters apart and about as far from the laterals; legs with long erect hairs, tibiae I and II with 2-2-2 spines beneath, last apical, small; metatarsi with a pair at base; metatarsi and tarsi scopulate on legs I and II. Tibial spur of male palpus similar to that of *C. tricuspis*, but narrower and somewhat different at tip, as shown in the figure. Length 10 mm.

From Tablago, Costa Rica (Tristan).

Clubiona tigrina Cambridge.

Biol. C. Am. Arachn. Aran., I, 238, 1898.

San Joaquin Heredia Espinach; Santa Maria Dota; Tiribi; and Escazii.

Clubiona tumivulva n. sp.

Cephalothorax bright yellowish, more brownish in front, mandibles yellow-brown; legs and sternum pale yellowish, abdomen gray above, on posterior part with black marks, a median herring-bone mark and some spots on the upper sides, black. Legs I and II with a scopula below tarsi and metatarsi, and on the apical part of tibiae. Vulva with a very broad median tongue, behind this the black area is greatly swollen out. Length 10 mm.

From Hatillo, Costa Rica (Picado). Differs from *C. tigrinus* by shape of vulva.

Chemmis frederici Simon.

Hist. Nat. Araign. (éd. 2), II, 215, 1898.

Santa Maria Dota; Tejar de Cartágo; San José; and Fortuna.

Chiracanthium ferum Cambridge.

Biol. C. Am. Arachn. Aran., I, 228, 1897.

Cartágo.

Pelayo insignis n. sp.

Cephalothorax yellowish, eye-region black, also the clypeus, extending back on each side a short distance; mandibles black; legs and palpi yellowish; abdomen yellowish, a black stripe on each anterior side, and a median black stripe, forked behind; behind it are two broad black chevrons, and then an apical spot, venter pale, with a broad median band from the lung-slits to the ventral furrow, extended slightly at each apical corner, and then a broad band from the furrow to the spinnerets, extended each side to the spinnerets. Posterior eye-row a trifle recurved, the P. M. E. farther from each other than from the equal P. S. E. Tibia I and II with 2-2-2 spines, last small, apical. Ventral furrow of abdomen much nearer to spinnerets than to base. Length 4.5 mm.

Volcan Poas, April, Costa Rica. The markings of abdomen are very characteristic.

Strotarchus minor n. sp.

Cephalothorax and legs yellow-brown, head darker; mandibles red-brown; abdomen above and below gray-brown; sternum yellow-brown; maxillæ and lip black, tip of palpus black. Legs long and slender, with few weak spines beneath, 2-2 under tibiæ I and II; vulva with large transverse concavity in front, behind is a chitinous ridge, and behind that is a curved dark line each side. Length 8 mm.

From Turrialba, Costa Rica (Tristan).

Aysha minuta Cambridge.

Biol. C. Am. Arachn. Aran., II, 99, 1900.

San José.

Aysha simplex Cambridge.

Biol. C. Am. Arachn. Aran., I, 227, 1897.

Anyphæna delicatula n. sp.

Cephalothorax yellowish, irregularly marked with blackish each side; eyes on black spots; abdomen pale, with many large grayish spots above nearly covering the dorsum; legs pale, slightly marked with black; sternum and venter pale. P. M. E. over one diameter apart, fully as far from the equal P. S. E.; A. M. E. plainly smaller than A. S. E. Tibiæ and metatarsi I and II with 2-2 spines beneath; abdomen rather short and broad, the ventral furrow at about middle of venter. Length 5 mm.

One female from Tablago, Costa Rica (Tristan).

Anyphæna plana Cambridge.

Biol. C. Am. Arachn. Aran., II, 97, 1900.

La Palma; and Poas Volcan.

Anyphæna simplex Cambridge.

Biol. C. Am. Arachn. Aran., I, 124, 1894.

San José.

Teudis elegans n. sp.

Cephalothorax brown, a median pale stripe from back of pars cephalica to tip, and a lateral pale stripe, much broken up in front; mandibles red-brown; legs yellowish, densely marked with small black spots, almost forming a band near the base of tibia, extreme bases of tibiæ (especially III and IV) are very pale. Abdomen brown, with four triangular median black spots from the middle to tip, the

basal one is divided; venter pale; sternum dark, with pale median area. Posterior eye-row procurved, eyes equal; P. M. E. less than diameter apart, fully diameter from the laterals; A. M. E. very small; legs slender, tibiae I and II with 2-2 spines beneath, no apical pair visible; metatarsi I and II with one pair of spines beneath; ventral furrow at middle of the venter. Length 5 mm.

From Tablago, Costa Rica (Tristan).

Teudis gentilis Cambridge.

Biol. C. Am. Arachn. Aran., I, 199, 1896.

San José.

Teudis bicolor n. sp.

Cephalothorax pale yellowish, legs and palpi pale, mandibles pale as also the sternum; abdomen olive-brown, above and below without markings. Eyes rather close together, posteriors equidistant; A. M. E. close together, and as near to larger A. S. E. The metatarsi I and II scopulate, and with one pair of long basal spines, and two laterals; all spines very long; legs long and slender; abdomen rather elongate. Length 10 mm.

From Aguas Caliente, Costa Rica (Picado).

Sillus putus Cambridge.

Biol. C. Am. Arachn. Aran., I, 200, 1896.

Tablazo.

Sillus longispina Cambridge.

Biol. C. Am. Arachn. Aran., II, 104, 1900.

From El Higuito, near San Mateo (Pac.), 200 m., January (B. and T.).

Eutichurus frontalis n. sp.

Cephalothorax pale yellow; mandibles black, paler on base; legs pale yellowish, tips of tarsi black; maxillæ black; sternum yellow; abdomen yellowish gray above and below. Cephalothorax rather broad and high in front, no dorsal groove; eye-rows broad; A. M. E. slightly larger than the S. E., posterior eyes subequal, the P. M. E. as far apart as from the P. S. E.; legs slender; mandibles high, not porrect; one spine under tibia I, a pair under base of metatarsus I; last joint of upper spinnerets long, but not as long as in *E. ferox*; vulva shows a large elliptical cavity. Length 8 mm.

From Aguas Caliente, January, Costa Rica (Picado).

HERSILIIDÆ.

Tama mexicana Cambridge.

Biol. C. Am. Arachn. Aran., I, 107, 1893.

La Verbena; Surubres (B.); and San José, on the branches of trees.

AGALENIDÆ.

Agalena costata Cambridge.

Biol. C. Am. Arachn. Aran., II, 337, 1902.

Tejar de Cartágo (B. and T.); and Santa Maria Dota.

Agalena penetralis Cambridge.

Biol. C. Am. Arachn. Aran., II, 337, 1902.

Turrialba; Poas Volcano; Tiribi; Tablazo, September; Tejar de Cartágo (B. and T.); La Verbena; and San José (Picado).

Tegenaria sp.

Immature specimens from Tablazo and Fortuna.

Metafecenia albolineata Cambridge.

Biol. C. Am. Arachn. Aran., II, 356, 1902.

Tiribi.

DICTYNIDÆ.

Dictyna parietalis Cambridge.

Biol. C. Am. Arachn. Aran., I, 171, 1896.

San José, 5th July (Picado); and Tejar de Cartágo.

ULOBORIDÆ.

Uloborus geniculatus Olivier.

Encycl. Méthod., IV, 214, 1789.

La Verbena.

Uloborus spernax Cambridge.

Biol. C. Am. Arachn. Aran., I, 265, 1902.

Orosi, 6th July (Picado).

Uloborus plumipes Lucas.

Explor. Algér. Anim. Art., I, 252, 1849.

Orosi, 9th July (Picado).

Uloborus signatus Cambridge.

Biol. C. Am. Arachn. Aran., I, 264, 1898.

La Verbena.

PHOLCIDÆ.

Physocyclus dugesi Simon.

Ann. Soc. Ent. France, 1893, 320.

Santa Maria Dota; Tejar de Cartágo; Paraiso; and San José, a house spider.

Modisimus inornatus Cambridge.

Biol. C. Am. Arachn. Aran., I, 149, 1895.

La Palma.

THERIDIIDÆ.**Theridium fordum** Keyserling.

Spinn. Amer. Therid., I, 23, 1884.

Santa Maria Dota; Tejar de Cartágo, July; Tiribi; La Verbena; Anonos, September; Fortuna; Escazii; Turrialba; La Bolca (Picado); Punta Arenas (Biolley); San Joaquin Heredia Espinach; San José, March; and Uricuajo (Pac.) (B. and T.).

Theridium oblivium Cambridge.

Biol. C. Am. Arachn. Aran., I, 207, 1896.

Tejar de Cartágo (B. and T.); La Palma; and La Verbena.

Theridium tæniatum Keyserling.

Spinn. Amer. Therid., I, 12, 1884.

Turrialba, Tablazo; and Escazii.

Theridium mixtum Cambridge.

Biol. C. Am. Arachn. Aran., I, 206, 1896.

Turrialba; Orosi, 2d July (Picado); and San Joaquin Heredia Espinach.

Theridium compressum Cambridge.

Biol. C. Am. Arachn. Aran., II, 383, 1902.

Orosi, 19th July (Picado).

Theridium florens Cambridge.

Biol. C. Am. Arachn. Aran., I, 205, 1896.

Tejar de Cartágo (B. and T.); Fortuna, with cocoon; Cartágo, July, with nest; and San José (Picado).

Theridium rufipes Lucas

Explor. Algérie, Zool., III, 263, 1849.

Santa Maria Dota; and San José (B.).

Theridium fordulum n. sp.

Cephalothorax pale yellowish, a median black stripe over clypeus through eye-area, and back where it tapers to a point; sides with a broad black stripe. Abdomen dark brown, mottled with brown and black and many silvery white marks, these silvery marks faintly outline a median folium on the anterior part of the dorsum, from its ends a bright silvery line extends down on each side, behind on the middle is an interrupted silvery line to tip. Venter with a black mark, narrowed behind, sternum black, with a median pale streak. Legs pale, heavily marked with black, the joints with broad black bands at tip, and the rest of femur, tibia and metatarsus more or less dotted with black; the hind femora are mostly black beneath, mandibles

pale, each with an inner dark line. Abdomen high and rounded. Metatarsus I about as long as tibia plus patella I. Length 2.5 mm.

Chiral Paraiso, Costa Rica (Tristan and Biolley).

Theridium biolleyi n. sp.

Cephalothorax pale, with a broad median black stripe from eyes to base, widened and then narrowed before middle, and with a lateral extension each side, margin narrowly black; legs pale, with rings and marks, mostly at middle and tip of joints, except tarsi. Dorsum dark gray and white, with black patches mostly to outline a pale median stripe; sternum dark, pale on each anterior side; venter pale, with some small white spots, and a pair of larger submedian black spots. Legs long, very bristly, tibia I a trifle shorter than the metatarsus I; abdomen moderately high, rather long. General structure as in *T. tepidariorum*; vulva shows two small openings as figured. Length 4 mm.

From Tablazo, Costa Rica (Biolley).

Theridium rostratum Cambridge.

Biol. C. Am. Arachn. Aran., I, 204, 1896.

Tejar de Cartágo (B. and T.).

Theridium thorelli Cambridge.

Biol. C. Am. Arachn. Aran., I, 132, 1894.

Ahaya (Picado); and Volcano Poas.

Theridium picadoi n. sp.

Cephalothorax brown, a broad dark-brown stripe on each lower side. Abdomen generally pale, with a large black spot on each anterior side, a smaller one behind it; on the dorsum behind the middle is a large black spot, emarginate in front. Sternum yellow-brown, with a median black streak, venter with a median black stripe, and the posterior of the side-marks reaches down on the venter. Legs dull yellowish, femora suffused black, with a paler spot above the tibia and metatarsus with a dark ring at tip; mandibles yellowish, each with two dark lines in front. Femora of legs rather heavy; metatarsus I hardly as long as tibia plus patella I; abdomen not especially high, rounded above. Length 3 mm.

From Orosi, Costa Rica, 18th July (Picado).

Anelosimus studiosus Hentz.

Journ. Bost. Soc. Nat. Hist., VI, 274, 1850.

Tejar de Cartágo (B. and T.); Aguas Calientes (Picado); Chiral (B. and T.); Anonos; Tablazo; and Escazii.

Dipœna micratula n. sp.

Cephalothorax pale yellowish, rather darker on the sides, eyes surrounded by black, palpi pale yellowish; legs yellowish on femora, rest greenish; abdomen greenish gray, a black spot above the spinnerets and a black median stripe on venter; sternum yellowish. Cephalothorax high; eyes rather large, A. M. E. larger than others; clypeus concave; abdomen short and broad, and high; legs slender, but short, finely hairy, palpi as figured. Length 1 mm.

Orosi, Costa Rica, 5th July (Picado).

Dipœna proba Cambridge.

Biol. C. Am. Arachn. Aran., I, 294, 1899.

Fortuna (B. and T.); and Chiral Paraiso (B. and T.).

Teutana grossa Koch.

Die Arachn., IV, 112, 1838.

Cartágo (Picado); and Turrialba, August.

Steatoda americana Cambridge.

Biol. C. Am. Arachn. Aran., II, 377, 1902.

Anonos, September.

Lithyphantes hermosa n. sp.

Cephalothorax and legs reddish, femora more purplish; abdomen purplish, with two oblique white bands each side, and a pale area behind near tip; venter purplish, with a white crescent-like mark in front of the spinnerets; sternum reddish. Legs short; abdomen broadest and rather highest behind. Vulva showing two circular orifices, fully their diameter apart. Length 3.2 mm.

Punta Arenas, Costa Rica (Biolley).

Argyrodes americanus Taczanowski.

Hor. Soc. Ent. Ross., X, 62, 1873.

Tejar de Cartágo (B. and T.); La Verbena, March; Anonos, September; and Orosi, 2d July (Picado).

Argyrodes maculosus Cambridge.

Biol. C. Am. Arachn. Aran., I, 258, 1898.

Santa Maria Dota.

Nerienne maculosa n. sp.

Cephalothorax orange, eyes on black spots, legs pale yellow, coxæ and mandibles orange, sternum also orange; abdomen brown, a faint paler median area, which, behind the middle, is more definite and margined by two black streaks to tip of abdomen, rest of the dorsum spotted with white, most of the spots on the upper sides; venter dark, with a few white spots, and each side a little beyond ends of lung-

slits is a larger white spot. Vulva as figured for *N. convexa* and *emarginata*; a pair of cavities separated by a median septum, which behind shows a short tongue. Abdomen of female rather broad, pointed behind, much like a *Europis*. Length 3 mm.

From Cartágo, Costa Rica, 1st July (Picado). A male that may belong to the species is from Orosi, 2d July.

Nerienne gamma Cambridge.

Biol. C. Am. Arachn. Aran., II, 419, 1902.

San José.

Nerienne bisignata n. sp.

Cephalothorax and mandibles yellowish-brown; legs paler, posterior sides of cephalothorax rather darker, eyes on black spots, sternum, venter and palpal organ black; dorsum of abdomen mostly white, a median black stripe and some lateral and apical marks as figured. Legs very slender, especially the tarsi; palpus with a slender, curved, basal hook, an apical pointed process and a more slender style, pointing toward the process. A female has the abdomen marked the same, but the cephalothorax is dark brown. Length 3 mm.

From Aguas Caliente, January (Tristan), and San José, in *Bromelia* (Picado), Costa Rica.

Nerienne postica n. sp.

Cephalothorax pale yellowish in the middle, dark on sides; sternum black; abdomen greenish gray, with some cretaceous white spots, and dark marks as figured, the tip conical and jet black; venter black, a white spot each side at base of the spinnerets; legs greenish yellow. Cephalothorax narrow, head high; posterior middle eyes very large, situate on tubercles, one and one-half diameter apart, about one diameter from the laterals. Length 2.5 mm.

From Orosi, 5th June, Costa Rica (Picado).

Frontinella communis Hentz.

Journ. Bost. Soc. Nat. Hist., VI, 28, 1847.

La Palma.

MIMETIDÆ.

Mimetus rapax Cambridge.

Biol. C. Am. Arachn. Aran., I, 296, 1899.

Turrialba; and Escazii.

EPEIRIDÆ.

Tetragnatha alba Cambridge.

Biol. C. Am. Arachn. Aran., II, 432, 1902.

San José (B. and T.); La Bolca (Picado); and Aguas Calientes (Picado).

Tetragnatha antillana Simon.

Proc. Zool. Soc. Lond., 1897, 868.

San José; La Verbena; San Joaquin; and Tejar de Cartágo.

Tetragnatha guatemalensis Cambridge.

Biol. C. Am. Arachn. Aran., I, 8, 1889.

San José; and Santa Maria Dota.

Tetragnatha mexicana Keyserling.

Verh. zool. bot. Ges. Wien, 1865, 854.

La Verbena.

Tetragnatha confraterna n. sp.

Cephalothorax pale, with indication of a broad stripe over head, divided by a pale median line. Abdomen dark, rather swollen at base, and at tip above is slightly projecting; legs of male very pale, of female darker. Anterior side-eyes plainly smaller and well separated from the posterior side-eyes; anterior median eyes larger than all others. Mandibles porrect, elongate; in female nearly as long as the cephalothorax, the outer corner below with a strong tooth; the male mandibles are about as long as the cephalothorax, slightly divergent, toothed as in the figure; the tibia and patella of palpus of equal length. Length 10-12 mm.

From Machuca (Biolley), Escazii (Tristan), Tiribi (Tristan), and Esparte (Biolley); all Costa Rica.

Tetragnatha tenuissima Cambridge.

Biol. C. Am. Arachn. Aran., I, 9, 1889.

Tejar de Cartágo; and Orosi (Picado).

Tetragnatha tropica Cambridge.

Biol. C. Am. Arachn. Aran., I, 11, 1889.

Guanacaste (Lankester).

Tetragnatha tristani n. sp.

Cephalothorax pale yellowish, abdomen rather silvery above; venter and sternum blackish; legs pale, greenish yellow, tips of tibiae and metatarsi darker; S. E. touching, the lower one much the smaller; abdomen not very slender; mandibles not very long, nor much porrect, a tooth above before tip, not very long, and three subequal teeth on inner margin. It runs to *T. digitata* in the *Biologia*, having the tibia of palpus extremely short, but differs in the mandibles. Length 4 mm.

San José (Tristan).

Agriognatha bella Cambridge.

Biol. C. Am. Arachn. Aran., I, 213, 1896.

Machuca (B.).

Dolichognatha tuberculata Keyserling.

Spinn. Amer. Epeirid., 265, 1893.

Turrialba.

Azilia guatemalensis Cambridge.

Biol. C. Am. Arachn. Aran., I, 12, 1889.

Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Nephila clavipes Linné.

Syst. Nat. (XII), 1034, 1767.

Rio Reventazon, Plaines de Santa Clara, December (B.); and Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Metargyra debilis Cambridge.

Biol. C. Am. Arachn. Aran., I, 5, 1889.

La Palma.

Leucauge moerens Cambridge.

Biol. C. Am. Arachn. Aran., I, 185, 1896.

Turrialba.

Leucauge fragilis Cambridge.

Biol. C. Am. Arachn. Aran., I, 6, 1889.

Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Leucauge hortorum Hentz.

Journ. Bost. Soc. Nat. Hist., V, 477, 1847.

Santa Maria Dota; Tejar de Cartágo (B. and T.); La Verbena; and Cartágo, 8th July (Picado).

Leucauge acuminata Cambridge.

Biol. C. Am. Arachn. Aran., I, 5, 1889.

Turrialba (Picado).

Pseudometa bella n. sp.

Cephalothorax yellowish, with a median black streak from eyes to near base, its anterior part geminate by a pale line. Legs pale yellowish, tips of tibiae darker; sternum black; abdomen whitish on sides, in middle above is a broad blackish stripe, including a pair of pale spots; venter black in the middle, white on sides, and a white dot each side near the spinnerets. Length 3 mm.

From Santa Maria, Costa Rica (Tristan).

Pseudometa alboguttata Cambridge.

Biol. C. Am. Arachn. Aran., I, 2, 1889.

Tablazo.

Pseudometa decolorata Cambridge.

Biol. C. Am. Arachn. Aran., I, 3, 1889.

Orosi, in *Bromelia karatos*, 2d July (Picado).**Argiope argentata** Fabricius.

Ent. Syst., II, 414, 1793.

Salinas de Albina (Pac.), January (B. and T.); El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.); Uricuajo (Pac.), January (B. and T.); Chiral Paraiso (B. and T.); San José (B.); and Punta Arenas (B.).

Argiope personata Cambridge.

Biol. C. Am. Arachn. Aran., I, 110, 1892.

Chiral (B. and T.); and San Jesus.

Cyclosa walckenaeri Cambridge.

Biol. C. Am. Arachn. Aran., I, 47, 1889.

Chiral Paraiso (B. and T.); and El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Cyclosa conica Pallas.

Spicil. Zool., I, 48, 1772.

San José.

Cyclosa caroli Hentz.

Journ. Bost. Soc. Nat. Hist., VI, 24, 1850.

Tejar de Cartágo; San Joaquin Heredia Espinach; and Orosi, 6th July (Picado).

Cyclosa index Cambridge.

Biol. C. Am. Arachn. Aran., I, 51, 1889.

Aguas Calientes, July (Picado); La Fortuna; Cartágo; Santa Maria Dota; and Chiral Paraiso (B. and T.).

Mangora trilineata Cambridge.

Biol. C. Am. Arachn. Aran., I, 14, 1889.

Orosi, 2d July (Picado).

Mangora spinula Cambridge.

Biol. C. Am. Arachn. Aran., II, 480, 1903.

Orosi, 9th July (Picado).

Mangora picta Cambridge.

Biol. C. Am. Arachn. Aran., I, 14, 1889.

Orosi (Picado).

Eriophora purpurascens Cambridge.

Biol. C. Am. Arachn. Aran., I, 33, 1889.

San José (B.); and Surubres, near San Mateo (Pac.), 250 m., February (B.).

Eriophora edax Blackwall.

Ann. Mag. Nat. Hist. (3), XI, 30, 1863.

San José, Punta Arenas (B.); Surubres (B.); and Hatillo, 9th June (Picado).

Eriophora minax Cambridge.

Biol. C. Amer. Arachn. Aran., I, 112, 1893.

San José; Anonos, September; Atenas, August (Picado); Embouchure du Rio Jesus Maria (Pac.), January (B. and T.); and Surubres, near San Mateo (Pac.), 250 m., February (B. and T.).

Eriophora bivariolata Cambridge.

Biol. C. Am. Arachn. Aran., I, 27, 1889.

San José; and La Verbena.

Eriophora nephiloides Cambridge.

Biol. C. Am. Arachn. Aran., I, 32, 1889.

San José, 9th October (Picado); and Tiribi.

Epeira pallidula Keyserling.

Sitzungsb. Nat. Ges. Isis, Dresden, 1863, 124.

Turrialba.

Epeira anguinifera Cambridge.

Biol. C. Am. Arachn. Aran., II, 514, 1904.

Turrialba.

Epeira fuscovittata Keyserling.

Sitzungsb. Nat. Ges. Isis, Dresden, 1863, 129.

La Verbena; El Higuito, near San Mateo (Pac.), January, 250 m. (B. and T.); Surubres, February.

Epeira scoutigera Cambridge.

Biol. C. Am. Arachn. Aran., I, 243, 1898.

San José; Aguas Calientes (Picado).

Epeira vulgaris Hentz.

Journ. Bost. Soc. Nat. Hist., V, 469, 1847.

San José, very common house spider; Escazii; Uricuajo (Pac.), 200 m., January (B. and T.).

Epeira solersioides Cambridge.

Biol. C. Am. Arachn. Aran., I, 25, 1889.

El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Epeira minima Cambridge.

Biol. C. Am. Arachn. Aran., II, 471, 1904.

Escazii.

Epeira domiciliorum Hentz.

Journ. Bost. Soc. Nat. Hist., V, 469, 1847.

San José.

Epeira detrimetosa Cambridge.

Biol. C. Amer. Arachn. Aran., I, 26, 1889.

San José (B.); El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Epeira globosa Keyserling.

Verh. zool. bot. Ges. Wien, 1865, 820.

El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Epeira incerta Cambridge.

Biol. C. Am. Arachn. Aran., I, 23, 1889.

San José, abundant house spider; Fortuna (T. and B.); Cartágo, 8th July (Picado); Tiribi; La Verbena; Surubres (B.); Aguas Calientes (Picado); Anonos, September; Machuca (B.); San Joaquin Heredia Espinach.

Epeira gravabilis Cambridge.

Biol. C. Am. Arachn. Aran., I, 33, 1889.

Volcan Poas, March.

Epeira microsoma n. sp.

Male; cephalothorax yellowish, eyes on black spots; legs yellowish, femora and tibiae darkened on apical half; abdomen yellowish brown, with an indistinct, broad, dark brown median area, containing a pair of small yellow spots; sternum pale. Abdomen twice as long as broad; legs not thickened, and without groups of spines. The male palpus shows a curved black piece at apex, and on the inner side a plate with two prominent black teeth. A female (probably of this species) has the legs and body more unicolorous, sternum darker; abdomen nearly round. The smallest *Epeira* known to me. Length ♂ 2 mm., ♀ 2.2 mm.

From La Palma, on bushes, Costa Rica (Tristan).

Epeira anastera Walckenaer.

Ins. Apt., II, 33, 1842.

La Verbena, in nest of a mud-dauber wasp.

Epeira smithi Cambridge.

Biol. C. Am. Arachn. Aran., I, 280, 1898.

Santa Maria Dota.

Epeira bifida Cambridge.

Biol. C. Am. Arachn. Aran., II, 507, 1904.

La Verbena, in nest of mud-dauber wasp; Rio Jesus Maria (Pac.), January (B. and T.), in nest of a Hymenopteron.

Metepeira labyrinthea Hentz.

Journ. Bost. Soc. Nat. Hist., V, 471, 1847.

San José; and Anonos, September.

Metazygia gregalis Cambridge.

Biol. C. Am. Arachn. Aran., I, 22, 1889.

San José, very abundant (B.); La Verbena; Tiribi.

Larinia directa Hentz.

Journ. Bost. Soc. Nat. Hist., V, 478, 1847.

Machuca (B.); Surubres, near San Mateo (Pac.), 250 m., January (B. and T.); and El Higuito, near San Mateo (Pac.), (B. and T.).

Mahadiva 11-variolata Cambridge.

Biol. C. Am. Arachn. Aran., I, 53, 1889.

Aguas Calientes, July (Picado).

Acrosoma gracilis Walckenaer.

Tabl. des Aran., 65, 1805.

Uricuajo (Pac.), 200 m., January (B. and T.).

Acrosoma obtusispina Keyserling.

Sitzungsb. Nat. Ges. Isis, Dresden, 1863, 76.

Tiribi; Machuca (B.); Rio Jesus Maria (Pac.), January (B. and T.); El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Acrosoma inæqualis Cambridge.

Biol. C. Am. Arachn. Aran., II, 535, 1904.

La Verbena, near San José.

Acrosoma triserrata Cambridge.

Biol. C. Am. Arachn. Aran., II, 534, 1904.

Tablazo.

Acrosoma patruelis Koch.

Die Arachn., VI, 130, 1839.

Turrialba; Orosi, 2d July (Picado).

Acrosoma fidelis n. sp.

Cephalothorax yellowish, legs more reddish; abdomen clear yellow above, darker on sides and behind, tips of spines black. Abdomen about twice as long as broad, not very much broader behind, where it is furcate, each corner terminating in two small equal spines, one above the other; on each side of dorsum are two spines, one small beyond

middle, the other one larger before middle, none in front. Length 6 mm.

From Tablazo, September, Costa Rica (Tristan). Differs from nearly all the species which have two spines at each posterior corner in lacking spines at anterior corners. *A. bisicata* Walck., which seems allied, has ten spines.

Acrosoma 12-spinosa Cambridge.

Biol. C. Am. Arachn. Aran., I, 63, 1890.

Machuca (B.); Pitahaya, August (Picado); Embouchure du Rio Jesus Maria (Pac.), January (B. and T.)

Acrosoma sexspinosa Hahn.

Die Arachn., II, 18, 1834.

Surubres (B.); Embouchure du Rio Jesus Maria (Pac.); January (B. and T.).

Acrosoma mammillata Butler.

Proc. Zool. Soc. Lond., 1873, 427.

Esparta (Pac.), 50 m., January (B.).

Gasteracantha kochi Butler.

Trans. Ent. Soc. Lond., 1873, 169

Punta Arenas (B.); San José, abundant on coffee plantations; Guadelupe, July (Picado); San Joaquin Heredia Espinach; Hatillo, 8th June (Picado); Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Tricantha tricornis Simon.

Hist. Nat. Araign. (I ed.), 293, 1864.

Tablazo.

SPARASSIDÆ.

Strophius hirsutus Cambridge.

Biol. C. Am. Arachn. Aran., I, 87, 1891.

Turrialba.

Heteropoda venatoria Linné.

Syst. Nat. (XII), 1035, 1767.

Punta Arenas (B.); Surubres, near San Mateo (Pac.), January (B. and T.).

Selenops mexicanus Keyserling.

Spinn. Amer. Latereg., 223, 1880.

San José, in houses; Escazii; Pacaca; San Joaquin Heredia Espinach; Uricuajo (Pac.), 200 m., January (B. and T.); El Higuito, near San Mateo (Pac.), January (B. and T.); Canorejal de Asseri (Pac.), 800 m., April (B.).

Selenops bifurcatus n. sp.

Cephalothorax yellow; eyes on black spots; abdomen brown; legs yellow, banded with black; sternum and venter pale. Length ♂, 10 mm. Known by the forked apophysis of the tibia of male palpus. A female is about of the same size; the vulva is very similar to that of *S. mexicanus*, but narrower.

Uricuajo (Pac.), 200 m., January (B. and T.).

Sparassus obscurus Keyserling.

Spinn. Amer. Laterg., I, 255, 1880.

Surubres, near San Mateo (Pac.), 250 m., February (B. and T.).

Sparassus audax n. sp.

Male, pale yellowish; abdomen with some black marks above more or less in lines; tips of tarsi and of palpi darker; venter sometimes showing a median black area. Female, more yellowish brown; abdomen more spotted, a faint, basal, median line; venter with a broad, black middle area; mandibles blackish, with two black lines; tarsi and metatarsi infusate. Anterior eye-row straight, M. E. large; legs very long. Differs from *S. simoni* by lack of black at tips of femora and tibiae, and from all males by shape of the palpus. Length ♀ 15 mm., ♂ 12 mm.

Punta Arenas (B.); Santa Maria Dota (T.); San José (T.), Chiral Paraiso (B. and T.); Orosi (Picado); El Higuito, near San Mateo (Pac.) (B. and T.), and Surubres, near San Mateo (Pac.), 250 m. (B. and T.), February.

Sparassus crassus n. sp.

Wholly pale yellowish; mandibles and venter pale; legs very long and slender. Easily known by the extremely heavy tibial apophysis, as shown in the figure. Length ♂, 10 mm.

San Joaquin Heredia Espinach, February (T.).

Epicadus granulatus n. sp.

Eyes arranged as in this genus; carapace with a raised point at the dorsal groove. Abdomen high; dorsum hard, and with many small granules and tubercles of irregular size, also small ones on the cephalothorax. Legs I and II equal; no median apical spine to metatarsi; tibiae I and II with 2-2 spines, metatarsi I and II with 2-2-2 spines; legs roughened and granulate. Length 18 mm.; abdomen high 13 m.

Surubres (Biolley), Costa Rica.

THOMISIDÆ.**Xysticus advectus** Cambridge.

Biol. C. Am. Arachn. Aran., I, 71, 1890.

Cartágo (Picado).

Synema affinitatum Cambridge.

Biol. C. Am. Arachn. Aran., I, 82, 1891.

Tablazo; La Palma.

Synema maculosum Cambridge.

Biol. C. Am. Arachn. Aran., I, 81, 1891.

La Palma, on the shrubs.

Bassania æmula Cambridge.

Biol. C. Am. Arachn. Aran., I, 249, 1898.

Turrialba.

Runcinia magna Keyserling.

Spinn. Amer. Laterg., 125, 1880

Uricuajo (Pac.), 200 m., January (B. and T.).

Misumena asperata Hentz.

Journ. Bost. Soc. Nat. Hist., V, 447, 1847.

Cartágo (Picado).

Apollophanes punctipes Cambridge.

Biol. C. Am. Arachn. Aran., I, 79, 1891.

Los Anonos, September; Tiribi; San José (Picado).

PISAUROIDÆ.**Enna velox** Cambridge.

Biol. C. Am. Arachn. Aran., I, 232, 1897.

Pacaca.

Thaumasia nigrinus Cambridge.

Biol. C. Am. Arachn. Aran., II, 310, 1901.

Herbesan, San José, February (B.); La Verbena; San José.

Lycootenus bogotensis Keyserling.

Verh. zool. bot. Ges. Wien, 1877, 684.

Esparta (B.); Surubres, near San Mateo (Pac.), 250 m., February B.), under stones on bank of river.

Cupiennius sallei Keyserling.

Verh. zool. bot. Ges. Wien, 1877, 685.

Pacaca; Surubres, near San Mateo (Pac.); 250 m., February (B.).

Cupiennius minimus n. sp.

Cephalothorax brown on central region, paler on the sides, abdomen with large broad folium above, sometimes (in two specimens) truncated behind by a broad pale spot. Venter pale, no median stripe; legs mottled with blackish above, no speckles beneath. Abdomen is much

broader than in *C. foliatus*; vulva as figured. It is the smallest species, only 12 to 14 mm. long in female.

Sta. Maria Dota, Costa Rica.

Cupiennius foliatus Cambridge.

Biol. C. Am. Arachn. Aran., II, 307, 1901.

Turrialba; La Palma.

Cupiennius getazi Simon.

Bull. Soc. Zool. France, 1891, 110

San José; Turrialba, May.

Cupiennius griseus Cambridge.

Biol. C. Am. Arachn. Aran., II, 307, 1901.

Tablazo; Sta. Maria Dota.

Trechalea convexa Cambridge.

Biol. Cent. Am. Arachn. Aran., I, 233, 1898.

Sta. Maria Dota; Turricares, February; Tiribi; Pacaca; Uricuajo (Pac.); Rio Jesus Maria (Pac.) (B. and T.); El Higuito, near San Mateo (Pac.), January (B. and T.); Surubres, near San Mateo (Pac.), February (B.), under stones.

CTENIDÆ.

Ctenus sinuatipes Cambridge.

Ann. Mag. Nat. Hist. (6), XIX, 84, 1897.

Aguas Calientes (Picado); La Palma; San José, in houses; San Joaquin Heredia Espinach; La Carpintera, 1,500 m., October (Alfaro); Estacion de Turrialba (Maxon); El Higuito, near San Mateo (Pac.), January, 250 m. (B. and T.).

Ctenus spiralis Cambridge.

Biol. C. Am. Arachn. Aran., II, 112, 1900.

Surubres, near San Mateo (Pac.), 250 m., February (B. and T.).

Ctenus incolans Cambridge.

Biol. C. Am. Arachn. Aran., II, 111, 1900.

Huacas (Pac.).

Ctenus supinus Cambridge.

Biol. C. Am. Arachn. Aran., II, 110, 1900.

La Verbena.

Ctenus convexus Cambridge.

Biol. C. Am. Arachn. Aran., II, 114, 1900.

Pacaca; Sta. Maria Dota.

Ctenus peregrinus Cambridge.

Biol. C. Am. Arachn. Aran., II, 110, 1900.

San José, on the walls of houses; Turrialba; Pacaca; Tejar de Cartágo.

Acanthoctenus spinipes Cambridge.

Verh. zool. bot. Ges. Wien, 1876, 695.

Tiribi; San José (B. and T.); Salvinas de Attina (Pac.), January (B. and T.).

LYCOSIDÆ.**Sosippus agalenoides** n. sp.

Cephalothorax brown; a very narrow, median pale line, sides narrowly pale, mandibles jet black on front, a narrow line of yellow hair each side, palpi black at tip; legs pale yellowish, tarsi and metatarsi blackish, sternum and coxæ pale yellowish. Abdomen pale grayish yellow above, with a brown median stripe from base to tip, not outlined by pale, but with a few pale spots on anterior sides, and behind this it is dentated; venter wholly pale. Length 22 mm.

From Punta Arenas, Costa Rica (Biolley). Differs from *S. mexicanus* in larger size, different abdominal markings, rather broader cephalothorax, and in the shape of the vulva.

Sosippus mexicanus Simon.

Ann. Soc. Ent. France, 1888, 206.

El Higuito, near San Mateo (Pac.), January (B. and T.).

Arctosa trifida Cambridge.

Biol. C. Am. Arachn. Aran., II, 330, 1902.

Embouchure du Rio Jesus Maria, January (B. and T.).

Arctosa minuta Cambridge.

Biol. C. Am. Arachn. Aran., II, 331, 1902.

Tiribi; San José; Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Lycosa insignis Cambridge.

Biol. C. Am. Arachn. Aran., I, 272, 1898.

Punta Arenas (B.); San Joaquin Heredia Espinach, in the pastures.

Lycosa longitarsis Cambridge.

Biol. C. Am. Arachn. Aran., II, 327, 1902.

Guanacaste (Lankester); Atenas (Picado); San José; San Joaquin Heredia Espinach.

Lycosa brevitarsis Cambridge.

Biol. C. Am. Arachn. Aran., II, 327, 1902.

San José; Sta. Maria Dota.

***Lycosa signiventris* n. sp.**

Cephalothorax brown, head black; a pale narrow median stripe from head to base, side margins narrowly pale, a short curved pale stripe each side under dorsal eye reaching forward; mandibles with tawny yellow hairs, except black along inner side, showing a broad median black stripe, each side tawny; legs pale brown to middle, rest darker, femora with a black mark below at tip, a narrow one at base of tibiae and middle of tibiae and beyond nearly black; tibiae III and IV pale beneath, with a black mark at base and at tip; coxae and sternum pale, the former infuscated. Abdomen pale above, with a larger, black, basal spear-mark, followed by many small dots and many lateral dots and marks; base of venter to furrow pale, beyond covered with a large, deep-black mark, having each side of the middle a clear pale elongate spot. Length 27 mm.

From San Joaquin (Tristan). The common name is "Pica caballo."

***Lycosa subfusca* Cambridge.**

Biol. C. Am. Arachn. Aran., II, 325, 1902.

Huacas (Pac.).

***Lycosa morosina* n. sp.**

Cephalothorax with a broad bright yellowish-brown stripe on middle, black in the eye-region, brown on sides, with indications of some pale spots near margin; palpi yellowish, basal joint brown; legs dark brown on femora, yellowish beyond; mandibles yellowish brown, with some yellowish hairs. Sternum black, coxae blackish; abdomen dark brown, a black mark over base followed by a broad pale yellowish mark, not extending far each side; venter black on sides, pale in the middle with a median black stripe from vulva to spinnerets. Legs long and slender, especially leg IV, anterior eye-row procurved, much narrower than second row, three pairs of spines under tibiae and metatarsi I and II. Vulva with two cavities in front, and a basal plate behind. Near to *L. dilatata* of the "Biologia," but the vulva is very different. Length 8 mm.

One from Turrialba, August, Costa Rica (Picado).

***Lycosa brunnea* Cambridge.**

Biol. C. Am. Arachn. Aran., II, 325, 1902.

Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

***Lycosa tristani* n. sp.**

Cephalothorax brown, a broad pale median stripe, slightly broadened a little behind the eye-region, then tapering to tip; abdomen brown on middle, with a broad median spot of yellowish hair, with a

median dark spear-mark in front and some spots behind, venter with rather golden yellow hair, and a basal dusky streak, sides darker; sternum pale, but with a broad dark streak through the middle; legs yellowish, marked with brown, golden hair around eyes, and some in front of the brown mandibles. Anterior eye-row procurved, and shorter than the second row; legs slender, especially the hind tarsi. Male has the sternum and coxæ black; legs mostly black, tarsi, metatarsi, and apical half of the tibia pale; venter as in the female; the tibia of the palpus is enlarged. Length 8 mm.

From Turrialba, Costa Rica (Tristan).

Lycosa biolleyi n. sp.

Cephalothorax brown, with three pale stripes, the lateral rather narrow, the median broad and not constricted, narrowed between dorsal eyes, and here it contains a median black line; mandible red-brown; legs yellowish, faintly maculate with brown and blackish, quite distinct on the hind femora. Abdomen black above, paler beneath. Cephalothorax rather long; anterior eye-row a little narrower than the second row; legs long and slender, metatarsi IV about as long as the cephalothorax; tibiæ I and II with 2-2-2 spines. Vulva very characteristic. Length 10 mm.

From Tablazo, Costa Rica (Biolley).

Pardosa falcifera Cambridge.

Biol. C. Am. Arachn. Aran., II, 318, 1901.

Tejar de Cartágo; San Isidro; Sta. Maria Dota; Turrialba, August (Picado); La Palma, very common in the grass.

Pardosa uncatula Cambridge.

Biol. C. Am. Arachn. Aran., II, 319, 1902

Tablazo.

Pardosa prolifica Cambridge.

Biol. C. Am. Arachn. Aran., II, 317, 1902.

La Bolca, January (Picado); Cartágo (B.); San José; Tablazo.

OXYOPIDÆ.

Peucetia viridans Hentz.

Journ. Bost. Soc. Nat. Hist., V, 195, 1845.

San José; Punta Arenas (B.); Jesus Maria (B.); Uricuajo (Pac.), 200 m., January (B. and T.); El Higuito, near San Mateo (Pac.), 250 m., January (B. and T.).

Oxyopeidon putum Cambridge.

Biol. C. Am. Arachn. Aran., I, 140, 1894.

Anonos, September.

ATTIDÆ.**Phidippus chrysis** Walckenaer.

Ins. Apt., I, 454, 1837.

Pitahaya, August (Picado).

Phidippus marmoratus Cambridge.

Biol. C. Am. Arachn. Aran., II, 276, 1901.

La Verbena; Tiribi; San José, nests on leaves of trees; Embouchure du Rio Jesus Maria (Pac.), January (B. and T.).

Phidippus funebris Banks.

Proc. Calif. Acad. Sci. (3), I, 280, 1898.

San José (B.); Tablazo, September; Tiribi.

Phidippus disjunctus Banks.

Proc. Calif. Acad. Sci. (3), I, 281, 1898.

La Bolca, June (Picado).

Phidippus incontestata n. sp.

Cephalothorax and mandibles dark red-brown; abdomen brown, with metallic scales, several black spots each side. Leg I blackish, except on metatarsus and tarsus which are pale yellow; other legs yellowish-brown, darker at tips of joints; leg I with fringe of black hair beneath. Sternum red-brown; venter paler reddish-brown; mandibles brown; rather porrect, with a large straight tooth near inner base. Second row of eyes half-way to dorsal eyes. Length 6 mm.

From Tablazo, Costa Rica (Tristan).

Phidippus luteus Peckham.

Occas. Papers Nat. Hist. Soc. Wisc., III, 40, 1896.

San José, a young specimen.

Dendryphantes quadrinotatus Cambridge.

Biol. C. Am. Arachn. Aran., II, 271, 1901.

Aguas Calientes (Picado).

Dendryphantes digitatus Cambridge.

Biol. C. Am. Arachn. Aran., II, 269, 1901.

Chiral Paraiso.

Dendryphantes globosus Cambridge.

Biol. C. Am. Arachn. Aran., II, 265, 1901.

La Palma.

Dendryphantes bispinosus Cambridge.

Biol. C. Am. Arachn. Aran., II, 266, 1901.

Sta. Maria Dota; Chiral Paraiso.

Dendryphantes lanceolatus Cambridge.

Biol. C. Am. Arachn. Aran., II, 266, 1901.

La Verbena, March.

Dendryphantes octonotatus Cambridge.

Biol. C. Am. Arachn. Aran., II, 263, 1901.

Fortuna (B. and T.); Aguas Calientes (Picado); Hatillo (Picado); Turrialba.

Dendryphantes comptus n. sp.

Cephalothorax red-brown, a broad white stripe on each side, margin red-brown; abdomen red-brown in middle, the sides of which are indented three times behind, upper sides white, lower sides with brown stripe; venter red-brown in middle, sides pale; sternum red-brown. Leg I brown, pale on tarsus and base of metatarsus; other legs yellow, femora with a brown streak each side, and brown bands at tips of patella, tibia, and metatarsus. Length 3 mm.

From Aguas Calientes, Costa Rica (Picado).

Dendryphantes pallens Cambridge.

Biol. C. Am. Arachn. Aran., II, 272, 1901.

La Palma.

Sidusa spiralis Cambridge.

Biol. C. Am. Arachn. Aran., II, 217, 1901.

La Verbena, March; Tablazo.

Sidusa tarsalis n. sp.

Cephalothorax dark red-brown, abdomen blackish, with an oblique white streak on each anterior side, and behind is a broad oblique white mark each side, not meeting in middle; venter blackish; sternum dark red-brown; legs with the femora and tarsi dark red-brown, the other joints pale reddish, especially pale on legs I and II; in legs III and IV the tibia and base and tip of metatarsi dark; palpi pale reddish-yellow except the dark brown basal joint; mandibles red-brown. Length 8.5 mm.

Salinas de Albina (Pac.), January (Biolley and Tristan).

Sidusa sulphurea Cambridge.

Biol. C. Am. Arachn. Aran., II, 218, 1901.

Orosi, 2d July (Picado).

Sidusa conspecta Peckham.

Occas. Papers Nat. Hist. Soc. Wisc., III, 42, 1896.

Tiribi.

Sidusa femoralis n. sp.

Head black; behind are two large oval yellow spots, leaving a median black stripe. Abdomen with a broad median black stripe from base to tip, tapering behind and there indented from the sides; the sides pale grayish, with some black streaks; venter pale, mottled with black; sternum red-brown. Leg I mostly red-brown, tarsus yellowish; leg II more mottled, the patella yellowish above; legs III and IV with mostly dark femora, rest pale, tips of tibia and metatarsus black. Length 3.5 mm.

From Poas Volcano, April (Tristan).

Sidusa nigropicta Cambridge.

Biol. C. Am. Arachn. Aran., II, 212, 1901.

Aguas Calientes (Picado).

Sidusa parvula Peckham.

Occas. Papers Nat. Hist. Soc. Wisc., III, 44, 1896.

Aguas Calientes (Picado).

Sidusa albicincta Cambridge.

Biol. C. Am. Arachn. Aran., II, 215, 1901.

Turrialba.

Sidusa opima Peckham.

Proc. Nat. Hist. Soc. Wisc., 1895, 71.

Orosi (Picado); Chiral Paraiso.

Sidusa fulvoguttata Cambridge.

Biol. C. Am. Arachn. Aran., II, 214, 1901.

San José; Tiribi.

Sidusa marmorea Cambridge.

Biol. C. Am. Arachn. Aran., II, 211, 1901.

La Verbená.

Cyrene interrupta Cambridge.

Biol. C. Am. Arachn. Aran., II, 239, 1901.

Tejar de Cartágo; Anonos; Orosi (Picado).

Cyrene dolosa n. sp.

Cephalothorax red-brown, eyes on large black spots, a pale median stripe, and the side margins pale; the red-brown stripes are nearly black under the base of the abdomen. Abdomen pale, four black spots each side, the middle area very pale, some small blackish streaks on the sides; venter pale, spinnerets black, and the black continued as a stripe on venter to near the middle where it ends in a sharp point; sternum pale; legs pale, more reddish on tibiæ and patellæ; mandibles

reddish. The spines on legs are as in *C. flava*, but none above on tibia III and IV; the vulva is nearer to *C. pratensis*. Length 8 mm.

From Punta Arenas (Biolley) and Uricuajo (Pac.), January, 200 m. (Biolley and Tristan).

Cyrene delecta Peckham.

Occas. Pap. Nat. Hist. Soc. Wisc., III, 68, 1896.

San Mateo (Pac.).

Cyrene magnifica n. sp.

Cephalothorax black, a broad marginal white stripe each side, and a white spot in the middle; abdomen black, a curved basal white band, and behind on each side are two large white spots; and in the middle line are three white spots, the last over the spinnerets is the largest. Venter with four narrow pale lines in the middle area, and a white spot each side near base; sternum and legs black, with black hair, the latter with some white hairs beneath, which form white bands on the middle of the tibiae and metatarsi III and IV; palpi pale yellowish, with white hair. Length 15 mm.

From San Mateo, Costa Rica (Biolley). It is the largest species of the genus known to me.

Cyrene fusca Cambridge.

Biol. C. Am. Arachn. Aran., II, 238, 1901.

San José.

Cyrene formosa n. sp.

Black, clothed with deep black hairs, a white median stripe extending out each side in front to the dorsal eyes, a narrow white band above anterior eye-row, and the clypeus broadly white, a marginal white stripe. Abdomen black, with black hair, a median white stripe, crossed in front by a white band, and a broad basal white band, which extends back each side, the posterior sides white; the sides white with many elongate black dashes; venter black in the middle; sternum pale brown; legs red-brown or black, with black hair, the tarsi and metatarsi are pale, hind femora below, and the basal half of tibia pale. No fringes on legs; patella and tibia of male palpus with white hair above. Length 9-10 mm.

From Turrialba, Costa Rica (Tristan).

Cyrene pratensis Peckham.

Proc. Nat. Hist. Soc. Wisc., 1885, 70.

San José.

Cyrene bicuspidata Cambridge.

Biol. C. Am. Arachn. Aran., II, 238, 1901.

Pacaca.

Thiodina retarius Hentz.

Journ. Bost. Soc. Nat. Hist., VI, 288, 1850.

Huacas.

Marpissa melanognatha Lucas.

Hist. Nat. Canaries, Arachn., 29, 1839.

Punta Arenas (B.); San José (B.), (Picado).

Marpissa magna Peckham.

Occas. Pap. Nat. Hist. Soc. Wisc., II, 87, 1894.

Guanacaste (Lankester).

Marpissa minor Cambridge.

Biol. C. Am. Arachn. Aran., II, 250, 1901.

Turrialba.

Phanias marginalis n. sp.

Cephalothorax dark red-brown, a transverse patch of white hair just behind dorsal eyes, the margins of cephalothorax broadly snow-white. Dorsum of abdomen pale brown, a darker brown basal spear-mark, and some dark chevrons behind, also an indistinct lateral dark streak; sternum red-brown, venter pale brown. Legs pale brown, femur I dark, other joints darkened at tips; patellæ of palpus snow-white. Length 6 mm.

San José, Costa Rica (Tristan).

Plexippus paykulli Aud. et Sav.

Descript. Egypte (éd. 2), XXII, 172, 1827.

Huacas; La Verbena, March; Surubres (Pac.) (B.); Congrejal de Asseri (Pac.), 800 m., April (B.).

Metacyrba tæniola Hentz.

Journ. Bost. Soc. Nat. Hist., V, 353, 1895.

Turrialba.

Messua desidiosa Peckham.

Occas. Pap. Nat. Hist. Soc. Wisc., III, 93, 1896.

San Joaquin Heredia Espinach.

Nagaina incunda Peckham.

Occas. Pap. Nat. Hist. Soc. Wisc., III, 54, 1896.

Orosi, 20th July (Picado).

Ashtabula nigricans Cambridge.

Biol. C. Am. Arachn. Aran., II, 257, 1901.

Anonos, September; La Bolca (Picado).

Zygoballus tibialis Cambridge.

Biol. C. Am. Arachn. Aran., II, 292, 1901.

San José.

Martella lineatipes Cambridge.

Biol. C. Am. Arachn. Aran., II, 175, 1900.

La Verbena.

Sarinda pretiosa n. sp.

Cephalothorax and abdomen black, mandibles and palpi red-brown; cephalothorax with two pale yellowish transverse marks above, just behind cephalic part; abdomen with two transverse white marks rather before middle, and on lower sides is another; venter with a pale band behind the vulva; coxæ and legs pale, I and II striped with black, tarsi I black, femora III and IV black, patellæ wholly pale, tibiæ and metatarsi striped with dark. Tibia I and II with 2-2-2 spines, metatarsi with 2-2 spines. Length 3.5 mm.

From Turrialba, Costa Rica (Tristan).

Lyssomanes spinifer Cambridge.

Biol. C. Am. Arachn. Aran., II, 184, 1900.

Surubres (Pac.) (B.); Aguas Calientes (Picado); San José, July (Picado).

Lyssomanes convexa n. sp.

Pale yellowish green throughout, eyes on black spots, no other marks. Tibia I with but outer lateral spine, which is toward the tip. Vulva near *L. elegans*, but the apertures much closer together, and the basal part longer. Length 8 mm.

One female from Navarro, Costa Rica (Maxon).

PHALANGIDA.**Cynorta albipunctata** Cambridge.

Biol. C. Am. Arachn. Aran., II, 556, 1904.

San José, under stones (B.); Tejar de Cartágo, under trunks of trees (B. and T.); La Verbena; La Bolca, July (Picado); Tablazo; San Isidro; La Palma.

Cynorta biguttata Cambridge.

Biol. C. Am. Arachn. Aran., II, 557, 1904.

Sta. Maria Dota; Tiribi; Cartágo (B. and T.); Fortuna Cervantes; San José, under stones in dark places.

Cynorta marginalis n. sp.

Dorsum a beautiful, uniform, deep, dark brown, shining, narrowly margined each side by a reticulate greenish-yellow stripe; no V-mark, hind margin of the shield and of the three other segments narrowly greenish yellow. Legs yellowish, more or less reticulate with brown, the tip of femur, and tibia, and whole of patella dark brown; mandibles pale, venter black. Dorsum smooth, a pair of minute tubercles

in front, and behind a pair of rather large tubercles, but with rounded tips. Legs long and slender. Runs to *C. conigera* in the *Biologia*, but tarsus IV has 11 joints; differs however much in other ways. Length, body 6 mm., femur II 12 mm.

Several specimens from Turrialba, Costa Rica (Tristan).

Cynorta longipes Cambridge.

Biol. C. Am. Arachn. Aran., II, 557, 1904.

San Isidro; Tablazo, September.

Cynorta lata n. sp.

Very dark red-brown, a yellow Y-mark enlarged at each anterior end, a transverse line behind, mandibles and legs not very pale, tarsi paler. Dorsum minutely granulate, posterior tubercles low and blunt, posterior segments each with row of granules; body very broad, over coxæ IV nearly as broad as long; basal joint of mandibles spinulose above; legs very rough, but the granules are blunt and none enlarged; trochanter III has a little process behind, a larger one on trochanter IV, a short, stout spine above at tip of coxa IV; tarsus I with 6 joints, II with 11, III with 7, and IV with 8 joints. Venter dark brown; coxæ granulate, coxæ IV only toward tip. Length 8 mm., femur IV 6 mm., femur II 7 mm.

Santa Domingo, San Mateo, Costa Rica, August (Tristan).

Cynorta conigera Cambridge.

Biol. C. Am. Arachn. Aran., II, 559, 1904.

El Higuito, near San Mateo (Pac.), January (B. and T.).

Cynorta pictipes n. sp.

Black, a narrow yellow V-mark, some lines at sides, and following this a faint scallop behind and passing behind the posterior tubercles; many small yellow dots scattered over the abdomen; mandibles, palpi, and venter black; legs yellow, femora on apical half black, patellæ wholly black, tibiæ on apical half and most of the metatarsi black, several black spots on trochanters. Dorsum smooth; posterior tubercles thick and heavy, acute, but not very high; coxa IV at tip with one small tubercle; legs very short; tarsus I with 6 joints, II with 9, III with 7, IV with 8 joints. Length, body 5.5 mm.; femur II 5 mm.

From Turrialba, Costa Rica (Tristan).

Cynorta longispina Cambridge.

Biol. C. Am. Arachn. Aran., II, 558, 1904.

Uricuajo (Pac.), 200 m., January (B. and T.).

Cynorta posticata n. sp.

Dorsum rich deep brown, a narrow white line each side, not reach-

ing either end of body, each end of line turned up or down a short distance; sometimes the line is broken over coxæ III. Three posterior segments mostly white, the last with a large white triangle each side at base; legs and mandibles pale yellowish, heavily reticulate with black. Venter red-brown, granulate. Dorsum smooth, posterior tubercles rather large; legs long, tarsus I with 6 joints, II with 17, III with 9, and IV with 10 joints. Hind legs of male with femur and tibia slightly curved, the metatarsi sinuate, and at base above with a series of over 20 teeth. Length 6 to 7 mm.

From Turrialba, Costa Rica (Tristan); nine specimens, all agreeing in the peculiar coloration.

Cynorta bipunctata Cambridge.

Biol. C. Am. Arachn. Aran., II, 556, 1904.

Fortuna; La Palma; Turrialba.

Cynorta pedalis n. sp.

Very dark red-brown; a yellow Y-mark as usual, the anterior ends of which terminate in large spots, each with several dark dots, a yellow oblong behind at region of tubercles, and a line from it to each side yellow. Legs yellowish; the trochanters very bright yellow, the femora more or less distinctly banded with dark at base, before middle, beyond middle, and at tip; the tibiæ with indistinct bands at base, middle, and tip; the metatarsi with four bands as on the femora; hind tarsi pale yellow, others darker. The dorsum is mostly smooth, the tubercles practically absent; legs spinulose; femur IV more strongly so, but hardly with teeth, no large tooth at tip of coxa IV. Tarsus I with 6 joints (three enlarged), II with 11, III with 7, and IV with 8 joints. Hind femur about as long as body. Length 6 mm.

From San Isidro, Costa Rica (Tristan).

Cynorta tristani n. sp.

Dark red-brown, marked with yellowish; a Y-mark as usual, the sides and posterior margin narrowly yellow, many small dots above, some forming two transverse rows. Legs pale, densely marked with black. Dorsum smooth, two large posterior tubercles, and on posterior segments a few small granules; legs slightly roughened. Venter mostly smooth, coxæ I, II, and III, slightly granulate, and a row of teeth on their posterior borders. Legs not very long; tarsus I with 6 joints, II with 14, III with 8, and IV with 9 joints. Length 5 mm.

El Higuito, Jesus San Mateo (Pac.) (Biolley and Tristan). The posterior tubercles are much shorter than in *C. longispina*, to which it is otherwise much related.

Vonones lateralis n. sp.

Dorsum with a large brown spot in middle of sides, in front and behind reticulate greenish-yellow, many yellow spots here and there, and also scattered yellow granules, the posterior tubercles large, hardly acute and bearing small spinules, basal joint of mandibles spinulose above. Legs yellow, more or less marked with fine black lines. Posterior segments brown, with yellow dots, four larger dots on the last segment. Venter rufous, granulate, a prominent quadrangular yellow spot on each hind coxa near the tip. The coxæ above end in three small teeth, the trochanters on inner side with two teeth at tip; hind femora with a series of teeth above and below near tip as in *Erginus*, no teeth longer than the width of the joint. Length 6.5 mm.

Several from Turrialba, Costa Rica (Tristan).

CYNORTINA n. gen.

Gonyleptidæ, subfam. Stygninæ. Spiracles distinct, hind coxæ free at apex, much broader than a ventral segment; eye-tubercle broad, with two short blunt projections between eyes; legs short, tarsi I with 3 joints, II with 7, III with 6, IV with 6 joints; palpi not very long, joints cylindrical, and each with a few spiniform bristles.

Cynortina tarsalis n. sp.

Very dark brown, the tips of the coxæ, trochanters, femora, and tibiæ pale, also tips of femora and tibiæ of palpus pale. Dorsum smooth, a few low granules in transverse rows on the dorsal shield, lateral margin of shield with a submarginal row of stronger granules, a few small ones on hind margin and on each of the posterior segments; legs without granules, except under all femora, and patella and tibia IV; all legs with fine short hairs, coxa IV below has a small tooth lying close to venter, hardly discernible. The palpus has four spines on outside of femur (two near base), and one on inner side near tip; patella one on inner side; tibia two on outer side, three on inner side; tarsus with two on each side; claw fully one-half as long as tarsus. Length 4 mm.

La Palma, Costa Rica (Tristan).

Meterginus signatus n. sp.

Dorsum dark red-brown, a large yellowish patch each side over coxæ II and III, and another behind, reticulate, over coxæ IV, the two each side are indistinctly connected, no yellow V-mark, nor borders to segments. Venter red-brown; legs yellow, reticulate with blackish. Dorsum smooth; posterior tubercles small, rounded, wide apart; basal joint of mandibles granulate above, second joint in the male is

greatly enlarged, swollen above and in front, in the female normal, femur of palpus with a row of ten teeth below, much smaller in the female; legs long, rough; hind pair longer, no teeth on femur IV of male, coxæ IV ends in one tooth above, hind femur nearly two-thirds as long as body. Tarsus I with 7 joints, first four enlarged, II with 15, III with 10, IV with 11 joints. Length, ♂ 8 mm., ♀ 6.5 mm., femur IV, ♂, 15 mm.

From Turrialba, Costa Rica (Tristan).

Meterginus inermis n. sp.

Red-brown, mandibles paler, trochanters rather bright yellowish, rest of legs brownish, two large connected spots each side of the cephalothorax, the Y-mark indistinct, and a faint transverse line behind. Dorsum smooth, no tubercles; eye-tubercle very broad, smooth; legs spinulose, hind femora with several rows of blunt teeth, largest below, with many scattered rather larger granules; a series of granules under femur of palpus; second joint of mandibles large, but not much swollen above; legs rather long, hind pairs plainly larger than others; femur IV nearly as long as body, tarsus I with 7 joints (4 enlarged), II with 14, III with 8, and IV with 8 joints. Length of body 6 mm., of femur IV, 5 mm.

From Tablazo, Costa Rica, September (Tristan).

Erginus subserialis Cambridge.

Biol. C. Am. Arachn. Aran., II, 564, 1904.

Uricuajo (Pac.), 250 m. (B. and T.), and El Higuito, near San Mateo (Pac.), January (B. and T.).

Erginus parvulus n. sp.

Dark red-brown, a few yellow dots each side, and a line across behind the tubercles; legs pale yellowish. Dorsum mostly smooth, a few granules; eye-tubercle spinulose each side; basal joint of mandibles very much spinulose above, the second joint is greatly swollen above. Posterior tubercles large, acute, and less than their length apart; posterior segments granulate along the edge. Legs spinulose; coxæ III with a little cusp behind, IV with a very large spine at tip, trochanter IV with a small one on inner side at tip; femur IV about as long as body, much roughened, on inner side near the middle is a series of six teeth, none as long as width of joint, and on outer side near tip is a series of five teeth, none as long as width of joint; patella and tibia IV also much roughened. Tarsus I with 6 joints (3 enlarged), III with 7, IV with 7 joints. Length 4 mm.

From San Isidro, Costa Rica (Tristan).

Erginus sinuosus Cambridge.

Biol. C. Am. Arachn. Aran., II, 563, 1905.

Tablazo, September.

Hernandria spinosa n. sp.

Pale reddish-brown, legs and palpi paler; eye-tubercle with two small spines above. Dorsal shield with two pairs of small tubercles, and a larger apical pair; the second of the posterior segments with a larger, yellow, median spine; longer than those on dorsal shield, small spines on the edges of these segments; dorsal shield with two deep transverse grooves. Legs moderately slender, with rows of short spine-like granules, the patellæ slightly enlarged; coxæ I, II and IV granulate on upper sides, coxa IV with a large spine at tip above; tarsi III and IV very broad and flattened, and at tip an apical process over the claws; tarsus I with 5 joints, II with 11, III with 6, IV with 6 joints. Palpi with spines, tibiæ with two long and one short (apical) on outer side, two long and two short on inner side, tarsus with two long and two short each side, claw as long as tarsus. Length 5 mm., femur IV 4 mm.

From Santa Maria Dota, January (Tristan), Costa Rica.

Palpinus lævis Cambridge.

Biol. C. Am. Arachn. Aran., II, 577, 1905.

La Palma.

Metapachylus rugosus n. sp.

Red-brown on body and legs, palpi, mandibles and trochanters pale yellow, in the male the legs are more yellowish. Body very much roughened, a large spine on eye-tubercle curving forward, a small one at each anterior corner of the cephalothorax; dorsal shield with lateral row of granules, and about 8 transverse rows of spine-like granules on abdomen, and the last segment with two rows of granules, each granule is tipped by a hair; ventral segments also with rows of granules, hardly as large as those above; legs also roughened, except on the metatarsi and tarsi, many granules on coxæ, trochanters and femora are tipped by bristles; tarsus I with 3 joints, II with 7, III with 5, IV with 6 joints. Femur of palpus with three spines beneath (two basal), tibia and tarsus with two each side. In male the legs are very much longer, especially the hind pair, of which the femur, tibia, and metatarsus are each longer than the body, and metatarsus IV has above four granules of which one is apical. Length 4.5 mm., tibia IV 6 mm.

From San Isidro, San José, Santa Maria Dota (Tristan), Uricuajo (Pac.), 200 meters (Biolley and Tristan), Atenas, 2d June (Picado), and La Bolca (Picado); all Costa Rica.

Mitopus australis n. sp.

Pale brown, mottled with black, middle of eye-tubercles white. Dorsum densely minutely granulate, two little elevations on the anterior margin, each with three or four little teeth; eye-tubercles spinulose, three first abdominal segments each with a submedian pair of sharp spines, next two with four spines, last with two; each segment with a few minute spinules, and on anterior border of abdomen a curved series of minute spinules; legs with rows of very prominent spinules, and at tips of femora and patellæ are several larger spinules; coxæ minutely spinulose, each spinule bearing a black hair. Femur, patella, and tibia all thick and heavy, metatarsi and tarsi very slender, femur I longer than width of body, II as long as body. Length 4.5 mm.

From San José, Costa Rica (Tristan).

Phalangium ornatipes n. sp.

Body brown, paler below, dorsum darkest in front, a paler median stripe which expands to sides at middle of length; palpi pale, brown on base of femur, patella, and base of tibia; trochanters of legs pale yellowish, also extreme bases of femora, rest of femora brown, patella brown, with a pale streak above, tibia brown on base, paler beyond, metatarsi and tarsi pale. Eye-tubercle smooth; a cluster of small spines each side on front margin; palpi very short. Dorsum with eight transverse rows of six spine-like tubercles, the median pair of each row much larger than others, coxæ slightly granulate, a small white spine at anterior tip of each coxa, except I where it is on the posterior tip. Legs rather short. Length 7 mm.

From La Fortuna Cervantes (Tristan), Costa Rica.

Liobunum biolleyi n. sp.

Anterior part of cephalothorax brown, tubercle and middle part black; abdomen black; coxæ and venter pale brown, trochanters and rest of legs black, tips pale, a prominent yellow spot at tip of hind coxa; two golden yellow spots each side near apex of abdomen above, and sometimes a yellowish spot each side in front of these; palpi brown on base, tarsus pale yellowish, mandibles pale. The cephalothorax is pitted, and a narrow pitted band on base of the abdomen, then a large area, densely pitted, occupying most of dorsum, and the posterior segments each with a pitted band; coxæ and sternum granulate, venter less strongly so; eye-tubercle with a few minute spicules above in front; legs very long and slender. Length 6 mm.

From Congrejal de Aserri (Pac.), 800 meters, April (Biolley).

Liobunum coriaceum Cambridge.

Biol. C. Am. Arachn. Aran., II, 582, 1905.

Turrialba.

Liobunum tristani n. sp.

Dark brown, anterior part of the cephalothorax paler, a yellowish mark on each side of the abdomen behind, one or two dots on the posterior dorsal segments; palpi and mandibles wholly pale yellow; coxæ and trochanters black, the suture white, and a white (or yellow) spot at apex of hind coxa; rest of legs brown, patellæ rather darker; sternum and venter dark brown or black, each side at base of the abdomen is more yellowish. The cephalothorax is pitted, a pitted band on basal part of abdomen, then a large square pitted area occupying most of dorsum, and the posterior segments each with pitted band; coxæ and sternum densely granulate; venter with a row of granules on each segment; legs only finely granulate, of moderate length, eye-tubercle with a few spicules in front above. In the male the body is broader and flat, of a rather uniform brown, densely pitted; eye-tubercle with more prominent spicules; palpi rather long, tarsi slightly curved. Length, ♀ 6 mm., ♂ 5 mm.

From Fortuna Cervantes (Biolley and Tristan), San José, and La Verbena, near San José, "on the stones near the river, thrive in dark places" (Tristan); all Costa Rica.

Liobunum annulipes n. sp.

Marmorate with brown and yellowish; eye-tubercle pale; a narrow brown line reaches to front margin, some pale median spots behind; coxæ mostly brown, an irregular pale patch near base of each; sternum pale at base, dark on tip, venter pale, densely mottled with brown. Palpi pale, except a brown band at base of tarsus. Legs pale, with many brown bands, many of these brown bands contain a white mark; trochanters mostly brown. Dorsum pitted as usual, eye-tubercle smooth, coxæ granulate, venter slightly granulate; legs quite long, especially the second pair. Length 7 mm.

From Tablazo, Costa Rica, "on the ferns" (Tristan).

Liobunum foveolatum Cambridge.

Biol. C. Am. Arachn. Aran., II, 583, 1905.

Tablazo.

Liobunum frontale n. sp.

Dark brown, coxæ and trochanters same color; legs paler at base, darker beyond, then pale toward tips; in front of eye-tubercle is a white spot extending to front margin; palpi brown, tarsus pale;

mandibles pale; sternum yellowish. Dorsum pitted as usual, coxæ granulate, but sparsely so on hind pairs; sternum and venter with few granules; eye-tubercle smooth; legs very long, finely granulate; palpi slender, tarsus very long and slightly curved. Length 4 mm.

From Embouchure du Rio Jesus Maria (Pac.), January, Costa Rica (Biolley and Tristan).

Liobunum laterale n. sp.

Pale brown, coxæ and trochanters a little darker, rest of legs paler, at tip of coxa IV is an indistinct pale spot; a black streak each side near middle of dorsum; venter pale yellowish on the extreme upper ends of the basal three segments; palpi and mandibles pale. The dorsum is densely pitted, with a narrow pitted band on base of abdomen, and on posterior segments; the coxæ are densely granulate, the sternum and bands on ventral segments less strongly so; the eye-tubercle with very minute spicules above; the patellæ of the palpi have a very distinct process from the inner tip; legs not very long. The male is similar to the female, with longer legs, the abdomen flat and short, with the two dark streaks; palpi with the process to patellæ, the tarsus slender and curved. Length, ♀ 5 mm., ♂ 4 mm.

From Chiral Paraiso, July (Biolley and Tristan), Fortuna Cervantes, and Huacas (Pac.) (Tristan); all Costa Rica.

Liobunum intermedium n. sp.

Dark brown above, pale brown beneath, coxæ and trochanters pale brown, legs pale at base, darker near middle, and pale toward tips; palpi mostly pale; mandibles pale yellowish; a golden yellow spot at tip of coxa IV, no golden spots behind (as in *L. biolleyi*). Dorsum pitted as usual; eye-tubercle minutely spinulate; coxæ granulate, sternum and venter less so; legs of female rather short, of male much longer; patella of palpus with an inner projection at tip in both sexes. Length, ♀ 5 mm., ♂ 4 mm.

From Fortuna Cervantes (Tristan and Biolley), Pacaca, and Turricares, February (Tristan); all Costa Rica.

Liobunum coxalis n. sp.

Body reddish, coxæ and trochanters deep black, legs pale, but base near trochanters is black, eye-tubercle black, palpi and mandibles pale yellowish.

Dorsum (♂) short and broad, densely pitted; eye-tubercle smooth; coxa granulate, venter and sternum slightly so, sternum very broad; palpi of moderate length, the patellæ with a minute tooth at inner tip; legs not very long. Length 2.5 mm.

From Tejar de Cartágo, Costa Rica (Tristan).

SOLPUGIDA.

Ammotrecha stolli Pocock.

Ann. Mag. Nat. Hist. (6), XVI, 97, 1895.

San José, 2d May (Picado).

EXPLANATION OF PLATES V AND VI.

PLATE V—Fig. 1.—*Sidusa femoralis*.

Fig. 2.—*Phidippus incontestata*.

Fig. 3.—*Selenops bifurcatus*.

Fig. 4.—*Lycosa tristani*.

Fig. 5.—*Clubiona tristani*.

Fig. 6.—*Sidusa femoralis*.

Fig. 7.—*Cyrene formosa*.

Fig. 8.—*Metriopelma zebrata*.

Fig. 9.—*Phanias marginalis*.

Fig. 10.—*Sparassus crassus*.

Fig. 11.—*Cyrene dolosa*.

Fig. 12.—*Sparassus audax*.

Fig. 14.—*Dendryphantes comptus*.

Fig. 15.—*Trachelas morosa*.

Fig. 16.—*Metriopelma morosa*.

Fig. 17.—*Sidusa tarsalis*.

Fig. 18.—*Strotarchus minor*.

Fig. 19.—*Clubiona tumivulva*.

Fig. 20.—*Lycosa signiventris*.

PLATE VI—Fig. 21.—*Sarinda pretiosa*.

Fig. 22.—*Nerienne bisignata*.

Fig. 23.—*Nerienne postica*.

Fig. 24.—*Scytodes intricata*.

Fig. 25.—*Epicadus granulatus*.

Fig. 26.—*Theridium biolleyi*.

Fig. 27.—*Cupiennius minimus*.

Fig. 28.—*Pelayo insignis*.

Fig. 29.—*Dipæna micratula*.

Fig. 30.—*Pseudometa bella*.

Fig. 31.—*Nerienne postica*.

Fig. 32.—*Corinna modesta*.

Fig. 33.—*Sosippus agalenoides*.

Fig. 34.—*Tetragnatha confraterna*.

Fig. 35.—*Lycosa biolleyi*.

Fig. 36.—*Echemus tropicalis*.

Fig. 37.—*Teudis bicolor*.

Fig. 38.—*Cyrene magnifica*.

Fig. 39.—*Epeira microsoma*.

Fig. 40.—*Anyphæna delicatula*.

Fig. 41.—*Lyssomanes convexus*.

Fig. 42.—*Lycosa tristani*.

Fig. 43.—*Lycosa morosina*.

Fig. 44.—*Lithyphantes hermosa*.

Fig. 45.—*Epeira microsoma*.

Fig. 46.—*Tetragnatha tristani*.

Fig. 47.—*Corinna pictipes*.

Fig. 48.—*Teudis elegans*.

Fig. 49.—*Eutichurus frontalis*.

Fig. 50.—*Nerienne postica*.



Banks, Nathan. 1909. "Arachnida from Costa Rica." *Proceedings of the Academy of Natural Sciences of Philadelphia* 61, 194–234.

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