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Spiders from the Virgin
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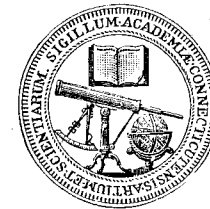
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Boris Striffler

SPIDERS FROM THE VIRGIN ISLANDS

INTRODUCTION.

The spider fauna of the Virgin Islands has never been made a subject of thorough study. A single species has been recorded from the British Virgin Islands, and only twelve species, distributed over eight families, have previously been recorded from the American Islands. One of these spiders, *Diplura macrura* C. Koch, belonging to the Family Dipluridæ, has been taken in St. John and later found to occur also in Cuba. Another, *Trochanteria ranuncula* Karsch, belonging to the Family Drassidæ, has been described from St. Croix and never captured again. The remaining ten species have been collected in St. Thomas. Of these *Mygale drassiformis* C. Koch of the Sub-Order Mygalomorphæ cannot be identified, but is probably a *Diplura*, according to Ausserer; *Evophrys venusta* and *Marpissa incerta* of the Family Attidæ have both been insufficiently described by C. Koch, and like the preceding species cannot be identified at present. *Gasteracantha tetracantha* L. of the Family Argiopidæ is widely distributed throughout the West Indies. *Modisimus glaucus* Simón of the Family Pholcidæ has been collected also in Cuba, Hayti, Jamaica and St. Vincent. *Cyrtopholis bartholomei* (Latreille), originally described from St. Bartholomew, has been found in St. Thomas and also in Antigua, if the identification of material from the last-named island is correct. *Cyrtopholis acutispina* Strand and *C. pelus* Chamberlin of the Family Theraphosidæ, and *Odo agilis* Simon of the Family Ctenidæ have been described only from St. Thomas. *Clubiona maritima* L. Koch of the Family Clubionidæ has been recorded since from Cuba. Cosmotropical and neotropical species may have been collected in the Virgin Islands, but have not been recorded.

To interpret these meagre records as indicating any paucity of spiders in the fauna of the Virgin Islands would be a gross error. A little collection of spiders, which Dr. C. R. Shoemaker of the U. S. National Museum made in St. Thomas in 1915 and placed at my disposal, contained no less than 25 species, not counting five species of immature spiders which could not be identified

beyond the genus. Eight species proved to be new, three of them representing new genera. My own collections, made during the summer and autumn of 1925, when an opportunity was afforded to visit the principal islands of the group now belonging to the United States, have yielded noteworthy results. These are set forth in the following pages and constitute the second part of my studies of the spider fauna of Central America and the West Indies, commenced in these Transactions, July 1925. As the present article has been largely prepared during my year of service as Visiting Professor of Zoology at the University of Porto Rico, it may properly be regarded as a contribution to science from that institution.

During five days in St. Thomas I collected fifteen species, three of which are new, while seven others are not represented in the collection of Dr. Shoemaker. During two days, spent in St. Croix, I observed and recorded seven cosmopolitan or neotropical species, all exceedingly common. *Artema atlanta* Walck. and *Uloborus geniculatus* Oliv. were the common spiders inside buildings, while *Menemerus bivittatus* Duf. and *Plexippus paykulli* (Aud.) could be seen on the outside of the walls in the sunshine. *Filistata hibernalis* Hentz made numerous webs on walls, and at the time of my visit in the first week of September males were rare. *Araneus (Metespeira) labyrinthicus* (Hentz) built innumerable webs between the telephone wires on the streets.

The ecological conditions in the Virgin Islands are in many ways peculiar. The islands are hilly, the hills rising more or less abruptly from the sea, but none are of sufficient height to influence the vertical distribution of the spider fauna, the highest hill in St. Thomas being 1549 feet. St. Thomas is 13 miles long and 4 miles wide. There is no definite information as to whether St. Thomas was ever covered with a forest. At the present time most of the land is hilly pasture with small isolated thickets of second growth and a few larger trees. There is but a single town in St. Thomas, and only small, scattered homes are to be seen elsewhere on the island. The water supply is not abundant, prolonged droughts being common, and rainwater only being available. There is plenty of vegetation for spiders which need no forest. In the town itself, wherever the streets are not paved, and especially on the small lawns of the public square near the harbor, one finds numerous holes in the ground, inhabited by

Cyrtopholis bartholomei, and in some places separated from one another by not more than two feet. Similar holes are found all the way up to the top of the hill, sometimes in very hard soil in the road itself or in the banks on either side of it. On the bushes along the road are numerous webs of *Argiope argentata*, *Cyclosa walckenaeri* and *Araneus (Metespeira) labyrinthicus*, occasionally also *Gasteracantha tetracantha*. *Argyrodes nephila* is quite common in the nets of *Argiope*. *Leucauge argyra* is very common, but at the time of my visit (last week of July) most of the specimens were immature. I have not found any specimens of *Latrodectus mactans*, and inquiry among natives showed that they were not acquainted with it. It is therefore very probable that *Latrodectus* does not occur on the island.

The largest of the islands is St. Croix, which is about 21 miles long and 6 miles wide. Lying to the southward of the rest of the group, it is separated from St. Thomas by a deep channel 40 miles wide. St. Croix must have been well forested at one time, but in the year 1650 the forests were burned. Knox¹ writes: "In order to arrest the mortality which was so rapidly thinning their numbers—a mortality which arose from the dense and aged forests that covered the island, scarcely affording an opportunity for the winds to carry off the poisonous vapors with which its morasses clogged the atmosphere—the colonists who remained, set fire to the woods, and going on board their ships, became spectators of the conflagration. They returned on shore after the flames were extinguished." Notwithstanding this and the severe drought of 1661, the island must have again become densely forested, for when the Danes who purchased it from the French arrived in St. Croix in 1735 "they found the shore covered with such a dense growth of bushes, vines and trees, that the party had to remain three days on board their vessel, whilst the slaves cleared sufficient space for them to land and remain with any comfort."² At present St. Croix is almost completely deforested. Small patches of trees with second growth thickets may be seen in some of the valleys higher up on the hills and here and there lower down. Most of the low land is under sugar cane cultivation, while the slopes of the hills are covered

¹ Knox, John P., A Historical Account of St. Thomas, W. I., 1852, p. 32.

² Op. cit., p. 78.

with pastures. Prolonged droughts are common, as in St. Thomas, and rainwater only is available.

St. Croix is a much larger island than St. Thomas and, although heavily deforested, undoubtedly must possess a spider fauna equal to that of the latter island. I have no doubt that excursions to the remnants of forest and to the small thickets in the hills, places which lack of time prevented me from visiting, would add many species to the list, including possibly some new to science.

Although apparently uninhabited at the time of their discovery by Columbus, the Virgin Islands must have been frequently visited by Caribs. In the seventeenth century St. Thomas became the visiting place of many vessels. "Thus an extensive entrepôt of the productions of almost every country was established, and the island no doubt soon became the resort of trading vessels from all points of the West Indies and South America. . ."³ Toward the end of the eighteenth century St. Thomas "became the only market in the West Indies for the products of all the colonies, and the only channel through which they could be conveyed to the countries in the North of Europe."⁴ Until the Great War the Virgin Islands, and especially St. Thomas, continued to be frequently visited by vessels. This may possibly account for the presence of cosmopolitan and neotropical species in these islands.

Apparently nothing except bay rum and rum was formerly produced for exportation by the Virgin Islands. After the enactment of prohibition sugar began to be exported from St. Croix, and almost at the same time some charcoal, made in St. John, began to be imported into Porto Rico. It is difficult to conceive of either of these articles as responsible for the importation of any but cosmopolitan species found in warehouses and around wharfs. There is nothing extraordinary then in the comparatively large proportion of species peculiar to St. Thomas. Other species found on the American Continents or on the Greater Antilles, and now for the first time recorded from St. Thomas, may be provisionally regarded as late importations, in which case there would be nothing extraordinary in their absence from the other Virgin Islands. It is very likely, however, that eventually they will be recorded as occurring there also.

³ Op. cit., p. 96.

⁴ Idem, p. 100.

LIST OF SPIDERS OF THE VIRGIN ISLANDS

TORTOLA

SUB-ORDER ARACHNOMORPHILÆ

FAMILY THOMISIDÆ

Stephanopis stelloides (Walckenaer).

ST. JOHN

SUB-ORDER MYGALOMORPHILÆ

FAMILY DIPLURIDÆ

Diplura macrura C. Koch, has been also reported from Cuba.

ST. CROIX

SUB-ORDER ARACHNOMORPHILÆ

FAMILY ULOBORIDÆ

Uloborus geniculatus Olivier, common in buildings.

FAMILY FILISTATIDÆ

Filistata hibernalis Hentz, common on walls of buildings.

FAMILY DRASSIDÆ

Trochanteria ramuncula Karsch, described from St. Croix and never again found there or elsewhere.

FAMILY PHOLCIDÆ

Artema atlanta Walckenaer, common in buildings.

FAMILY ARGIOPIDÆ

Araneus (Metepcira) labyrinthus (Hentz), common on telephone wires.

Araneus (Neoscona) nauticus L. Koch, common on buildings.

FAMILY ATTIDÆ

Mencimerus bivittatus (Dufour), common on walls.

Plexippus paykulli (Audouin), common on walls.

ST. THOMAS

SUB-ORDER MYGALOMORPHÆ

FAMILY THERAPHOSIDÆ

Cyrtopholis bartholomei (Latreille), first described from the island of St. Bartholomew, later from Antigua; is quite common. Female lives in holes in the ground about one to one and one-half feet deep.

Cyrtopholis acutispina Strand.

Cyrtopholis pelus Chamberlin.

Ischnocolus shoemakeri sp. nov., several females and young.

Mygale drassiformis C. Koch, an inadequately described species, possibly a *Diplura* according to Ausserer.

FAMILY BARYCHELIDÆ

Obaerarius insulanus, gen. et sp. nov., a single female.

FAMILY CTENIZIDÆ

Phaeoclitia fauna Simon, 2 females. Originally described from Venezuela.

SUB-ORDER ARACHNOMORPHÆ

FAMILY ULOBORIDÆ

Miagrammopes ciliatus sp. nov., a single female.

Uloborus geniculatus Olivier, several females from Blue Beard's Castle. Cosmopolitan species.

FAMILY FILISTATIDÆ

Filistata hibernalis Hentz, several females. Pan-American species.

FAMILY OECOBIIDÆ

Oecobius parietalis Hentz, several females from Sta. Maria Bay, found under little webs on tree trunks and rocks. Occurs in the Southern United States of America, Baja California and in Mona, W. I. I have numerous specimens from Guadeloupe and Porto Rico.

FAMILY DYSDERIDÆ

Ariadna arthuri sp. nov., a single female from Sta. Maria Bay.

FAMILY SICARIIDÆ

Loxosceles rufipes (Lucas), a single female. Neotropical and subtropical species.

Scytodes fusca Walckenaer, 2 females in Dr. Shoemaker's collection and 2 females from Sta. Maria Bay, found under bark of tree trunk lying on the ground. Neotropical species. Reported from the following islands in the Antilles: Cuba, Hayti, Jamaica, Porto Rico, Mona, Dominica, St. Vincent. Occurs also in Bermuda.

FAMILY PHOLCIDÆ

Artema atlanta Walckenaer, several males and females. Neotropical species. Reported from Porto Rico and St. Vincent. I have specimens from St. Croix and Guadeloupe.

Modisimus glaucus Simon, a West Indian species reported from Cuba, Hayti, Jamaica and St. Vincent.

FAMILY THERIDIIDÆ

Argyrodes nephile Taczanowski, numerous females and males from webs constructed on webs of *Argiope argentata* F. Neotropical and subtropical species reported from Hayti, Mona and Desecheo in the Antilles.

Spintharus minutus sp. nov., a single female in Dr. Shoemaker's collection.

Theridion tepidariorum C. Koch, a cosmopolitan species.

FAMILY ARGIOPIDÆ

Araneus (Metopeira) labyrinthicus Hentz, numerous males and females. A pan-American species.

Araneus (Neoscona) nauticus L. Koch, a cosmopolitan species.

Argiope argentata Fabricius, neotropical and subtropical species.

Cyclosa walckenaeri (Cambridge), numerous females and 2 immature males. A neotropical species occurring in Brazil, Colombia, Costa Rica, Guatemala, Mexico, Cuba and Hayti.

Gasteracantha tetracantha L., common. I have in my collection one male and female captured in the act of mating. An Antillean species recorded also from California.

Leucauge argyra (Walckenaer), common; a neotropical and subtropical species.

Leucauge mandibulata F. Cambridge, several males and females in Dr. Shoemaker's collection. Described from Tobasco, Mexico.

Leucauge regnyi Simon, several females; first described from St. Vincent. In my collection I have specimens from Jamaica, Porto Rico and Guadeloupe.

Micrathena militaris F., 2 females in Dr. Shoemaker's collection. First described from Surinam and Cayenne.

Micrathena sagittata Walckenaer, 2 males and an immature specimen in Dr. Shoemaker's collection. Occurs in U. S. A., Mexico, Central America and Ecuador.

Nephila clavipes L., several males and females. A neotropical and subtropical species.

FAMILY SELENOPIDÆ

Selenops lindborgi sp. nov., 1 female and one immature specimen from Sta. Maria Bay, found under bark.

FAMILY SPARASSIDÆ

Heteropoda venatoria L., a cosmotropical and subtropical species.

Olios fasciculatus Simon, one female in Dr. Shoemaker's collection. Occurs in southern United States, Utah, Mexico.

FAMILY CLUBIONIDÆ

Clubiona maritima L. Koch, reported also from Cuba.

Corinna humilis (Keyserling), 4 females in Dr. Shoemaker's collection. An Antillean species described from Cuba, Hayti, Porto Rico, St. Kitts, Dominica and Grand Cayman.

Corinna cleonei sp. nov., 1 female from Sta. Maria Bay, found under bark.

Eutychemoides fuscus gen. et sp. nov., 2 females and an immature specimen in Dr. Shoemaker's collection.

Gayenna sp.?, 1 immature specimen in Dr. Shoemaker's collection.

Stasina sp.?, 2 immature specimens in Dr. Shoemaker's collection.

Syrisca hirsuta Petrunkevitch, 1 male and 2 immature specimens. Originally described from Panama.

FAMILY CTENIDÆ

Odo agilis Simon.

FAMILY PISAUROIDÆ

Thaumasia sp.?, 2 immature specimens in Dr. Shoemaker's collection.

FAMILY LYCOSIDÆ

Lycosa sancti thomasi sp. nov., 1 female and 1 immature specimen in Dr. Shoemaker's collection.

FAMILY ATTIDÆ

Corythalia iridescens sp. nov., numerous females and males in Dr. Shoemaker's collection.

Corythalia sp.?, several immature specimens in Dr. Shoemaker's collection.

Evophrys venusta C. Koch, an inadequately described species.

Marpissa incerta C. Koch, an inadequately described species.

Mencmerus bivittatus (Dufour), a cosmotropical species.

Plexippus paykulli (Audouin), a cosmotropical species.

Stridulattus stridulans gen. et sp. nov., a single male in Dr. Shoemaker's collection.

Considering the small size of the island of St. Thomas and the uniformity of conditions, as well as the fact that collecting was done in various parts of the island, the above list may be regarded as fairly representative of the spider fauna of St. Thomas. In examining this list and omitting poorly described species and records of immature specimens, we find that of the six species of Mygalomorph spiders four are indigenous, one occurs in Venezuela and one in the Leeward Islands. Of spiders belonging to the Sub-Order Arachnomorphæ six species are cosmopolitan or cosmotropical, nine species are neotropical, neotropical and subtropical or Pan-American, four species occur in Central America and North America as far as the southern states, five species are Antillean and nine are indigenous to St. Thomas. Only one species, *Micrathena militaris*, has been originally described from South America and never reported from any other countries than Surinam and Cayenne. This species, mentioned in Reimoser's Monograph of the genus *Micrathena*, has been therefore rediscovered after a lapse of almost a century. Its careful description is given below. As a record for comparison it has no value, especially since the habitat of the original specimens is given only by Olivier and errors at that time were quite frequent.

An analysis of the spider fauna of St. Thomas will be given later. There is close relationship between this fauna and that of Porto Rico, but of course, the latter is much richer, as might be expected. One fact stands out clearly, that *the spider fauna of St. Thomas shows distinct relationship to the tropical and sub-*

tropical fauna of North America and Central America, and very little to that of South America.

It gives me pleasure to express here my thanks to Dr. C. R. Shoemaker for the collection which he placed at my disposal, and to Mr. Arthur E. Lindborg, Director of Education in the Virgin Islands, U. S. A., for his help in arranging excursions to different parts of the island of St. Thomas and in actual collecting of specimens.

DESCRIPTION OF SPECIES

SUB-ORDER MYGALOMORPHÆ

FAMILY THERAPHOSIDÆ

Cyrtopholis bartholomei (Latreille) (Figure 1). No detailed description of this species so common in St. Thomas has ever been given and the male is still unknown. I have seen a specimen in Arthur Lindborg's collection, but unfortunately it was preserved dry and was in such poor condition that further study would have been useless.

The females vary rather considerably in size, but much less in their color, which in life is dark greyish-brown with light stripes on legs. The mouth of the burrow in which this species lives is perfectly round, from one to one and a half inches in diameter, and is not protected by any web. The following description refers to a female of an average size.

Female. Total length with chelicerae 35.0 mm. Carapace 13.5 mm. long, 11.2 mm. wide, flat, truncated anteriorly, distinctly emarginate behind. Thoracic groove transverse, deep, procurved, situated less than one-third from posterior margin. Sides of head distinctly limited by the cephalothoracic sulci. Posterior limit of head not so clear, but evidently narrower than thoracic groove and somewhat in advance of it. Eyetubercle high, almost circular, its transverse axis a little longer than its longitudinal axis in ratio 50:48. The tubercle is almost marginal in position. Eyegroup transversely rectangular in ratio 50:29. First row of eyes procurved, second recurved (Figure 1). Ratio of eyes AME:ALE:PME:PLE = 13:13:6.5:11. Pupil of AME has a diameter $9/13$ that of the latter. PME are irregular in outline, angular, white iridescent. All other eyes are transparent. Quadrangle much wider behind than in front, much wider than long in ratio 34:20. Laterals separated by $8/13$ of the diameter of ALE. A group of bristles on eyetubercle in front of AME, between them and behind them. Clypeus and margins of carapace fringed with long white hair forming a well-defined border all around the carapace. Four brown bristles on edge of clypeus in front of the eyegroup. A few dark bristles in a middorsal row extending from eyegroup almost to thoracic groove. Surface of carapace clothed with recumbent hair of two kinds, short dark

and long white. *Chelicera* powerful, without rastellum, clothed with white hair and bristles on dorsal surface except near base where the chitin is completely bare. Promargin with thin scopula followed by a row of 12 teeth, retromargin without teeth, but with heavy fiery red scopula. Stridulating organs wanting. *Lip* wider than long in ratio 70:50, convex, with straight, obliquely converging sides, procurved base and emarginate end. The cuspules occupy almost entire width of lip at end, where they

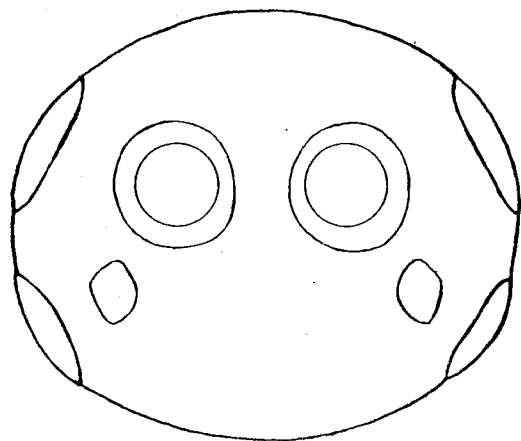


FIGURE 1. *Cyrtopholis bartholomei* (Latreille). Eyegroup of female.

form from three to five transverse rows. *Maxillæ* with parallel sides and rather sharply produced inner distal angle. The heavy, fiery red scopula occupies the entire proedge. Numerous cuspules extend from proximal inner angle to half the width of the segment and about as far distally, forming a more or less triangular field. Trochanter inserted at end. Maxillæ clothed with long, curved, erect brown bristles and with shorter hair of the same type. *Sternum* almost as wide as long, clothed with short grey and long brown, erect hair. The short hair is so numerous that it hides effectually the sigilla. Anteriorly the sternum is narrowed to width of lip, posteriorly pointed in front of fourth coxæ which are contiguous. First coxæ as far apart as third coxæ, but slightly less than second coxæ. *Legs* 4123.

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	10.560	6.144	8.560	5.568	4.800	35.632
II	9.408	5.280	6.720	6.240	4.800	32.448
III	8.448	4.800	5.280	6.720	5.280	30.528
IV	10.560	5.568	8.160	9.792	5.280	39.420
Palp	8.256	4.224	5.760		6.240	24.480

No pad or brush on any femora, but the prolateral surface of the first and second femora and the retrolateral surface of the third and especially of the fourth femora flattened and clothed with very short hair. All tarsi scopulate to base, scopulae very thick, those of fourth pair longitudinally bisected by a narrow band of setæ. First and second metatarsi scopulate to base, third metatarsi scopulate in distal half. Fourth metatarsi with a retro-scopula only, at end of segment. Fourth femora slightly curved laterally, so that the retrolateral flat surface is somewhat concave longitudinally. Terminal joint of palp scopulate to base, its scopula entire. Spines on legs numerous, rather dark. Hair on legs of three kinds, with intermediate types: a) recumbent, short, fine grey-brown hair covering all segments in a more or less even manner; b) recumbent white hair, somewhat longer than the preceding and limited in distribution to the two longitudinal dorsal lines on femora, patellæ and tibiæ of all four pairs of legs; the same type of hair is also present on both lateral surfaces of all femora, patellæ and tibiæ, at the end of tibiæ where it forms a fringe, and in the short middorsal line at base of all metatarsi; c) brown, bristle-like hair of varying length. A few club-shaped hairs on the dorsal surface of all tarsi. Same type of hair on palpi which also have two white dorsal lines on femur, patella and tibia. Ungual tufts thick on all tarsi. Claws two, slightly dissimilar. Those of the first and second tarsi strongly curved, with three teeth which are sharp, well-developed and almost contiguous at base. Those of the third and fourth tarsi much less curved, possessing but two teeth which are separated from each other by a considerable space. Palpal claw strongly curved, with three sharp teeth of the same type as in the claws of the first and second pair of legs. Trichobothria in two rows on all tibiæ, in two irregular rows on all metatarsi and in several rows on all tarsi.

Spines. First leg. Femur—prolateral \uparrow at end, elsewhere \circ . Patella \circ . Tibia—dorsal \circ , prolateral \uparrow in middle, retrolateral \circ .

ventral 1-3, the first in middle, the three apical. Metatarsus—ventral 1 apical, elsewhere 0. *Second leg* same as first, except: Tibia—prolateral 1-1, the second spine near end. Metatarsus—prolateral 1-1, first spine at base, second in middle; ventral 1-3, first spine at base, the other three spines apical. *Third leg*. Femur—retrolateral 1 at end, elsewhere 0. Patella—prolateral 1, elsewhere 0. Tibia—dorsal 0, prolateral 1-1-1, retrolateral 0-1-1, first spine in middle, ventral 2-1p-3. Metatarsus—dorsal 0, prolateral 1-1-1, retrolateral 0-1-1, first spine in middle, ventral 1r-1p-3. *Fourth leg* same as third, except: Patella—0. Tibia—prolateral 0-1-0, retrolateral 1-1-1. Metatarsus—retrolateral 1-1-1, ventral 1r-2-1r-2-1r-2-4. *Palp*. Femur—0. Patella—0. Tibia—dorsal 0, prolateral 1 in middle, retrolateral 1 at end, ventral 1p-1p-4. Terminal point—0.

Abdomen 15.0 mm. long, 10.5 mm. wide, clothed with long hair, short hair and long stiff bristles. First pair of spinnerets very short, only a little longer than the width of the basal joint of the second pair. Second pair of spinnerets, first joint 2.88 mm., second joint 1.92 mm., third joint 1.92 mm. Back of abdomen with a round black spot occupying entire posterior half. This is the common tarantula of St. Thomas. It has much resemblance to the common Porto Rican species, but the latter is much easier excited and more ready to fight.

Ischnocolus shoemakeri sp. nov. (Figures 2 and 3).

Female. Total length with chelicerae 27.0 mm. Carapace 10.368 mm. long, 8.064 mm. wide, flat. Thoracic groove transverse, straight, deep, situated 6.528 mm. behind anterior edge, *i. e.* approximately one-third from posterior edge. The latter is strongly emarginate in middle, but this notch has not been taken into account in the measurement of the length of the carapace. Anterior edge of carapace straight, 4.32 mm. wide, *i. e.* only about half as wide as carapace in middle. Eyegroup very little elevated, transversely rectangular, with a ratio of length to width 20:44. First row of eyes straight (Figure 2), second row slightly recurved. PME rounded but not circular. They are of the nocturnal type. Ratio of eyes AME:ALE:PME:PLE = 9:11:8:9. AME separated from each other by 6/9 of their diameter, from ALE by 3/9 of their diameter. PME separated from each other by 18/8 of their diameter, from PLE by 1/8 of their diameter, from ALE by 6/8 of their diameter. Laterals

separated by 3.5/9 of the diameter of PLE. Quadrangle wider behind than in front in ratio 32:22, wider than long in ratio 32:17. Clypeus equal to 7/9 of the diameter of AME. Width of eyegroup 1.628 mm. Clypeus fringed with brown bristles, sides of carapace with white, woolly hair and white bristles, posterior edge with white hair and brown bristles. A group of bristles on clypeus in front of AME and on the eye-area in the field between the four medians. Carapace clothed with short white recumbent hair and short brown hair. The distribution of the hair is such that there is general appearance of radiation in

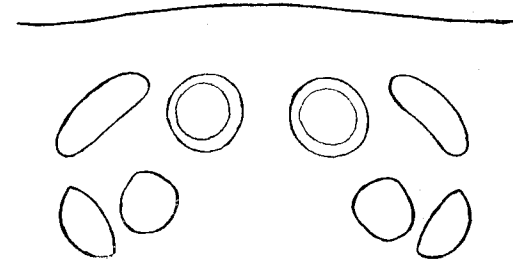


FIGURE 2, *Ischnocolus shoemakeri* sp. nov. Eyegroup of female.

all directions from the thoracic groove. *Chelicerae* free from hair at base above. Basal joint 5.28 mm. long, without either rastellum or lyra. Retrolateral surface glabrous, dorsal surface except at base, clothed with white hair and brown bristles. Scopulae on both margins, light orange in color, the one on retromargin by far the thickest. Promargin with 12 black sharp teeth; retromargin smooth, but a series of 6 minute red-brown teeth or granules between the two margins in a line occupying the space corresponding to the three proximal teeth of the promargin. Fang dark red-brown, rather long and slender. Lip wider than long in ratio 44:28, not articulated to maxilla, but with distinct articulation to sternum on sides where the lip forms a projection and the sternum a socket. Base of lip strongly procurved and surface convex. Sides straight, converging. Anterior edge emarginate, much shorter than base. About eight irregular, transverse rows of cuspules occupy the anterior two-fifths of the lip, leaving free a narrow edge in front and a wider space on each side. Heavy brown bristles in front, on sides and behind the area of cuspules. *Maxilla* slightly dilated at base, forming

a basal retroprojection or rounded lobe. Scopula of the same color as that on the chelicerae, occupies entire length of inner edge. Numerous cuspules occupy a field extending at base from scopula to the base of the lobe and almost over half the length of the maxilla, becoming gradually more scattered distally. *Sternum* oval, emarginate anteriorly to accommodate the lip, widest between first and second coxae, almost but not quite as wide between second and third coxae, longer than wide in ratio 5/4, clothed with erect, brown bristles which are especially heavy along the margins. Three pairs of submarginal, poorly visible sigilla situated to the outside of the bristles. First coxae wider apart than third coxae. Second coxae widest apart. Fourth coxae subcontiguous. No peculiar pad or brush of hair on any leg. *Legs* 4123.

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	7.680	4.992	5.760	5.184	2.972	26.588
II	6.528	4.224	4.800	4.800	2.972	23.420
III	5.952	3.456	4.416	5.952	2.972	22.748
IV	8.448	4.416	6.912	9.216	4.032	33.024
Palp	5.760	3.360	3.840	3.360		16.320

Legs clothed with recumbent light colored hair and pointed bristle-like, brown hair. Spines numerous, long, dark brown. All tarsi scopulate to base, those of the first pair entire, the others bisected longitudinally by a broad band of setae. First and second metatarsi scopulate almost to base. Third metatarsi lightly scopulate in distal two-thirds, fourth metatarsi lightly scopulate in distal half. All metatarsal scopulae, except those of the first pair, longitudinally bisected by setae. These setae form a single row on the second metatarsi, two rows on the third, three rows on the fourth. Ungual tufts heavy, completely concealing claws. Claws two, curved, long, with a series of five teeth which are so arranged that they occupy a proventral line on the proclaw (Figure 3) and a retroventral line on the retroclaw. A median basal sclerite present, but third claw wanting. Palpal claw smooth. Terminal joint of palp with entire scopula extending to base. Trichobothria numerous, on tarsi in four rows, on metatarsi somewhat irregular, on tibiae in two rows. Club-shaped hairs on dorsal surface of tarsi present.

Spines. *First leg.* Femur—dorsal 0, prolateral 1 toward end, retrolateral 1 toward end, ventral 0. Patella 0. Tibia—pro-

lateral 1-1, ventral 1r-1r-2, elsewhere 0. Metatarsus—ventral 1r-1, elsewhere 0. *Second leg* same as first, except: Femur—dorsal 1-1 near base, prolateral 1-1, first spine one-third from distal end, retrolateral 0. Tibia—ventral 1-1-3. *Third leg.* Femur—dorsal 1-1-2-2-2, prolateral 0, retrolateral 1-1, first spine one-third from distal end, ventral 0. Patella—prolateral 2 in middle, elsewhere 0. Tibia—dorsal 0, prolateral 1d-1v-1d, retrolateral 1d-1v-1d, ventral 1-1-3. Metatarsus—dorsal 0, prolateral 1-1-1, retrolateral 1v-1d-1v-1d, ventral 2-2-3. *Fourth leg* same as third, except: Femur—dorsal 1-1-0-2-2, retrolateral 0, Tibia—

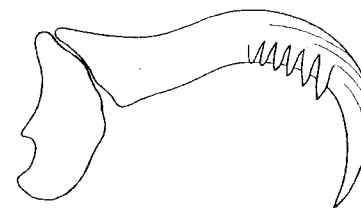


FIGURE 3, *Ischnocolus shoemakeri* sp. nov. Proclaw and basal sclerite of second left leg of female.

prolateral 2-1-2, retrolateral 1-2-1, ventral 2-2-3. Metatarsus—prolateral 2-2-2-2, retrolateral 2-2-2, ventral 1r-1p-1r-1p-3, (metatarsus has altogether 21 spines of which 9 are visible in profile from prolateral side and 11 from retrolateral side). *Palp.* Femur—prolateral 1 toward end, elsewhere 0. Patella 0. Tibia—prolateral 1, ventral 2-2-2, elsewhere 0. Terminal joint 0. *Abdomen* 12.7 mm. long, 6.5 mm. wide, clothed with recumbent short brown hair and longer bristle-like brown hair. First pair of spinnerets small, slender, cylindrical, composed of a single segment 0.451 mm. long, 0.123 mm. in diameter. Second pair of spinnerets three-jointed when viewed from below, four-jointed when viewed from above. The first joint is 2.540 mm. long, (each component being 1.270 mm. long), the second joint 1.575 mm., the third 1.660, giving the total length for the posterior spinnerets 5.775 mm. *Color in alcohol:* generally rufous, abdomen somewhat greyish, spinnerets yellowish-brown. Field note of Dr. Shoemaker: "found under stones and logs in a ravine. July 1915." Several females and immature specimens from St. Thomas.