

Pickard-Cambridge, F. O. 1897—1905. Fam. Salticidae. *in*: *Biologia Centrali Americana, Arachnida Araneida and Opiliones*. Vol. II. i, v—x, 1, 42, 166—303, 541—545, 587—610, plates XI—XXIX.

In this digital edition, the original pagination is indicated in a yellow bar at the top of each page. To improve their use in this format, figures have been moved from the plates to accompany the text, and each is accompanied by a plate:figure designation to indicate the original position. Not all scientific names were italicized in the original version. Some figures were accompanied by lines which appear to have indicated the actual length of the respective specimen. Since the scale of the original drawings has not been maintained here, these lines have been replaced by measurements of the lines in the original document, placed within respective figure captions (in red). The reader should also consult the text for descriptions of body length. Sequentially numbered couplets have also been added to improve presentation and navigation through the many keys in this document. The original designation for each line of a key (*e. g., aa.*) has also been retained for historical reference. This volume was produced in parts between 1897 and 1905:

DESCRIPTION	PAGES	MONTH	YEAR
Introduction	i—x	January	1905
First part for Araneida	1—8	August	1897
First part for Arachnomorphae	41—48	April	1899
Through start of Salticidae to <i>Synageles</i>	161—176	November	1900
<i>Keyserlingella</i> to <i>Amycus</i>	177—192	December	1900
<i>Amycus</i> to <i>Sidusa</i>	193—208	January	1901
<i>Sidusa</i>	209—216	February	1901
<i>Sidusa</i> to <i>Cyrene</i>	217—232	April	1901
<i>Cyrene</i> to <i>Thotmes</i>	233—240	May	1901
<i>Thotmes</i> to <i>Marpissa</i>	241—248	June	1901
<i>Marpissa</i> to <i>Phidippus</i>	249—280	September	1901
<i>Phidippus</i> to <i>Hasarius</i>	281—296	November	1901
<i>Hasarius</i> through end of Salticidae	297—312	December	1901
Key to the Araneida	537—544	September	1904
Additional species	545—560	November	1904
Conclusion of Opiliones and Index	561—610	January	1905

TITLE.

i

BIOLOGIA

CENTRALI-AMERICANA,

ARACHNIDA

ARANEIDEA AND OPILIONES.

Vol. II.

BY

FREDERICK O. PICKARD-CAMBRIDGE.

1897-1905.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INTRODUCTION.

The Central-American Araneidea, to judge from the collections made by the Editors of this work, do not present any very remarkable forms peculiar to the region, save, of course, so far as particular species are concerned. The collections before me include representatives of thirty-four families, the total number of genera being 280, and species 1111. It is probable that, after all, little more than the fringe of the fauna has been dealt with. Hundreds more, both genera and species, doubtless remain for the future collector to discover.

It will be interesting to discuss briefly the spider-fauna of the district in connection with the local distribution of the families, and also in its relation to the fauna of other continental regions. We at once find that whilst the vast majority of the species represented are peculiar to the Nearctic and Neotropical Regions, the genera are in many cases identical with those indigenous to such widely distant regions as the Mediterranean, Palaearctic, Oriental, Australasian, and Ethiopian.

We may dismiss at once the supposition that identical or even closely allied genera sprang into being sporadically in various regions permanently separated by physical barriers such as are furnished by thousands of miles of tempestuous ocean. Remarkable **convergencies** of character may occur here and there in organisms which have originated from entirely distinct primitive forms, but where such resemblances are very abundant we are driven to the conclusion that all these forms had common origins respectively, and that the fauna of the various regions presenting these likenesses must have passed freely from one to the other, at a date subsequent, at any rate, to the specialization of the various genera of which representatives are found in each.

In all probability only a very small number of species have been accidentally

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

introduced with the cargo carried by ships in recent times. Where the forms are identical in two widely separated regions, this will, no doubt, account for their presence in both; but the time required for the specialization of species precludes the idea that this agency is in any way responsible for forms representing merely closely allied species generically identical.

In order to find a satisfactory explanation of this startling resemblance between the fauna of Central America and that of the regions mentioned above, we shall have to take into consideration the geological history of the Araneidea, wherever possible, and also the past geographical history of the various continents as we now know them.

The Araneidea, of which the Mygalomorphae are the modern exponents, date back at least as far as the Carboniferous period, when they were represented by forms of which the two species of *Liphistius* are the sole survivors. These differ considerably from the rest of the Mygalomorphae, since their spinners lie in the middle of the underside of the abdomen, instead of at the apex. The earliest known **Arachnomorphid** spiders, however, in any way resembling those now living belong to the Oligocene times. At this period there existed many species, very similar to those occurring at the present time, whose remains have been found embedded in amber washed up on the shores of the Baltic Sea. Beyond these comparatively few examples, we know little of the extinct races of the Araneidea.

That the spiders comprised in the Central-American fauna could not during recent times have passed to and fro between that region and the great eastern continents will be obvious from a glance at the distribution of land and water at the present day. There are now in existence no land-connections of which an **Arachnid** fauna could take advantage in order to pass from Africa, Australia, or the Palaearctic Region into North or

South America. We can only conclude that at some period or other these now widely separated regions must have been linked together by land which has long since disappeared.

As illustrations of these resemblances in the fauna we may note the distribution of a few well-known forms. Taking, first, the Mygalomorphae, which includes the most primitive Araneidea, we find the family Dipluridae represented in Central America, the Antilles, Western Ethiopia, Madagascar, the Mediterranean Region, India, the

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INTRODUCTION.

vii

Oriental and Australian Regions, and New Zealand. But most significant is the fact that two genera, *Ischnothele* and *Evagrus*, both strongly represented in Central America, are found also in Madagascar and South Africa.

The Ctenizinae, a subfamily of the Ctenizidae, are found in the Southern States of North America, Central America, the northern districts of South America, the Antilles, the Mediterranean Region, Central Asia, Burmah, South China, and the Japanese Islands, as well as in New Guinea and some of the Polynesian Islands.

The *Aviculariae*, of the family Theraphosidae, are present throughout the Gulf States of North America, Central America and the Antilles, the whole of South America, the western districts of Ethiopia, the Mediterranean Region, India, and Burmah.

Amongst the Argyropidae, the genus *Nephila* may have originated in the Oriental Region. Its western representative, however, is very widely distributed in the New World. There has been found, moreover, in the Florissant deposits of North America a fossil species of *Nephila* which is probably identical with the existing form mentioned above. If so, this would point to the vast time required in the differentiation of species, though naturally there would be great variation in this respect.

The genus *Filistata*, of the family Filistatidae, is common to North, Central, and South America, the Antilles, Africa, and the Oriental Region. The members of this family possibly originated in the Ethiopian Region and spread westwards.

To take, now, a case where it is not improbable that the reverse has happened, we find numerous species and allied genera of the family Anyphaenidae in North and Central America, while but three or four species of one genus, *Anyphaena*, are found in the Palaearctic Region. The ancestors of these may have passed across from the parent stock before the Behring Sea bridge was broken down, and established themselves there during Oligocene times; for they are found in the beds of this period, in both Europe and North America. It has been well pointed out by Mr. R. I. Pocock * that this case is remarkably similar to that of the mammalian family Camelidae, of which a number of genera existed in North America in Tertiary times, passed subsequently

* Proc. Zool. Soc. Lond. 1903, i. p. 367.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

across into the Old World, where it is represented by the Camels, and into South America with the Llamas as representatives. The genera, however, of the Anyphaenidae still exist in the region of their origin, while those of the Camelidae have died out.

These few instances must suffice for the present, but they will serve to indicate the various sources whence the *Spider-fauna* of Central America may have been derived.

The scheme of classification presented in the following pages does not differ materially from that usually adopted, except as regards the position of the Thomisidae and Salticidae. These families are here assumed to be allied to the Clubionidae, and not linked with the Argyropidae and Lycosidae respectively, as previously placed by Authors.

The systematic position of the Cribellatae is still one of the unsolved problems of Araneology. In the list of families drawn up in the Synoptic Table on pp. 541—544, the arrangement has been somewhat modified from that followed in the previously published text, as it was impossible to prepare this till the whole of the material had been studied.

As regards the actual identification of species, always a matter of great difficulty, we have fortunately had access to the types in the collection of the late Count Keyserling in the British Museum of Natural History. With these for reference, it has been possible to determine with some confidence a great many American forms.

In the "List of Identified Species," given by the Rev. O. Pickard-Cambridge in the Introduction to Vol. I., pp. xiii-xv, there are various names which will not be found quoted in the present volume. This apparent omission is due to difference of opinion as to the identification of the forms involved, or at least as regards those contained in the Godman and Salvin Collection.

The Opiliones, or Harvestmen, do not call for any special comment, and remarks on their geographical distribution, &c., are to be found on pp. 546—548. Nearly all the species (70) enumerated are treated as new, these *Arachnids* having been much neglected by zoologists.

The collections amassed by the *Editors* of this work have been mainly contributed

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

by Mr. F. Sarg, from Guatemala, whose coloured drawings of living specimens, and notes on their habits, have been of great assistance; by Mr. H. H. Smith, from Mexico, who also supplied us with an account of his observations on many of the species; and by Mr. G. C. Champion, from the State of Panama, whose collections of spiders were mostly made during the dry season, between November and March, 1883.

The fifty-four Plates, the drawings for which were made by myself and transferred to stone by Mr. E. Wilson, include figures of upwards of 900 species, with very many details of structure. Fifty-one Plates are devoted to the Araneidea and three to the Opiliones; twenty-four of the former are wholly or partially coloured.

F. O. P.-C.

January, 1905.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

b

ERRATA ET CORRIGENDA.

Page	Line	
192	6	for <i>longipalpis</i> read <i>longipalpus</i> .
251	20	after <i>PHANIAS</i> add gen. nov.
256	11	for <i>Ankoa</i> read <i>Anoka</i> .
272	26	for <i>retarius</i> read <i>retarius</i>
288	4	add to the references: Trans. Wisc. Acad. Sci. xiii, p. 303 ³ .
288	5	add: North America, Texas ³ .—Mexico ³ .—Brazil ^{2 3} .

Only errors and corrections pertaining to the Salticidae are shown here. These corrections will also be identified in association with the respective text.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

ARANEIDEA.

1

BIOLOGIA CENTRALI-AMERICANA.

ZOOLOGIA.

Class ARACHNIDA.

Order ARANEIDEA.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., August 1897.

B ‡

42

ARANEIDEA.

Section ARACHNOMORPHAE.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1899.

166

ARANEIDEA.

Fam. SALTICIDAE.

The name Salticidae has been selected for this family in preference to Attidae, because the generic name on which the former is based is the oldest. The general characters of the group are too well known to need more than a passing remark. The mode of progression being the first peculiarity to be noticed, it will be that by which the spiders are generally identified. They do not simply move forward, as do the

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

members of the Lycosidae, but creep, run, and leap, often many times their own length, either to escape from a foe or to secure their prey.

Otherwise, the position of the eyes is characteristic. They are arranged usually in three rows (four in the group Lyssomaneae) of 4—2—2. The centrals of the first row are the largest; the posterior centrals and the anterior laterals are about the same size; while the posterior centrals, referred to in the following descriptions as the small dorsal eyes, or simply the small eyes, are always the smallest of the group. In their other characters these spiders approach the members of the immense group including the Drassidae, Clubionidae, &c. The task of dividing up the enormous number of species, themselves very closely allied, into natural and convenient generic groups is not more easy in this family than in most of the others. Scarcely any character, or group of characters, which may be selected is really reliable, for although the species arrange themselves naturally into groups readily recognizable in a general way, yet when one endeavours to define their distinctive peculiarities, it becomes practically almost impossible to do so on account of intermediate forms.

But though the grouping of species into natural and convenient genera is difficult, yet the species are themselves, in most cases, perfectly distinct. The palpal organs of the male are usually well developed and furnish many useful characters, while the same may be said of the vulva of the female.

Though even these portions of the structure vary slightly in individuals, yet the general plan in the various species is quite distinct and different. Nor can there be much doubt that the characters furnished by the disposition of the various clusters of hairs and scales forming the patterns on the carapace and abdomen would, in well-preserved examples, furnish reliable distinctions both specific and generic.

The species represented in Central America may be placed, for convenience, in two subfamilies :—

1	A. Abdomen pediculate, more or less separated from the carapace on a distinct chitinized pedicle, admitting of free movement. Carapace, in some genera, very much constricted in the middle, in others not at all; the abdomen always more or less constricted. Legs in the first two groups very slender, subequal; in the third group, i. or i. and ii. more or less incrassate; usually also very much less spinose.	Toxeinae
	B. Abdomen not separated by a chitinized pedicle. Neither carapace nor abdomen constricted in the middle. Legs, especially i. and ii., usually much stouter and more spinose.	Salticinae

Subfam. TOXEINAE.

The members of this subfamily may in a general way be recognized by their resemblance, both in contour and in mode of action, to various kinds of Hymenoptera, a resemblance due chiefly to the constriction of the carapace or abdomen, and the

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

separation of the former from the latter by a pedicle which can be distinctly seen from above. The legs are usually very slender and only very weakly spined, those of the third and fourth pairs being always quite slender and often slashed longitudinally with black, exactly as are those of many of the ant-like species of the family Clubionidae.

The subfamily is divisible into three distinct groups, distinguished by the relative size of the legs, the arrangement of the eyes, and the form of the carapace :—

1	A.	Legs i., ii., iii., and iv. equal or subequal in slenderness, armed with few and weak spines.	2
	B.	Legs i. and ii., or i. only, more or less incrassate, sometimes the femora only thickened; the spines, at all events beneath the tibiae and protarsi i., longer and stouter.	
2	1.	Carapace very deeply constricted behind the eyes, viewed in profile. Abdomen of male more or less enclosed within a dorsal and ventral chitinous plate, sometimes fused, sometimes open along the sides.	Synemosyneae.
	2.	Carapace not deeply constricted behind the eyes. Abdomen of male with a small chitinous dorsal plate only.	Toxaeae.

Of the various genera adopted, probably three fall into the first group, namely *Synemosyna*, *Simonella*, and perhaps *Iola*. The second group includes *Toxeus*, *Martella*, *Sarinda*, *Bocus*, *Zuniga*, *Emertonius*, and *Erica*; and the third group, probably, *Synageles*, *Keyserlingella*, *Hermosa*, *Leptorchestes*, *Fluda*, *Marengo*, *Bellota*, *Semosa*, *Descanso*, *Paradamoetas*.

Of these genera, seven only are known to me from Central America, *Synageles*, *Keyserlingella*, *Paradamoetas*, *Erica*, *Martella*, *Simonella*, and *Toxeus*, whose distinguishing characters will be found below under their respective subfamilies.

Group SYNEMOSYNEAE.

These spiders may be recognized by the very deep constriction in the middle of both the carapace and abdomen, the latter, however, being far more deeply constricted in the male. In this sex, too, the chitinized cuticle of the abdomen extends much further, both above and below, than in the female. The eyes are situated in four rows, somewhat approaching in this respect those of the genus *Lyssomanes*. The coxae and trochanters of the fourth pair of legs are very long; the sternum is very long and narrow; while all four pairs of legs are, in both sexes, of the same degree of slenderness, their relative length being 4, 3, 1, 2, and the palpi of the female are only very slightly enlarged.

One genus alone is known to me.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *November 1900*.

SIMONELLA.

169

SIMONELLA.

Janus, C. L. Koch, *Die Arachn.* xiii. p. 21 (part.) (1846) (nomen praeocc.*).

Simonella, Peckham, *Proc. Nat. Hist. Soc. Wisc.* 1885, p. 24 (Dec.).

Type *S. americana*, Peckham. Guatemala,

♀. Eyes in four rows. Cephalic quadrangle of eyes a little broader than long; those of the posterior row larger; those of the third row nearer to the posteriors. Coxae and trochanters of legs iv. very strong; those of iii. rather longer and stouter than those of i. and ii. Sternum more than three times longer than broad, truncate in front, pointed behind. Labium and maxillae short; mandibles small, situated well behind the anterior margin of the carapace. Pedicle distinct. Abdomen with an oval-oblong anterior dorsal scutum, also a ventral epigynal scutum. Carapace deeply indented behind the eyes; abdomen indented and constricted just behind the dorsal scutum. Legs 4, 3, 1, 2.

♂. Generally similar to the female, but the abdomen is divided in the middle by a greater or lesser constriction and almost the whole dorsal area is covered by a chitinous scutum, in addition to the epigynal ventral scutum, and a central one extending along three-fourths of the ventral area. The cephalic region in some males is more circular at the sides. Tibia of the first pair of legs with 2—2—2 spines beneath.

NOTE.—Peckham [Trans. Wisc. Ac. Sci. 1884, p. 278 (March)] selects *Janus melanocephalus*, C. Koch, as the type of *Janus=Janigena*, Karsch; *Synemosyna formica*, Hentz, as the type of *Synemosyna*, Hentz; while *S. americana*, Peckham, is the type of *Simonella*. These species are evidently very closely allied, but not having seen the two former one cannot say whether or not they ought to be generically separated, though they probably all belong to the group *Synemosynea*.

<i>Males.</i>			
1	a.	Caput jet-black.	2 <i>bicolor</i> , Peckh,
	b.	Caput orange or golden-brown, with eyes situated on black spots; mandible with a stout cusp on the anterior lateral front at the base. Length 7.5 millim.	
2	1.	Size larger, length 8.5 millim. Tibia of palpus longer than broad, at least as long as the tarsus, with a broad sharp spur on the outer side.	<i>americana</i> , Peckh.
	2.	Size smaller, length 6 millim. Tibia of palpus not longer than broad, shorter than the patella, the two together being as long as the tarsus. Tibial spur long, stout, bluntly pointed at its apex and slightly curved inwards; mandible with an angular prominence on the anterior lateral part at the base.	<i>decipiens</i> , O. P.-Cambr.
<i>Females.</i>			
1	a.	Caput jet-black, thoracic area bright orange. Abdomen unicolorous beneath, with a single transverse brown girdle in the middle of the dorsal area, extending down the sides, followed by an oblong-oval central dorsal vulva, consisting of a straight transverse slightly sinuous rim remote from the genital rima, with a small dark pit just	

*Stephens, Hymenoptera, 1835.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., *November* 1900.

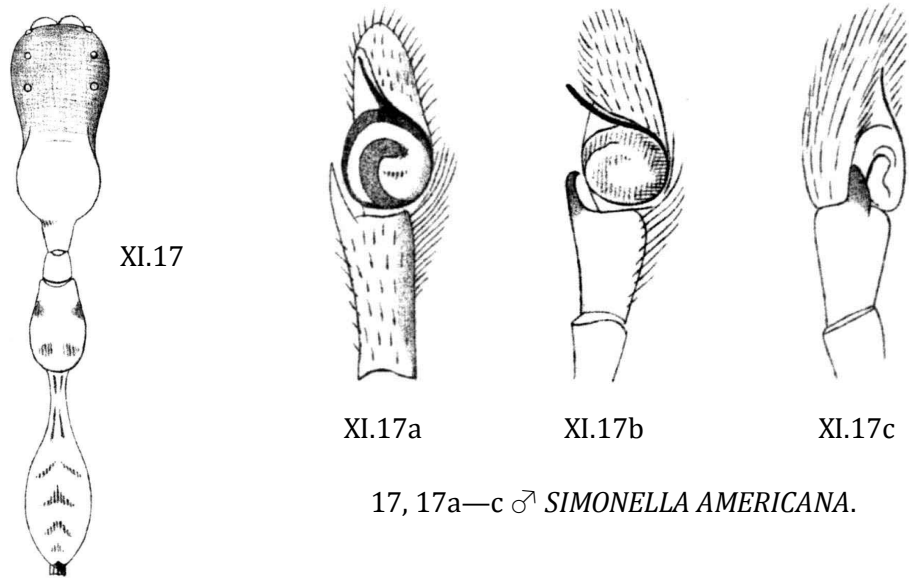
z‡

170

ARANEIDEA.

1	a.	anterior to it in the middle; while behind it lies a semicircular cavity containing on each side a loop of the oviduct appearing from beneath the rim. Legs entirely orange; tibia i. slightly suffused with brown.	<i>decipiens</i> .
	b.	Caput golden-brown, eyes on black spots. Thoracic area dull orange-brown, margined with brown. Abdomen with a basal and distal brown suffusion beneath, and seven distinct transverse trianguliform spots, the second and third, on each side of the middle point, being broader and extending slightly down the sides. Anterior legs white, tibia i. slightly suffused with brown. Legs iii. and iv. pale; coxa, trochanter, and femur iii. (except at the apex) brown; coxa, femur, and tibia iv. brown. Vulva consisting of a large triangular chitinous tongue, its apex directed backward, having a concavity on each side, towards the genital rima.	<i>bicolor</i> .

1. *Simonella americana*. (Tab. XI. figg. 17, 17a—c, ♂.)



17, 17a—c ♂ *SIMONELLA AMERICANA*.

Plate XI. Fig. 17. *Simonella americana*, ♂, from above, legs and palpi removed (8.2 mm); 17a, right palpus from below; 17b, ditto, another view; 17c, ditto from the outside and above.

Simonella americana, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 24 (Dec.)¹; Trans. Wisc. Acad. Sci. vii. p. 252, t. 12. fig. 4 (Nov. 1888) (♂)²; Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 80, t. 7. figg. 3, 3 a—d (1892) (♂)³; iii. 1, p. 5 (April 1896)⁴.

Type, ♂, in coll. Peckham. Total length 8.5 millim.

Hab. Guatemala¹²³.

Examples of *Simonella* (♂ & ♀) (from Panama) sent by O. P.-Cambridge to Peckham were returned labelled *S. americana*. The females which accompanied the single male are undoubtedly *S. bicolor*, Peckh., according to the description and the figure of the vulva. The male itself, while obviously rightly mated with the females, is certainly not referable to *S. americana*, Peckh., whether we regard the figures of the palpus in both publications^{2 3} or the description. The caput in the latter is said to be quite black; in the male accompanying *S. bicolor* it is orange-red, the eyes being on black spots. The tibia of the palpus of *S. americana* in both figures is twice longer than broad (rather less, one-half, in Emerton's figure³), whereas in the male of *S. bicolor* it is only very slightly longer than broad. The male palpus in *S. americana* is described as black, in *S. bicolor* it is white. The clypeus of *S. americana* is described, in 1888, as "less than one-half as high as anterior eyes"; in 1892, as "almost as high as the anterior eyes"; while Emerton's drawing depicts it as equal to one-quarter of an anterior eye. The anterior eyes being very large in this group, if the 1892 statement be correct, the spider is very different indeed from the male of *S. bicolor*.

There is probably a very different species in the Guatemalan region, while it is also quite likely that *S. bicolor*, of which the type came from Venezuela, should extend into Panama, whence came the male and females in question. Emerton's dorsal view of the male shows that the example he drew from is closely allied to *S. decipiens*; whether it is the same as that from which Peckham took his drawing of the palpus,

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

one cannot say, but it is possible these are two different species. In the description of the mandibles no mention is made of the anterior basal cusp, most noticeable in the example here noted as *S. bicolor*, ♂.

2. *Simonella decipiens*. (Tab. XII. figg. 3, 3a–c, ♂; 4, 4a, ♀.)

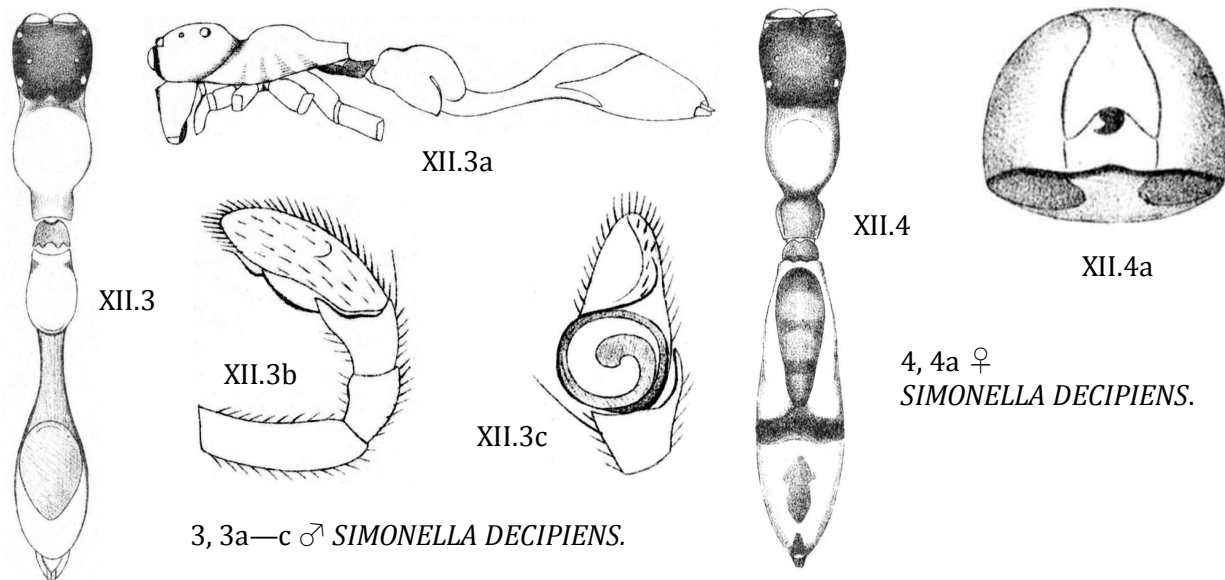


Plate XII. Fig. 3. *Simonella decipiens*, ♂ (5.5 mm): 3a, profile; 3b, left palpus, from the outside; 3c, tibia and tarsus of left palpus from below. Fig. 4. ♀ (6.3 mm): 4a, vulva.

Simonella decipiens, O. P.-Cambr. Biol. Centr.-Amer., Arachn. Aran. i. p. 163, t. 19. figg. 15, 15 a–c (♂), 16, 16 a, b (♀)¹.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 5.75 millim.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*¹).

The Aculeate-Hymenopteron (*Pseudomyrma* sp.), orange, with black head, which was taken from the bushes where this spider was captured, was sent also in the same tube. The resemblance is complete, though of what precise significance it is difficult to suggest, except on the supposition that it wards off the attack of birds and wasps.

3. *Simonella bicolor*. (Tab. XII. figg. 1, 1a—d, ♂; 2, 2a—d, ♀.)

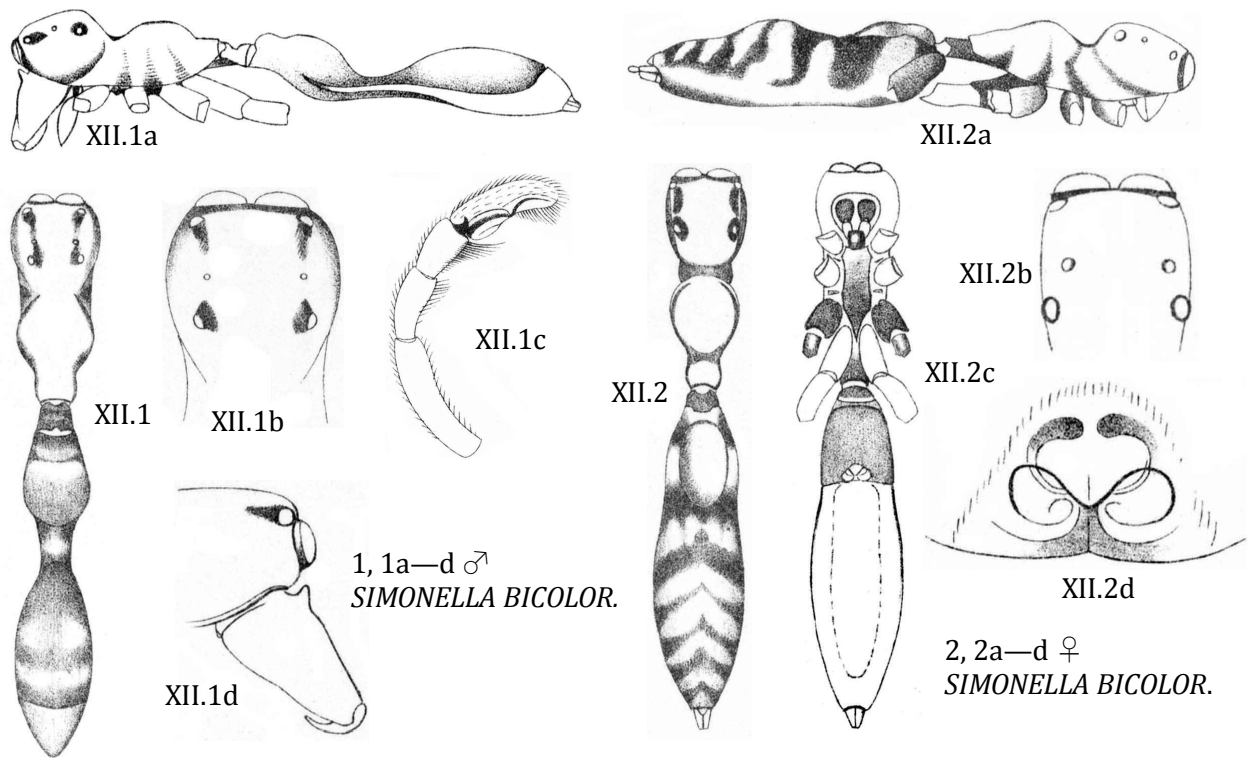


Plate XII. Fig. 1. *Simonella bicolor*, ♂ (7.8 mm): 1a, profile view of spider, palpi and legs removed; 1b, eyes from above and behind; 1c, right palpus from the outside; 1d, profile view of right mandible. Fig. 2. *Simonella bicolor*, ♀ (6.7 mm): 2a, profile view, palpi and legs removed; 2b, eyes from above and behind; 2c, underside, showing sternum and coxae and trochanters of legs iii. and iv. (7.1 mm); 2d, vulva.

Simonella bicolor, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 83, t. 7. figg. 5, 5a (1892) (♀)¹.

Type, ♀, in coll. Eugène Simon: total length 6.8 millim. Deuterotype, ♂, in coll. Godman & Salvin: total length 7.5 millim.

Hab. Panama, Bugaba (*Champion*).—Venezuela¹.

The male is new to science, that is, if it is distinct from that of *S. americana*, Peckh., which I cannot doubt on the evidence before me. It is possible that Mr. Peckham has placed the males of both species together, for the palpi are evidently very similar, though the black caput, if constant, as I suspect it is, which would assimilate *S. bicolor* with a different species of Formicidae, should enable them to be separated.

Group TOXEAE.

The members belonging to this group are very numerous and distinct, of which a typical form (though not the type of the genus *Toxeus*) would be *Toxeus formicarius*, a well-known European species. The eyes are in three rows of 4—2—2; the carapace being, not constricted as in the Simonelleae, but more or less raised in the cephalic region. The abdomen is in *Toxeus* distinctly constricted in the middle, but much less so than in *Simonella*. The coxa of the first pair of legs is longer, or not shorter, than that of the fourth pair, while trochanter iv. is quite short. Legs i. and ii. are not incrassate, all of them being of about the same degree of slenderness, their relative length being 4, 1, 3, 2.

The genera known to me may be separated by the following characters, based on the female sex only:—

1	a.	Palpi incrassate and compressed. Tibia i. with 2-2-2-2-2 spines beneath. Cephalic region well marked, but not precipitous behind. Trochanter iv. only half the length of coxa iv. Sternum at least three times as long as broad. Cephalic quadrangle wider behind; small eyes midway between laterals. Abdomen constricted.	<i>Toxeus</i> , C. Koch.
	b.	Palpi incrassate, very hairy, not compressed. Tibia i. with 2-2-2 spines beneath. Cephalic region abruptly precipitous behind. Trochanter iv. quite two-thirds as long as coxa iv. Sternum scarcely more than twice as long as broad. Cephalic quadrangle not wider behind; small eyes nearer to the posterior laterals. Abdomen only very slightly constricted.	<i>Martella</i> , Peckh.

I am unable to include *Erica* in the table for want of sufficiently well-preserved examples.

TOXEUS.

Toxeus, C. L. Koch, Die Arachn. xiii. p. 18 (1846).

Type *T. maxillosus*, C. Koch. Java.

The spiders belonging to this genus are truly cosmopolitan, being found in Europe, Asia, Java, the Philippines, Burmah, Ceylon, Madagascar, Zanzibar, the United States, and Central America. The following are the characters of the genus:—

Eyes in three rows; cephalic quadrangle of eyes broader than long, wider behind; posterior laterals slightly larger than anterior laterals. Carapace twice longer than broad; cephalic region flat, in profile; thoracic region convex. Mandibles of the male very variable, usually as long as the carapace, but often either shorter or longer; horizontal, flattened above, depressed towards the apex, with a long sinuous fang. Mandibles of the female short and vertical. Coxa i. scarcely longer than coxa iv., coxa ii. being shortest and more or less globose; trochanter iv. longest, slightly more than one-half longer than coxa iv. Sternum more than three times longer than broad. Legs 4, 1, 3, 2. Tibia i. with 2-2-2-2-2 spines beneath; protarsus i. with 2-2 spines beneath; spines beneath protarsi ii. variable; legs iii. and iv. without spines. Abdomen pediculate, often slightly constricted before the middle; in the male sex with a median anterior and posterior coriaceous dorsal integument. Spinners short, anteriors and posteriors equal in length. Palpi of female broad and compressed.

NOTE. Numerous species were originally included by Latreille under his genus *Salticus* (1805); amongst these were *S. formicarius* and *S. scenicus*. In 1806 Walckenaer placed them all under the name *Attus*. There was no definite selection of a type for either, nor any eliminating process leaving a type naturally selected, until 1810, when Latreille himself definitely selected *Araneus scenicus* as the type of *Salticus*.

The species known to me may be distinguished as follows:—

Males.		
1	a.	Palpi short, only two-thirds as long as the carapace. Mandibles usually very long (very variable), compressed, with two (often one only) stout teeth at the apex beneath; 3 or 4 single separate teeth along the upper margin of the fang-groove, 7 or 8 small teeth along the lower margin at

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

1	a.	its base. Fang very long, sinuous, without any spur or cusp throughout its length. Tibia of palpus only one-third longer than broad, shorter than the tarsus; tibial spur longer and sinuous; bulb with a long spiraloid spine, with two or three convolutions. Protarsus i. black. Abdomen more oval, not constricted; carapace unicolorous brown or black.	<i>centralis</i> , Peckh.
	b.	Palpi very long, longer than the carapace. Mandibles shorter and stouter, not compressed; without teeth at the apex or on the anterior half or two-thirds; with three teeth on each side of the fang-groove at the base, the anterior tooth on the upper margin the largest. Fang long, sinuous, but with a stout conical spur beneath at the base of the apical third section. Tibia of palpus four or five times longer than broad, twice as long as the tarsus; tibial spur very short, sharp, and slightly curved; bulb globular, with a spine curving round its anterior circumference, but without spiraloid convolutions. Tarsus i. black. Abdomen very elongated, and constricted in front of the middle; carapace orange, with black cephalic area.	<i>championi</i> , sp. n.
<i>Females.</i>			
1	a.	Colour as in the male, but much less pronounced. Vulva consisting of a pair of white circular discs, situated within a diameter of each other and within a diameter of the genital rima, which is strongly emarginate in the middle. Between the two white discs are a pair of brown oval-elongate sacs, closely adjacent, dilated anteriorly, narrowed posteriorly, and encircling the inner semi-circumference of the white discs.	<i>centralis</i> .
	b.	Colour as in the male, but much less pronounced. Vulva consisting of four brown circular discs; the anterior pair smaller, one-fourth of a diameter apart, two-thirds of a diameter from the posterior discs; the latter larger, one-half a diameter from the genital rima, which is not emarginate in the middle. Between the larger and smaller disc on each side lies a long oblique dark line, and behind the anterior discs a pair of dark curving lines—all of them indicating loops of the oviducts, which, with the discs, lie beneath the integument.	<i>championi</i> .

1. *Toxeus centralis*. (Tab. XI. figg. 9, 9a, b, 10, ♂; 11, ♀)

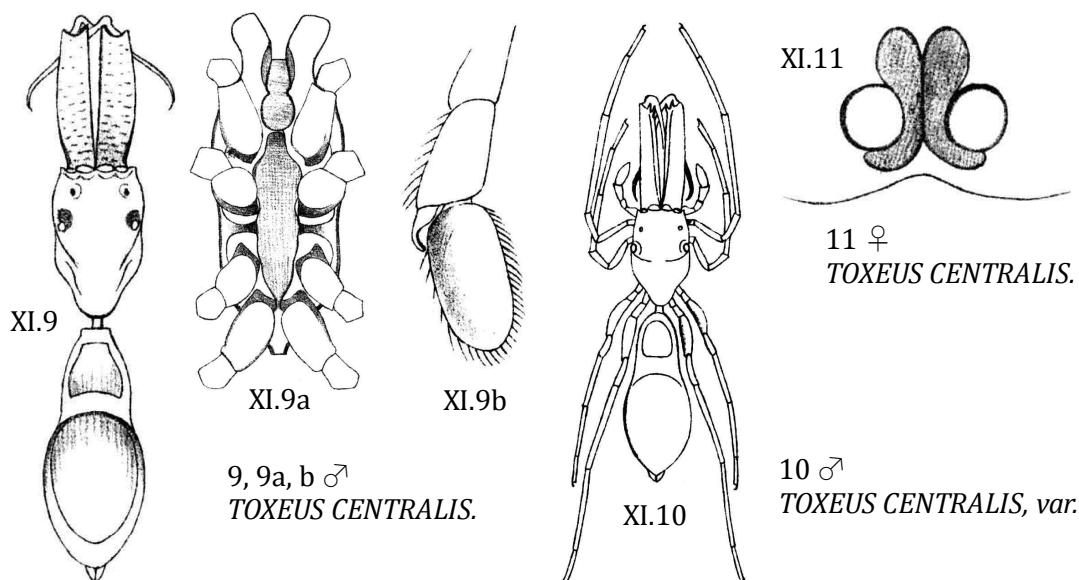


Plate XI. Fig. 9. *Toxeus centralis*, ♂, from above, legs and palpi removed (4.5 mm); 9a, sternum, coxae of legs, maxillae, and labium; 9b, palpus from above. Fig. 10. *Toxeus centralis*, ♂, var., from above (4.6 mm). Fig. 11. *Toxeus centralis*, ♀, vulva.

Salticus centralis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 19, t. 1. figg. 6 (♀), 6a, b (♂) (1892)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 3.5, ♀ 4.5 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Panama, Bugaba (*Champion*); Central America¹.

The males of this species are exceedingly variable, both in size and in the dimension and structure of the mandibles, no two examples being exactly alike. The tibial spur of the palpus also varies in shape.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

174

ARANEIDEA.

2. *Toxeus championi*, sp. n. (Tab. XI. figg. 12, 12 a–f, ♂; 13, ♀.)

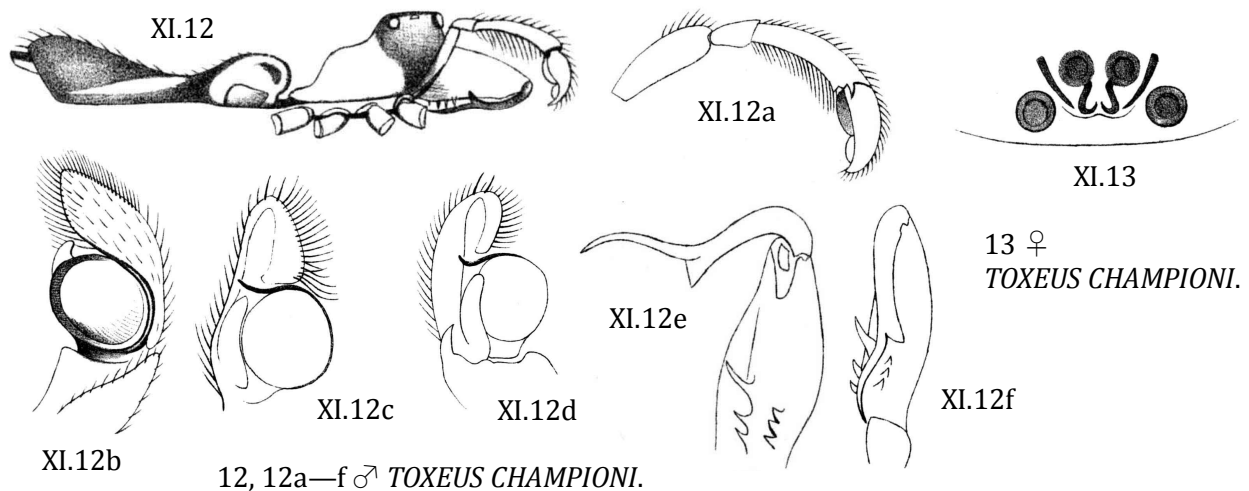


Plate XI. Fig. 12. *Toxeus championi*, ♂, profile view, legs removed (6.0 mm); 12a, right palpus from the outside; 12b, tarsus of palpus from the inside; 12c, tarsus of palpus from the outside; 12d, ditto from beneath; 12e, f, right mandible from beneath, two views. Fig. 13. *Toxeus championi*, ♀, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 6, ♀ 6.5 millim.

Colour, ♂. Carapace orange, cephalic area dark brown or black, with a band of white hairs behind. Abdomen black; anterior portion white, followed by black, constriction white above; posterior portion black, with several transverse bars of white hairs; spinners yellow, posterior pair often dusky. Mandibles orange-brown; femur of palpus orange; patella, tibia, and tarsus orange-brown. Legs variegated, yellow or orange and black. Femora iii. and iv. black; i. and ii. yellow, with a dusky stripe on each side. Tibia and protarsus iv. dark brown or black; tarsus i. black. Coxae and trochanters i. and ii. yellow; iii. and iv. yellow, with brown side-mottlings. Sternum black. Labium and maxillae black, apex of the former and inner margins of the latter orange.

♀. Much paler than the male, dull white and dusky brown.

Structure, ♂. Abdomen much constricted in front of the middle (of the female only slightly so). Mandibles very stout, about two-thirds the length of the carapace, almost horizontal, having at the base on the upper margin of the fang-groove a long stout tooth, followed by three much shorter teeth, and on the lower margin three short teeth closely situated together. The large tooth and the tooth next to it on the upper margin are widely separate. Mandibles long and sinuous, with a stout spur at the base of their anterior third section beneath (those of the female are short and vertical). Palpus very long, longer than the carapace. Femur stout and curved; tibia stout, curved, and as long as the femur and patella together. Tarsus

about **equalling** half the tibia; bulb globular, with a stout spine curving round its anterior circumference. No long spiraloïd spine as in *T. centralis*. Tibial spur short, stout, pointed, its apex directed downwards.

The vulva of the female consists of four brown circular discs, the anterior pair smaller and much closer together. A long dark oblique line runs between the discs on each side, marking where the oviduct comes near the surface; behind the anterior pair of discs are two other curving dark lines, indicating another loop in the oviduct.

Hab. Panama, Bugaba (*Champion*).

MARTELLA.

Martella, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 45 (1892).

Type *Martella pottsi*, Peckham. Central America.

Eyes in three rows. Cephalic quadrangle broader than long, not wider behind. Carapace twice longer than broad, scarcely narrower behind. Cephalic area occupying about half the carapace, flat above in profile, convex behind in the thoracic region. Mandibles vertical. Abdomen pediculate; not constricted in the middle. Spinners of equal length, anterior pair the stoutest. Palpi of female enlarged in the two terminal segments and clothed with long, bristly, fringing hairs. Legs i. and ii. not incrassate; tibia i. with 2–2–2 spines beneath; protarsus i. with 2–2 spines beneath; trochanter iv. quite two-thirds as long as coxa iv.; coxa i. not longer than coxa iv. Sternum scarcely more than twice longer than broad. Small dorsal eyes nearer to the posterior than to the anterior laterals.

1. *Martella pottsi*. (Tab. XI. figg. 14, ♂; 15, ♀.)

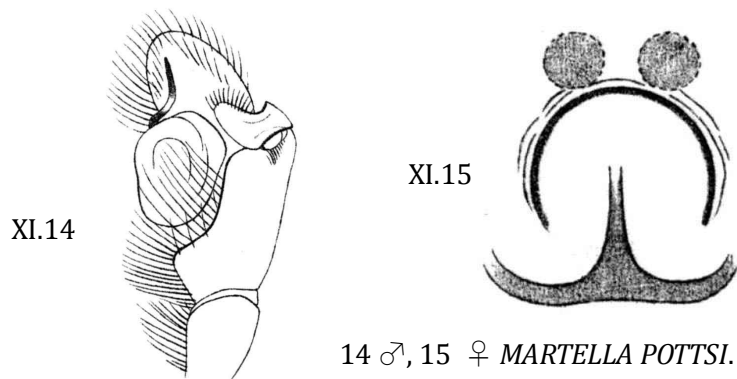


Plate XI. Fig. 14. *Martella pottsi*, ♂, left palp from the outside (after Emerton). Fig. 15. *Martella pottsi*, ♀, vulva (after Emerton).

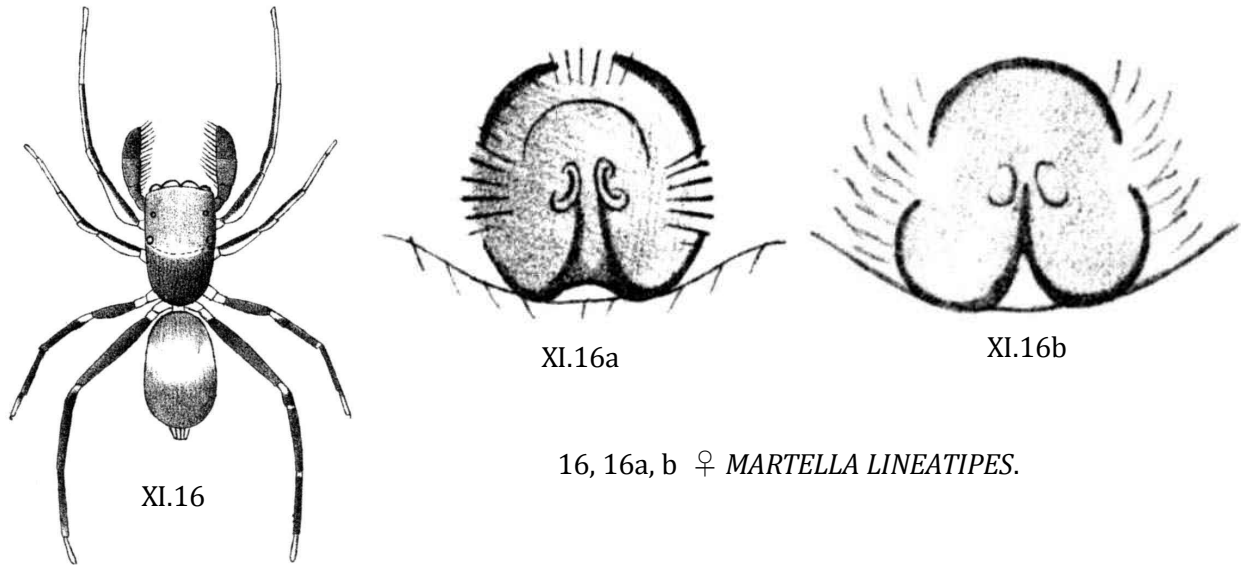
Martella pottsi, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 45, t. 4. figg. 2, 2a–d (♀), 2e, 2f (♂) (1892)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 4.4, ♀ 4.8 millim.

Hab. Guatemala¹.

I do not know this species in nature and can therefore only compare the figures of the vulva with the corresponding portion of *M. lineatipes*.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

2. *Martella lineatipes*, sp. n. (Tab. XI. figg. 16, 16a, b, ♀.)Plate XI. Fig. 16. *Martella lineatipes*, ♀ (4.0 mm): 16 a, vulva; 16b, vulva, var.

Type, ♀, in coll. Godman & Savin. Total length 4 millim.

Colour. Carapace black, with a thin transverse band of white hairs behind the cephalic area. Palpi mahogany-brown; tibia and tarsus enlarged and clothed with stiff black hairs. Legs pale yellow; tarsus i. black; femora, patellae, and tibiae i. and ii. with a black line, more or less broken, on each side, but broad and unbroken on the inner side; femur, patella, tibia, and base of protarsus black. Sternum black. Abdomen clothed with black and brown hairs, with an indistinct band of white hairs across the middle.

The vulva consists of a large oval depression, encircled by a broken black chitinous rim, having a pair of dark spots in the centre; its posterior margin deeply emarginate.

Hab. Mexico, Teapa (*H. H. Smith*).

These examples have been labelled as belonging to the genus *Martella* by Mr. Peckham.

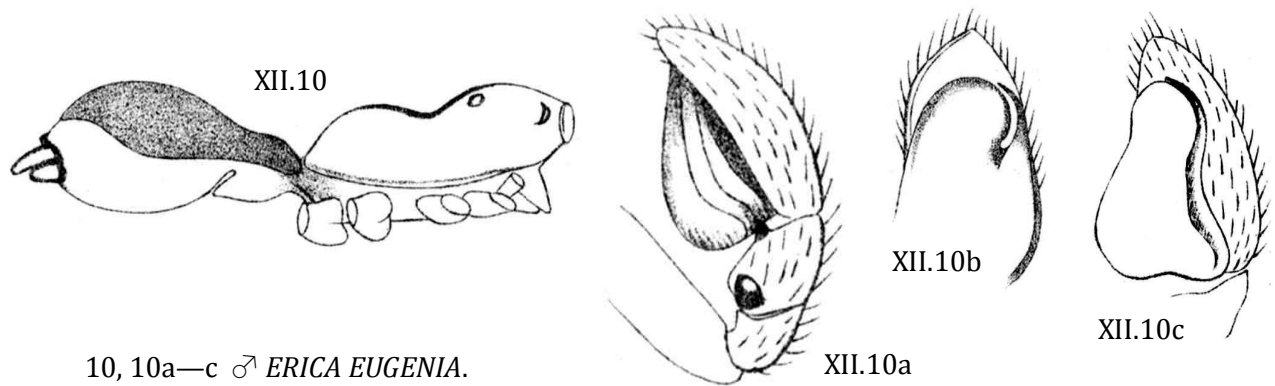
ERICA.

Erica, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 55 (1892).

Type *E. eugenia*, Peckham. Brazil.

Carapace constricted in the anterior thoracic region. Ocular quadrangle broader than long, slightly wider in front. Anterior row of eyes straight by their posterior margins; centrals twice the diameter of the laterals. Small eyes midway between the laterals. Legs 4, 3, 1, 2, equally slender. (The spines on the legs are very weak, but the only example seen is too much rubbed to furnish reliable evidence.)

1. *Erica eugenia*. (Tab. XII. figg. 10, 10a—c, ♂.)



10, 10a—c ♂ *ERICA EUGENIA*.
 Plate XII. Fig. 10. *Erica eugenia*, ♂, right profile (4.0 mm); 10a, left palpus, outside; 10b, bulb from beneath; 10c, bulb, another view.

Erica eugenia, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 55, t. 4. figg. 9, 9 a—c (♀), 9d, 9e (♂) (1892)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 4, ♀ 2 millim.

Hab. Panama, Bugaba (*Champion*).—Brazil, Chapada (*H. H. Smith*)¹, Amable Maria (*Taczanowski*)¹.

The Panama specimen of this species has been identified by Mr. Peckham. The tibia of the palpus, however, exhibits a small dark cusp on the anterior margin, which does not appear in the figure in his paper.

Group **SYNAGELEAE**.

This group may eventually be split up into several others, depending on the greater or lesser extent of the incrassation of legs i. and ii., amongst other less readily noticeable characters. The eyes are in three rows of 4—2—2; the carapace is not constricted in the middle, the abdomen more or less so, or not at all. Coxa iv. is longer than coxa i., and trochanter iv. is almost as long as coxa iv. Legs 4, 3, 1, 2 in relative length; i. and ii., or i. only, incrassate. The palpi of the female are slender.

The genera may be separated as follows:—

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

Genera.		
1	1. Legs i. and ii. incrassate, especially the femora. Abdomen not constricted.	2
	2. Legs i. only incrassate, especially the femora. Abdomen constricted.	3
2	a. Cephalic quadrangle broader than long, occupying less than half the total length of the carapace. Small eyes equidistant from laterals. Sternum slightly longer than broad. Trochanter iv. only half as long as coxa iv. Anterior eyes forming a straight line by their posterior margins. Pedicle less distinct.	<i>Paradamoetas</i> , Peckh.
3	a. Cephalic quadrangle longer than broad, occupying over half the total length of the carapace. Small eyes much nearer to the anterior laterals than to the posterior laterals; twice further from the latter than from the former. Sternum two and a half times longer than broad. Trochanter iv. as long as coxa iv., though not so wide. Anterior row of eyes slightly recurved. Pedicle more distinct. Abdomen constricted before the middle.	<i>Synageles</i> , Simon.

3	b. Cephalic quadrangle broader than long, occupying one-half of the carapace. Small eyes midway between the laterals, or slightly nearer the anteriors	<i>Keyserlingella</i> , Peckh.
----------	--	--------------------------------

SYNAGELES.

Synageles, E. Simon, Aran. Fr. iii. p. 14 (1876).

Type *Synageles venator* (Lucas). Europe.

Eyes in three rows ; central anteriors three times the diameter of the lateral anteriors; posteriors slightly larger than lateral anteriors; those of the second row very minute, situated closer to the anteriors than to the posteriors. Cephalic quadrangle distinctly longer than broad (very much more so in appearance than is the case by measurement), parallel-sided, not wider behind; posterior row as wide as the carapace at the point of their situation. Cephalic region occupying more than half the length of the carapace, delimited behind by a low ridge, abruptly convex posteriorly and slightly recurved at the posterior margin, where it covers the pedicel. Sternum three times longer than broad. Coxae i., ii., iii. subequal, the trochanters shorter; coxa iv. very long, of the same length as the trochanter. Legs 4, 3, 2, 1; legs i. incrassate, especially the femora, tibiae with 2—2—2 long stout spines beneath, protarsi with 2—2 longer spines beneath; the other legs almost entirely without spines. Mandibles short, vertical. Abdomen pediculate, very slightly constricted before the middle. Small eyes much nearer to the anterior than to the posterior laterals.

1. *Synageles variegata*, sp. n. (Tab. XII. figg. 7, 7a, ♂; 8, 8a—d, ♀.)

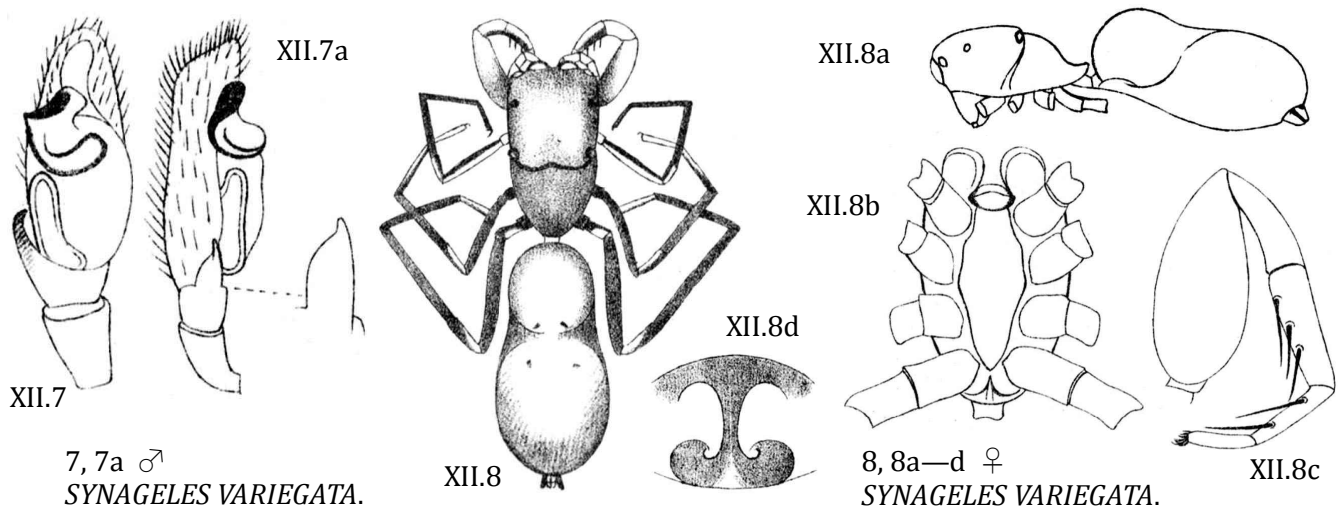


Plate XII. Fig. 7. *Synageles variegata*, ♂, right palpus from below; 7a, right palpus from outside and tibial spur, enlarged. Fig. 8. *Synageles variegata*, ♀ (4.1 mm): 8a, left profile, legs and palpi removed; 8b, sternum, coxae, and trochanter of legs; 8c, right leg of first pair, profile outside; 8d, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 3, ♀ 3.5 millim.

Colour, ♀. Carapace blue-black, glossy, with a band of white hairs behind the cephalic area. Palpi yellow; coxae and trochanters i. and ii. yellow; rest of leg i. pale orange; leg ii. yellow, anterior side of femur, tibia, protarsus, and tarsus brown; coxa, trochanter, femur, apex of patella, tibia, and base of protarsus iii. black; coxa iv. black, trochanter (partly yellow), femur, apex of patella, tibia, and protarsus black. Abdomen entirely brown, with white hairs at the constriction, above. (For figure of vulva, see Tab. XII. fig. 8d.)

The male is similar to the female in colour. Tibia of palpus short; spur short, broad, black, its apex attenuate and slightly incurved (see Tab. XII. fig. 7a).

Hab. Panama, Bugaba (*Champion*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1900.

KEYSERLINGELLA.

Keyserlingella, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 69 (1892).

Type *K. perdita*, Peckham. Colombia.

The full diagnosis of this genus cannot be given without examples for examination. The following characters are those mentioned by Peckham:—Spiders small. Cephalothorax almost flat above, without constriction or depression. Quadrangle of eyes wider than long, equally wide in front and behind, or wider behind, occupying at least one-half of the cephalothorax. Mandibles vertical or slightly inclined. Legs (♂) 4, 1, 3, 2; (♀) 4, 3, 1, 2.

1. *Keyserlingella cara*. (Tab. XII. figg. 9, 9a, ♂.)

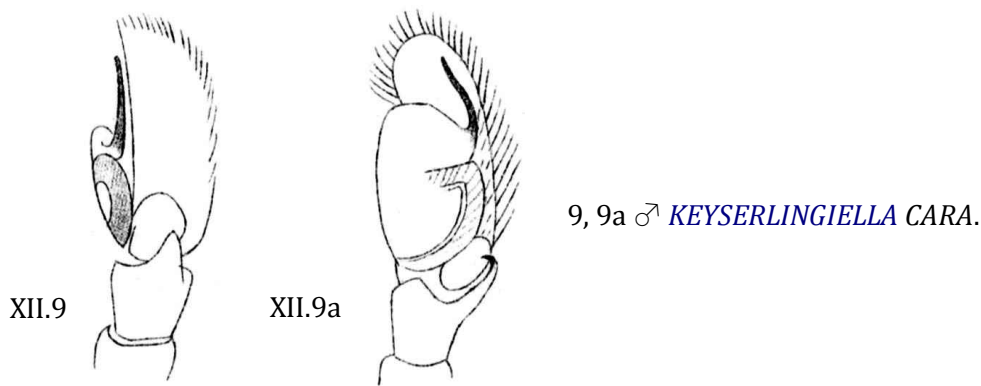


Plate XII. Fig. 9. *Keyserlingella cara*, ♂, left palpus, outside; 9a, ditto from below (after Emerton).

Keyserlingella cara, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 71, t. 5. figg. 8, 8a (♂) (1892)¹.

Total length, ♂, 3.3 millim.

Hab. Guatemala¹.

PARADAMOETAS.

Paradamoetas, Peckham, Proc. Wisc. Acad. Sci. 1885, p. 78 (Dec.).

Type *P. formicina*, Peckham. Guatemala.

Characters based on the female. Legs i. and ii. incrassate, especially the femora. Legs 4, 3, 1, 2, or 4, 1, 3, 2. Tibia i. with 2—2—2 spines; protarsus i. with 2—2 spines beneath. Palpi slender. Sternum about one-fourth longer than broad. Coxa iv. longer than that of i., ii., and iii.; trochanter iv. not more than half the length of coxa iv. Anterior eyes in an almost straight line, straight by the posterior margins; diameter of laterals scarcely more than half that of centrals. Mandibles vertical, weak. Cephalic quadrangle broader than long, slightly wider behind, occupying less than half the total length of the carapace. Abdominal pedicle very short. Small eyes equidistant between the anterior and posterior laterals.

1. *Paradamoetas formicina*. (Tab. XII. figg. 5, ♂; 6, 6a—c, ♀.)

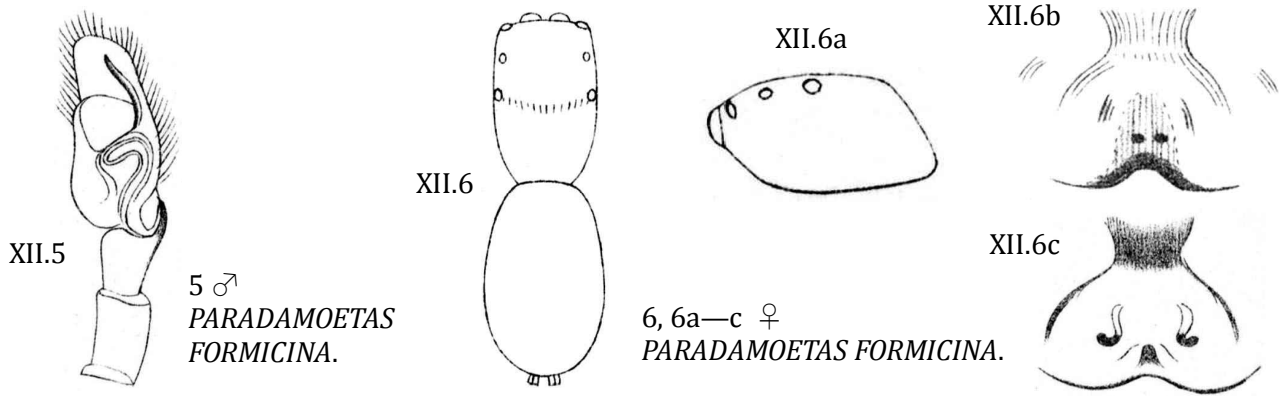


Plate XII. Fig. 5. *Paradamoetas formicina*, ♂, left palpus from below (after Emerton). Fig. 6. *Paradamoetas formicina*, ♀ (no scale line): 6a, left profile of carapace; 6b, vulva (after Emerton); 6c, vulva (after F. O. P. C).

Paradamoetus formicina, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 1, p. 74, t. 6. figg. 2, 2 a—c (♀), 2d (♂) (1892)¹.

Hab. Guatemala¹; Panama, Bugaba (*Champion*).

The female from Bugaba differs so little in the form of the vulva from the figure given by Peckham that one cannot but regard it as belonging to the same species.

Subfam. **SALTICINAE.**

The members of this subfamily differ from those of the Toxeinae in not possessing a definite elongated pedicle between the carapace and the abdomen. The legs are much stouter as a rule and much more spinose. The genera belonging to this division which are represented in Central America may be separated into various more or less definite and natural groups. The Lyssomaneae and the Homalatteae are perhaps as distinct as

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

2 A‡

178

ARANEIDEA.

any of them; the former being distinguished immediately from all the others by the position of the anterior lateral eyes, which are quite behind the central anteriors.

Groups.			
1	A.	Eyes in four rows, the anterior laterals situated behind the anterior centrals, these latter being very large.	Lyssomaneae.
	B.	Eyes in three rows, the anterior laterals situated at the side of the anterior centrals; these latter, though large, less so in proportion.	2
2	aa.	Tibiae i. and ii. with 2—2—2—2 or 2—2—2 spines beneath, the basal pair situated close to the base of the segment.	3
	bb.	Tibiae i. and ii. with 2—2—2 pairs of spines beneath, the basal pair (each being often placed at different distances from the base) situated at about one-third from the base, or in the middle of the segment beneath, or in the apical third portion.	4

3	i.	Protarsi iii. and iv. very spinose, with three distinct rings of spines—a basal, a median, and an apical group. Sternum either circular or elongate-oval, sometimes narrower behind, or slightly narrower in front, but not so narrow as in the next group. Carapace high, convex, not compressed.	Amyceae.
	ii.	Protarsi iii. and iv. much less spinose, with a few weak spines only at the apex and one on each side in the middle and at the base, but these often absent. Sternum usually three or four times longer than broad, much narrower in front, the coxae of legs i. often almost meeting. Carapace not high, but compressed, as also is the abdomen.	Marptuseae.
4	1	Eyes of posterior row more or less remote from the margins of the carapace ; the ocular quadrangle occupying less than half the total length of the carapace	Phidippeae.
	2	Eyes of posterior row situated on the margins of the carapace ; the ocular quadrangle occupying more than half the total length of the carapace	Homolatteae.

NOTE.—The few characters given above are those which would first strike one as distinguishing the various groups of species on a cursory examination. They are not put forward as either exhaustive, exclusive, or final.

Group LYSSOMANEAE.

The members of this group have the following general characters that is, as exhibited by the genus *Lyssomanes*, with which alone I am acquainted:—

Abdomen long and narrow; spinners very inconspicuous, posterior pair slightly longer and more slender than those of the anterior pair, the centrals almost obsolete. Cephalic area raised, the eyes appearing on distinct tubercles. Central anterior eyes very large. Sternum almost circular. Legs long and slender, especially in the male, the apex of the tibia and protarsus of the first pair sometimes being fringed with erect black hairs, all very spinose; femora with 1—1 long spines on the dorsal ridge, and 3 or 4 apical spines, not closely adjacent; patellae i., ii., iii., and iv. each with a single apical spine. Tibiae i. and ii. with 2—2—2 long spines beneath, besides lateral spines; protarsi i. and ii. with 2—2—2 long spines

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *December 1900.*

LYSSOMANES.

179

beneath and lateral spines as well; tibiae and protarsi iii. and iv. also armed with long and numerous spines. Mandibles of the female stout, convex, porrect, and armed in front with two pairs of short bristles on the inner surface towards the base; those of the male usually highly developed and elongate, with the pairs of bristles as in the female, and the fang very long and sinuous.

The colour in nature is, by all accounts, bright grass-green, the cephalic area being often relieved by crimson tufts of hair.

Members of this group are found in North, Central, and South America, in the Antilles, Madagascar, Ceylon, and Samoa. They have been split up into various genera, of which we retain two only as likely to be permanent. These may be distinguished as follows, according to Peckham, for I do not know *Asemonea*:—

Genera.			
1	A.	Cephalic ocular quadrangle never more than one-third broader than long.	<i>Lyssomanes</i> , Hentz.
	B.	Cephalic ocular quadrangle at least twice broader than long.	<i>Asemonea</i> , O. P.-Cambr.

LYSSOMANES.

Lyssomanes, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 198, t. 17. fig. 3 (1844); Burgess, Spid. U.S. p. 49, t. 7. fig. 3 (1875).

Jelskia, Taczanowski, Horae Soc. Ent. Ross. viii. p. 128, t. 4. fig. 11 (1871).

Maroussa, Peckham, Trans. Wisc. Acad. Sci. vii. p. 225 (Nov. 1888).

Type: of *Lyssomanes*, *L. viridis* (on tab. 7 in Burgess's work *L. viridans*), Hentz, North and South Carolina; of *Jelskia*, *J. longipes*, Tacz., Guiana; of *Maroussa*, *M. antillanus*, Peckham, San Domingo.

Eyes in four transverse rows of two each; first pair very large, three times the diameter of those of the second row; second pair separated nearly one diameter posteriorly from the anteriors; third pair very small, nearer to those of the second than of the third; fourth pair slightly larger than those of the second row; eyes of the second row sometimes wider, usually as wide as or slightly narrower than those of the first row. Cephalic quadrangle of eyes sometimes slightly longer than broad, or broader than long, narrower behind. Ocular region high, obliquely vertical laterally. Sternum almost circular. Labium and maxillae long, the latter dilated at the apex. Legs variable in relative length, 1, 2, 3, 4; 1, 4, 3, 2; or 4, 1, 2, 3; iii. and iv. spinose. Protarsi i. and ii. with three pairs, tibia; i. and ii. with two pairs of long spines beneath; femora i. and ii. more or less spinose, and with three or four spines gathered round the apex; tarsal claws 2, claw-tuft present; coxae i. and ii. rather longer and stouter than iii. and iv. Spinners short, tuberculiform; posteriors longer and more slender than the anteriors; centrals almost obsolete. Mandibles of the male often very long, with elongate sinuous fang, similar in aspect to those of the genus *Tetragnatha*, of the family Argiopidae; those of the female simple, with two pairs of stiff bristles meeting each other across the inner margin in front about the middle.

The characters given in the following Table will serve to distinguish the species which are known to me:—

<i>Males.</i>			
1	A.	Upper inner margin of fang armed near its base with a more or less developed tooth or spur.	2
		(not A.)	5
2	a.	Fang-tooth more remote from the base, not highly developed. (Tibiae and protarsi of legs i. and ii. not clothed with distinct fringes of black hair. Tibia of palpus with a distinct isolated	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

2 A† 2

180

ARANEIDEA.

2	a.	pencil of stiff bristles on the more or less gibbous upper margin. Abdomen with two broken or unbroken dark bands. Leg-segments sooty at their apex.)	3
	b.	Fang-tooth close to the base, forming a well-developed spur. (Carapace with a narrow dark band behind the eyes; abdomen with two broken or unbroken dark bands on the dorsal area.)	4
3	1.	Tibia of palpus four times longer than broad; pencil of bristles situated just in front of the middle point of the gibbous upper margin. Inner spine at apex of palpal organs longer and more decidedly sinuous. Abdomen with two dark broken bands on the dorsal area. Carapace with broad central dark band behind the eyes.	<i>deinognathus</i> , sp. n.

3	2.	Tibia of palpus five times longer than broad; pencil of bristles situated at the base of the anterior third of the segment on the slightly gibbous upper margin. Inner spine at apex of palpal organs shorter and less sinuous. Abdomen with two unbroken bands on the dorsal area. Carapace without any dark band behind the eyes.	<i>pachygnathus</i> , sp. n.
4	1.	Tibia of palpus four times longer than broad, with a thick pencil of bristles just behind the middle of the upper somewhat gibbous margin. Protarsus i. having the apex fringed on both sides with black hairs. Abdominal bands broken. Inner spine at the apex of the palpal bulb long, more slender, and its point directed more decidedly outward.	<i>protarsalis</i> , sp. n.
	2.	Tibia of palpus five times longer than broad, without any pencil of bristles on the upper margin. No fringes of black hairs, but only a scanty fringe of pale hairs at the apex of protarsus i. Leg-segments with apical black annulations. Abdominal bands entire. Inner spine at the apex of the palpal bulb short, stouter, its apex directed more inward.	<i>reductus</i> , Peckh. <i>simplicipes</i> , sp. n.
5	B.	Upper margin of fang plain, not armed with any tooth or spur.	6
6	I.	Leg i. heavily fringed on each side of the protarsus alone, or on both tibia and protarsus.	7
		(not I.)	12
7	aa.	Apical third of tibia and protarsus i. heavily fringed on each side with black hairs; tibia ii. only slightly so.	8
		(not aa.)	9
8	1.	Tibia of palpus three times longer than broad, with a small pencil of bristles in the centre. Inner spine of palpal organs very long, curving upwards and sinuously across, its point resting within the cavity of the basal portion of the outer apical spine; the basal stalk of this long spine developed into a sharp spur anteriorly. Apex of mandible with a very short blunt spur above.	<i>spiralis</i> , sp. n.
	2.	Tibia of palpus four times longer than broad, with a thick pencil of bristles situated a little anteriorly to the centre of the slightly	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

LYSSOMANES.

181

8	2.	gibbous margin. Inner spine of palpal organs similar, but shorter, its point falling well away from and above the outer spine; the basal stalk of this spine with only a slight blunt lobe anteriorly (not a sharp point). Apex of mandible with a much longer and more slender spur above.	<i>spinifer</i> , sp. n. [<i>jemineus</i> , Peckh.]
9	bb.	Protarsus i. alone heavily fringed on each side with black hairs.	10
10	1.	Tibia of palpus with a thick pencil of bristles on the anterior third of the upper margin, situated on an almost tuberculiform gibbosity. (Tibia of palpus nearly four times longer than broad. Inner spine of the palpal organs long, stout, straight, slightly curved at the apex, outer spine deeply bifid at the apex, its basal portion with two large, sharp, curving spurs.)	<i>trifurcatus</i> , sp. n. <i>patens</i> , Peckh.
	2.	Tibia of palpus plain, without any pencil of bristles along the upper margin. Apex of mandible with a very inconspicuous tooth above, a larger one below. Mandibles and fang much less strongly developed than in any of the above species.	11
11	a.	Inner spine of palpal bulb almost straight.	<i>remotus</i> , Peckh.
	b.	Inner spine of palpal bulb strongly curved outwards over the bulb. (See Peckham's figure.)	<i>placidus</i> , Peckh.

12	II.	Tibia and protarsus i. without any decided fringe on each side; apex of leg-segments dark. (Tibia of palpus four times longer than broad, without a distinct pencil of bristles, but with a few more or less scattered ones only on the upper margin, which is not gibbous. Inner spine of bulb stout and curved outwards towards the apex. Mandibles immensely stout; fang deeply sinuous, forming a large semicircular lobe at its base; apical tooth on the lower side deeply bifid, the tooth on the upperside strongly developed.)		<i>mandibulatus</i> , sp. n.
<i>Females.</i>				
1	A.	Vulva presenting a pair of large circular, circular-oval, or elliptical discs, lying just beneath the surface of the epidermis.		2
		(not A.)		4
2	i.	Size larger, length 9 millim. Vulva with two large circular-oval discs two diameters apart. (Between and behind them on the posterior margin is a triangular white prominence, flanked on each side by a dark brown sinuous spur. Between the discs appear a pair of dark spots and in front of them another pair of sinuous spots, both marking where portions of the oviduct approach the surface.)		<i>spinifer</i> .
	ii.	Size smaller, length 6-7 millim. Vulva with two circular or ellipsoidal discs adjacent or less than one diameter apart.		3
3	a.	Discs circular, half a diameter apart, close to the posterior margin, with a dark transverse curved bar embracing them in front.		<i>elegans</i> , sp. n.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

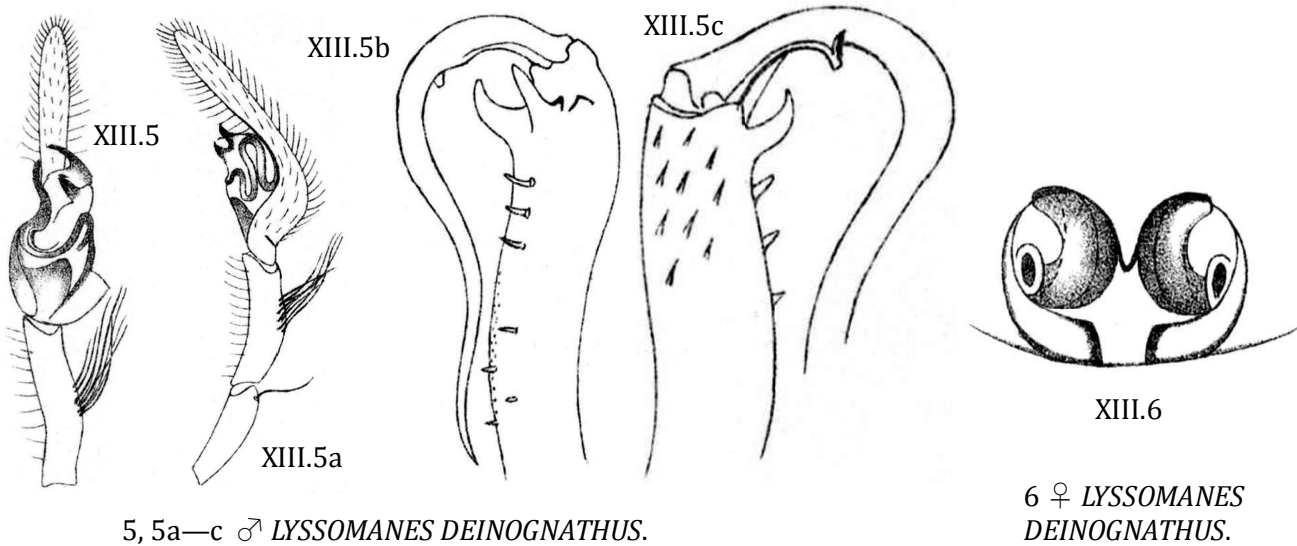
182

ARANEIDEA.

3	b.	Discs ellipsoidal or elongate-oval, obliquely convergent anteriorly, their outline at this point obsolescent; with, anteriorly, a dark sinuous chitinous rim outlining a shallow concave area, terminating on each side in a dark spot		<i>gracilis</i> , sp. n.
4	B.	Vulva not presenting any pair of discs, either oval or circular. Length 7 millim.		5
5	1.	Vulva very simple, consisting of a long, broad, convex area, marked with four red-brown curvilinear spots, traces of the oviduct and perhaps orifices, forming a rectangle longer than broad.		<i>trifurcatus</i> . <i>blandus</i> , Peckh.
	2.	Vulva more complex, consisting of a pair of chitinous curving pieces, converging upon the posterior margin or rima, but not meeting, leaving a rectanguliform vacant space. A pair of dark spots appear just in front of these pieces, and from them extend to the anterior margin a pair of irregular, longitudinal, oval discs, enclosing a narrow, triangular, pale space between their anterior margins. The form of this vulva is also variable.		<i>deinognathus</i> .

NOTE.—The entire absence of any distinctive coloration and the close similarity in general structure of the females of the five species known to me render the formation of a Table based on such characters impossible. All the species are probably, in nature, bright emerald- or grass-green, with or without crimson spots on the cephalic area. This last character, at first sight likely to be of use, fails—for examples occur of the same species with crimson spots and others with entirely white hairs. They can, however, be easily identified, as can most Salticids of the female sex, by the appearance or non-appearance beneath the epidermis of the entrance to the ovaries, and the various convolutions of the oviduct.

1. *Lyssomanes deinognathus*, sp. n. (Tab. XIII. figg. 5, 5a—c, ♂; 6, ♀.)



5, 5a—c ♂ *LYSSOMANES DEINOGNATHUS*.
6 ♀ *LYSSOMANES DEINOGNATHUS*.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 7, ♀ 7 millim.

Hab. Mexico, Teapa (*H. H. Smith*).

The male of this species may be recognized by the tooth on the fang-margin and the absence of decided fringes of hair on the protarsus of leg i. The legs have the apex of the segments dusky; and the abdomen, unicolorous below, has a longitudinal, broken, olive-brown band on the dorsal area; the carapace has a broad central dark band. The coloration, however, is so variable that little reliance can be placed on it, the whole spider being probably green in life. Even the mandibles vary as to the number of teeth in the same specimen. The female has four black spots on the abdomen.

2. *Lyssomanes pachygnathus*, sp. n. (Tab. XIII. figg. 7, 7a, ♂.)



Plate XIII. Fig. 7. *Lyssomanes pachygnathus*, ♂, palpus, left below; 7a, ditto, outside.

Type, ♂, in coll. Godman & Salvin. Total length 8 millim.

Hab. Guatemala (*Sarg*).

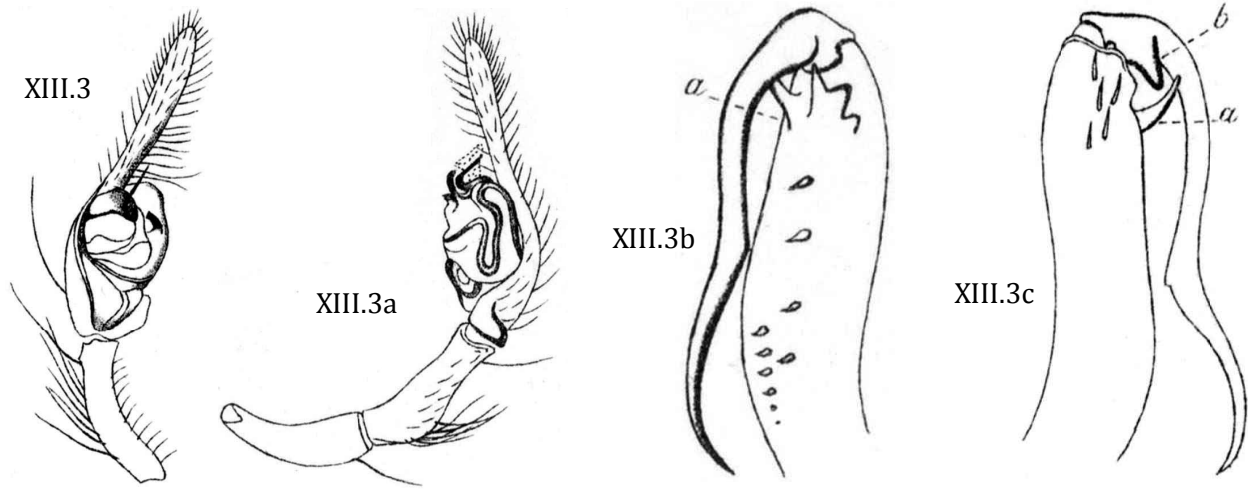
This species, of which a single male only has been received, may be distinguished from *L. deinognathus* by the greater proportionate length of the tibia of the palpus, and (if this be constant, which I very much doubt) by the pair of unbroken dark bands on the dorsal area of the abdomen. The spur at the apex of the mandible beneath

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

LYSSOMANES.

has a stout tooth at its base, part of itself, and another isolated one near it. This character is also to be found in *L. deinognathus*, and in other general respects the two species are very similar.

3. *Lyssomanes protarsalis*, sp. n. (Tab. XIII. figg. 3, 3a—c, ♂.)



3, 3a—c ♂ LYSSOMANES PROTARSALIS.

Plate XIII. Fig. 3. *Lyssomanes protarsalis*, ♂, palpus, left inside; 3a, ditto, outside; 3b, mandible from below; 3c, ditto from above.

Type, ♂, in coll. Godman & Salvin. Total length 5.5 millim.

Hab. Guatemala (*Sarg*).

Also represented in our collection by a single male. It may be recognized by the tooth on the fang being situated quite close to its base, and by the protarsus i. being fringed with black hairs in the apical third. The tibia of the palpus bears a thick pencil of bristles just behind the middle on the upperside. The apex of the leg-segments is not dark, and the carapace has a narrow dark band behind the eyes, while the abdomen has two broken bands on its dorsal area.

4. *Lyssomanes reductus*.

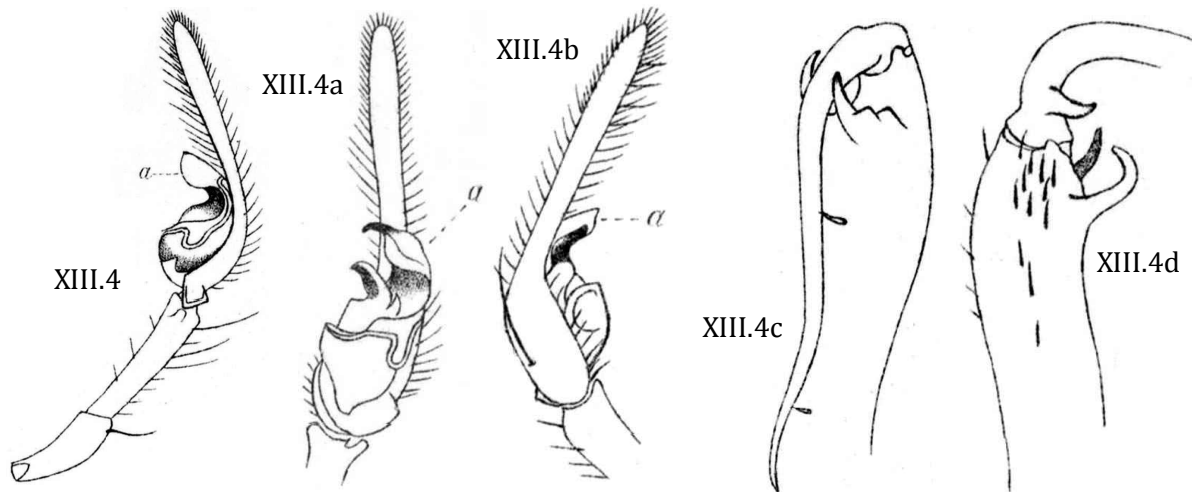
Lyssomanes reductus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 100 (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 6.3 millim.

Hab. British Honduras¹.

It is highly probable that this spider is identical with *L. simplicipes*, but without figures of the palpal organs it is impossible to be at all sure.

5. *Lyssomanes simplicipes*, sp. n. (Tab. XIII. figg. 4, 4a—d, ♂.)



4, 4a—d ♂ *LYSSOMANES SIMPLICIPES*.

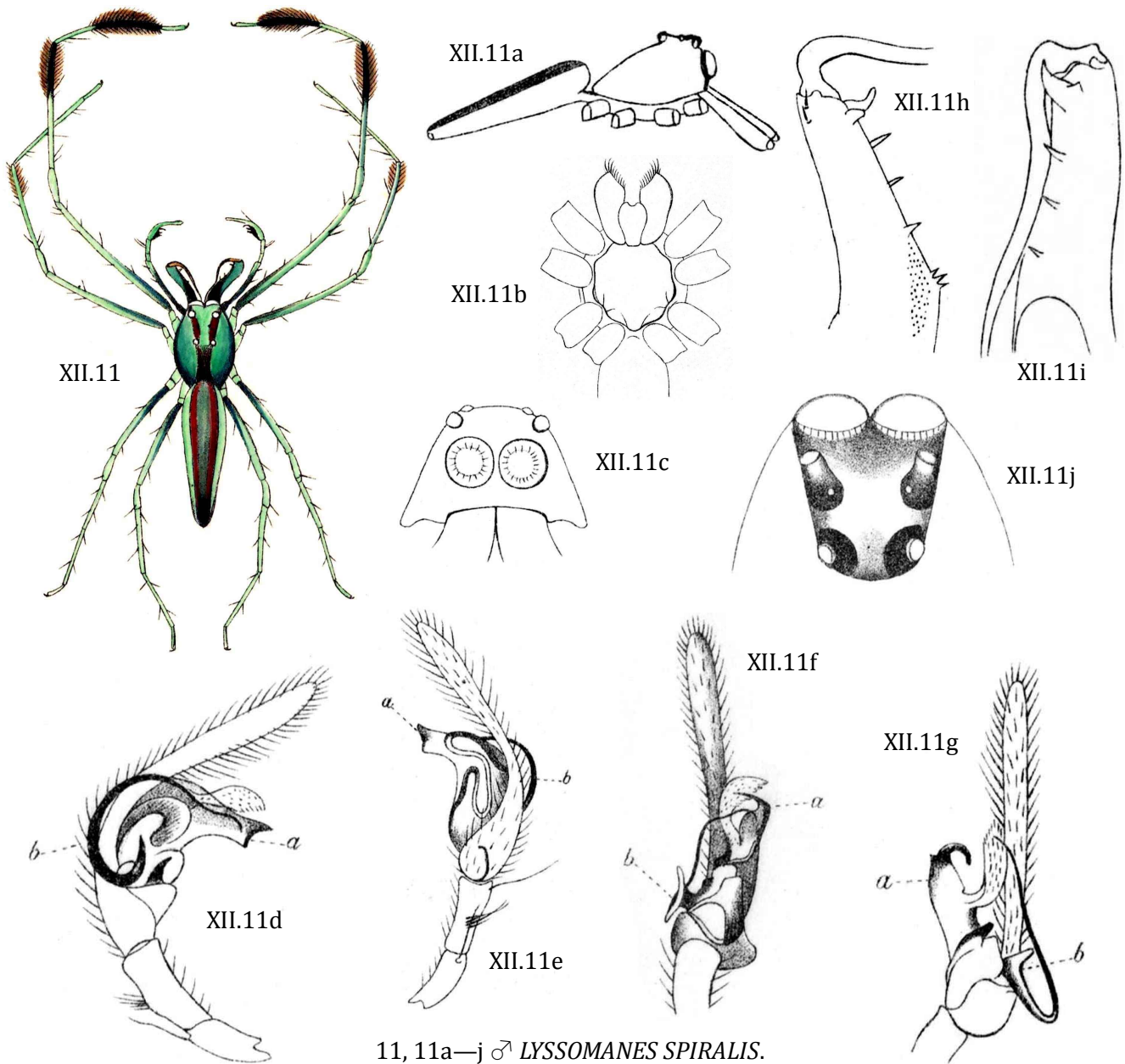
Plate XIII. Fig. 4. *Lyssomanes simplicipes*, ♂, palps, left outside; 4a, ditto, beneath; 4b, ditto, inside; 4c, mandible from below; 4d, ditto from above.

Type, ♂, in coll. Godman & Salvin. Total length 6.5 millim.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

Four adult males only were taken by Mr. Sarg in Guatemala, and one by Mr. Champion in the State of Panama. This species resembles *L. protarsalis* in almost all respects, except that the tibiae and protarsi, and to some extent the patellae of the legs, are black at their apex; the protarsi of the first pair not being so thickly fringed with black hair. The tibia of the palpus has no pencil of bristles on the upperside, and the abdomen has a pair of unbroken black bands, the carapace also having a narrow dark band behind the eyes.

6. *Lyssomanes spiralis*, sp. n. (Tab. XII. figg. 11, 11a—j, ♂.)



11, 11a—j ♂ *LYSSOMANES SPIRALIS*.

Plate XII. Fig. 11. *Lyssomanes spiralis*, ♂ (5.9 mm): 11a, right profile of spider; 11b, sternum, mouth-parts, and coxae of legs; 11c, eyes from in front; 11d, right palpus from the outside; 11e, ditto from inside; 11f, ditto from below; 11g, ditto, another view; 11h, left mandible from above; 11i, ditto from below; 11j, eyes from above and behind.

Type, ♂, in coll. Godmau & Salvin. Total length 6 millim.

Hab. Guatemala, Guatemala city (*Stoll*).

Two adult males only occur in the collection before me. This species may be recognized by the absence of any tooth on the fang and by the semicircular spine on the inner side of the palpal bulb; also by the fringe of black hairs on each side of the apical third or half of tibia and protarsus i. and of tibia ii. The apex of the mandible

above bears fewer spines than in most other species of the genus. Legs without apical annulations to the segments. Carapace with a broad dark band behind the eyes. Abdomen almost entirely unicolorous dark olive-brown, except a wedge-shaped area on the anterior lateral margin, where the ventral and dorsal suffusions fail to coalesce.

L. spiralis is very similar to *L. spinifer*, but quite distinct.

7. *Lyssomanes spinifer*, sp. n. (Tab. XII. figg. 12, 12 a—e, ♂; 13, 13a, ♀.)

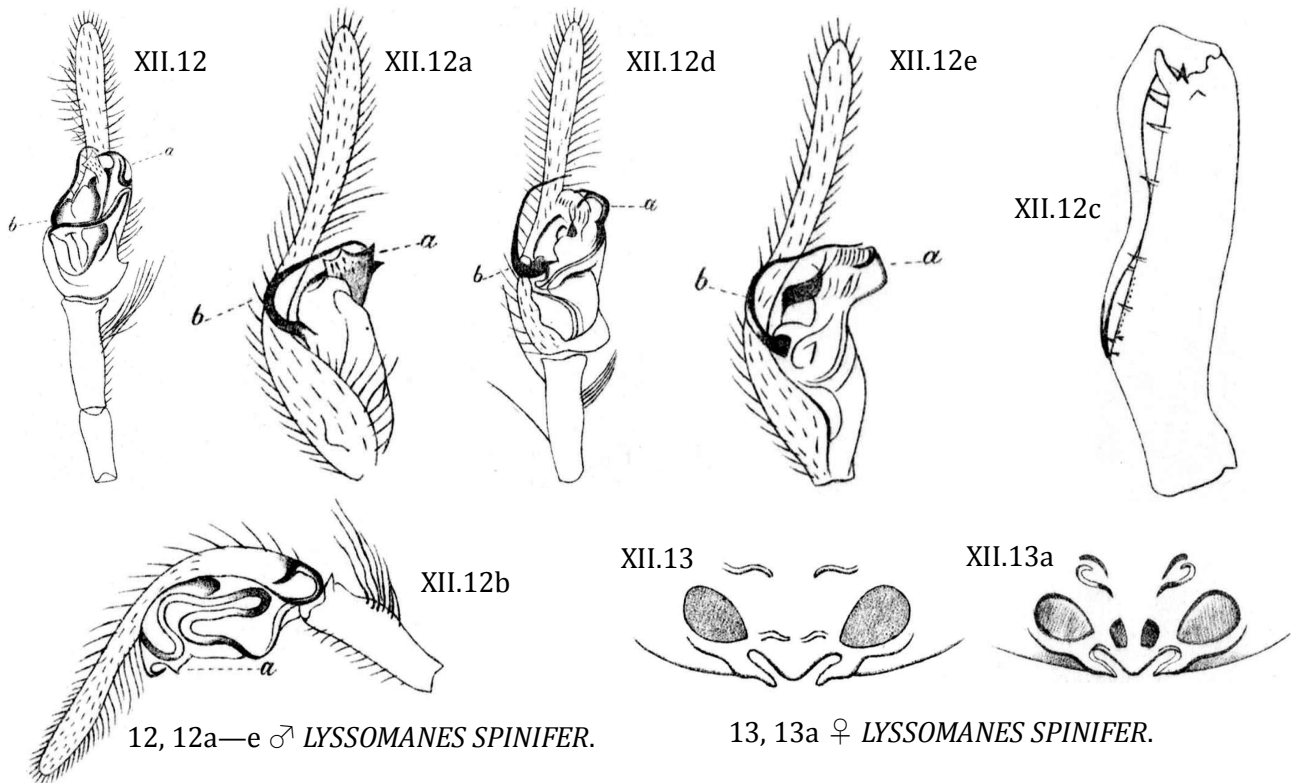


Plate XII. Fig. 12. *Lyssomanes spinifer*, ♂, left palpus beneath; 12a, ditto beneath from inside; 12b, ditto from outside; 12c, left mandible from beneath; 12d, left palpus from beneath, another view; 12e, ditto from inside, another view. Fig. 13. *Lyssomanes spinifer*, ♀, vulva, usual form; 13a, ditto, variety.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 8, ♀ 9 millim.

Hab. Mexico, Atoyac in Vera Cruz (*H. H. Smith*); Guatemala (*Sarg*).

Eight adult males and two adult females have been received. This spider closely resembles *L. spiralis*, but the inner palpal spine is shorter and less circularly curved. For detailed differences, see the Table of the species.

It is impossible to say whether the Central-American examples are really different from *L. jemieus*, Peckh.; but in the figure given by Peckham of the male palpus (t. 11. fig. 9) the inner spine decidedly varies in the direction of its curvature. It is quite possible also that there should be several closely-allied species having the strong fringe on the tibia and protarsus of legs i. and ii. So that, although one cannot help suspecting that *L. spinifer* is identical with *L. jemieus*, one is not warranted in thus identifying it without better evidence than that furnished by the figure and description of the latter.

[8. *Lyssomanes jemineus*. (Tab. XIII. figg. 14, ♂; 15, ♀.)

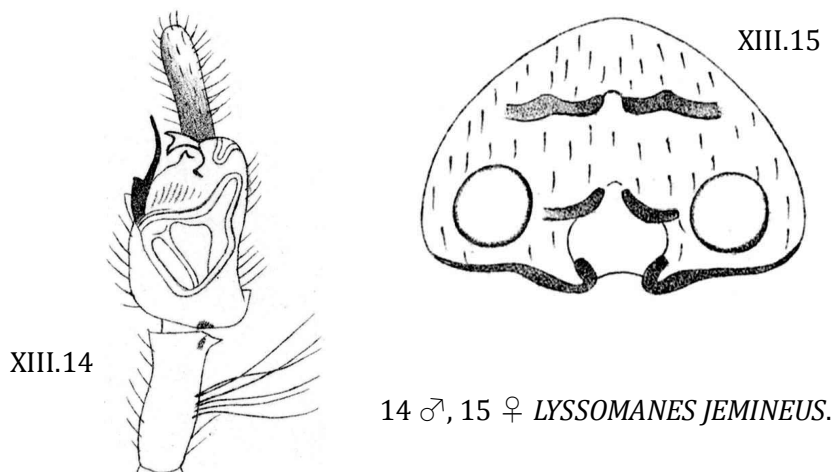


Plate XIII. Fig. 14. *Lyssomanes jemineus*, ♂, palpus from below (after Peckham). Fig. 15. *Lyssomanes jemineus*, ♀, vulva.

Lyssomanes jemineus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 234, t. 11. fig. 9 (♂), t. 12. fig. 14 (♀) (Nov. 1888)¹.

Type, ♂, in coll. E. Simon. Total length, ♂ 7.5, ♀ 8 millim.

Hab. South America¹.

L. jemineus is merely included here for comparison with *L. spinifer*; the figures are copied from Peckham's work.]

9. *Lyssomanes trifurcatus*, sp. n. (Tab. XIII. figg. 9, 9a—c, ♂; 10, ♀.)

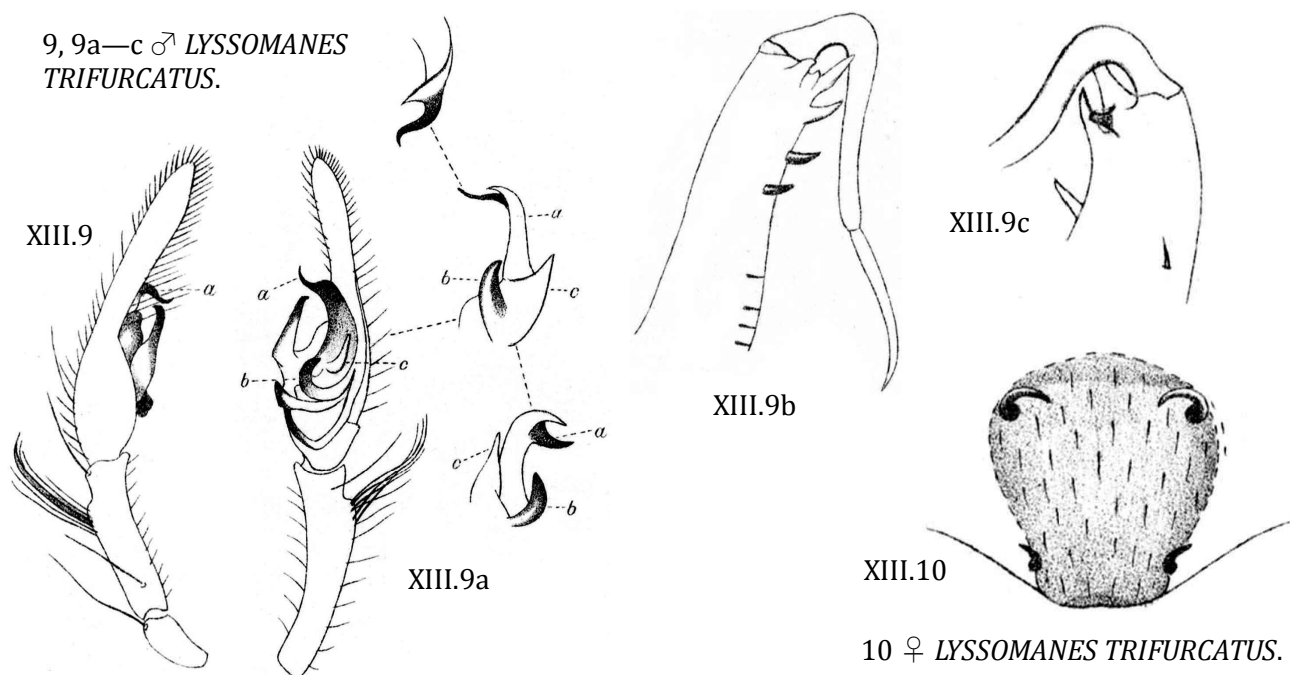


Plate XIII. Fig. 9. *Lyssomanes trifurcatus*, ♂, palpus, left inside; 9a, ditto, outside; 9b, mandible from below; 9c, ditto from above. fig. 10. *Lyssomanes trifurcatus*, ♀, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 6.5, ♀ 7 millim.

Hab. Panama, Bugaba (Champion).

This species, very closely allied to *L. patens*, Peckh., has the protarsus of the first pair of legs heavily fringed with black hairs on the apical third of the segment. The carapace and abdomen are entirely unicolorous, while the apex of the tibiae and patellae of the legs are slightly dusky. These colours, however, are not to be relied on for any practical purposes. The fang of the mandible has no tooth. The figure of the palpus of *L. patens*, Peckh., would seem to suggest that these examples from Bugaba are identical with his species; but a single figure of these complicated organs is not sufficient, and the

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

LYSSOMANES.

185

absence of any clypeal space below the anterior eyes, if correctly drawn, disposes at once of the supposition that the two are identical. The outer palpal organs present a large trifurcate structure, whose upper anterior prong is itself deeply bifid.

10. *Lyssomanes patens*. (Tab. XIII. figg. 1, 1a, ♂; 2, 2a, ♀.)

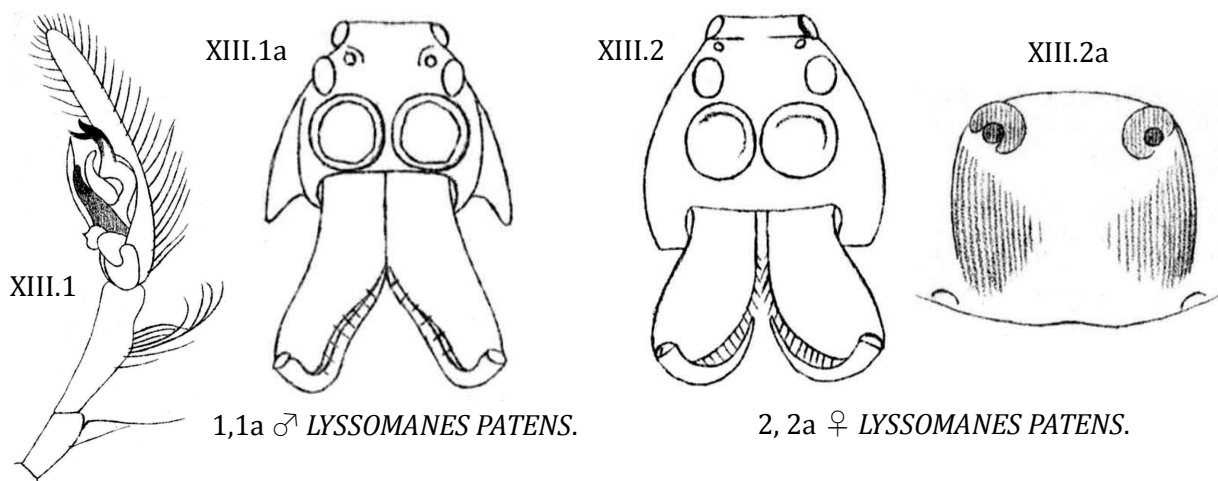


Plate XIII. Fig. 1. *Lyssomanes patens*, ♂, palpus, left outside; 1a, eyes and mandibles from in front (after Emerton). Fig. 2. *Lyssomanes patens*, ♀, eyes and mandibles from in front; 2a, vulva (after Peckham).

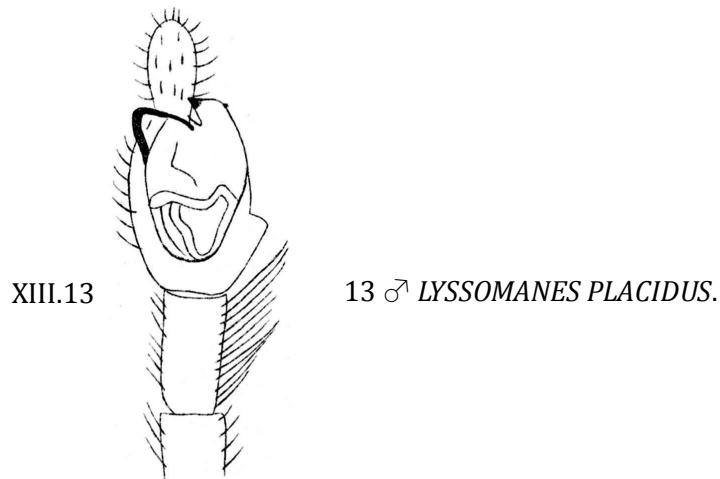
Lyssomanes patens, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 99, t. 7. figg. 8, 8a (♂), 8b, c (♀) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length, ♂ 6, ♀ 7 millim.

Hab. British Honduras¹; Panama¹.

In the figure of the eyes of the male of this species the clypeus is represented as though entirely obsolete. If this be so, *L. patens* is very distinct from *L. trifurcatus*, as one might have otherwise been inclined to doubt. Peckham, however, makes no mention of this character in the description. In drawing the eyes from in front, and somewhat also from above, the clypeus would naturally disappear beneath the anterior eyes; but in that case these eyes should be represented as ellipsoidal, not circular. In the adjacent figure of the female, drawn from the same position, the clypeus is very evident. One can only conclude that the clypeus in the male is obsolete.

11. *Lyssomanes placidus*. (Tab. XIII. fig. 13, ♂.)



XIII.13

13 ♂ *LYSSOMANES PLACIDUS*.

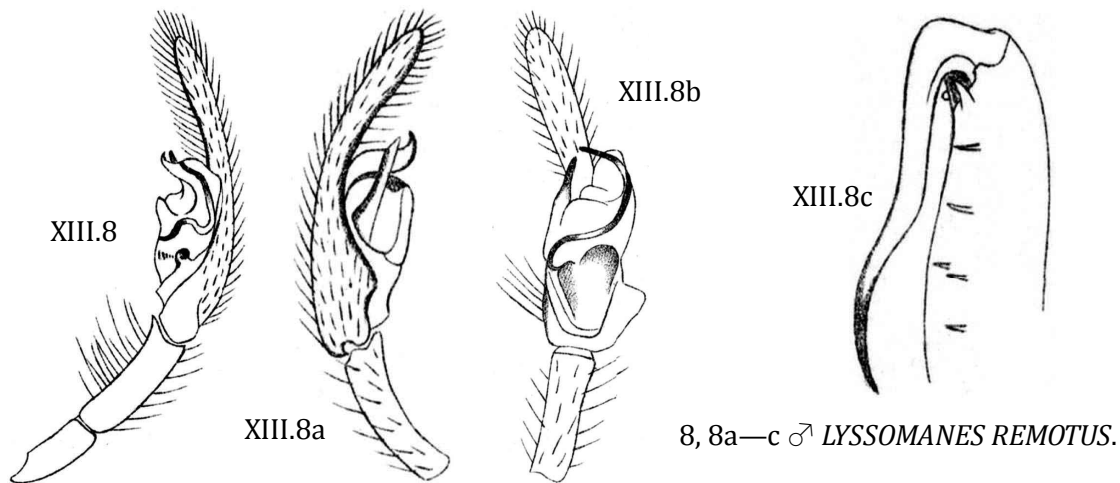
Plate XIII. Fig. 13. *Lyssomanes placidus*, ♂, palpus from below (after Peckham).

Lyssomanes placidus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 229, t. 11. fig. 5 (♂) (Nov. 1888)¹.

Type, ♂, in coll. Peckham. Total length 6.8 millim.

Hab. Mexico¹.

12. *Lyssomanes remotus*. (Tab. XIII. figg. 8, 8a—c, ♀.) (♂, not ♀)



XIII.8

XIII.8a

XIII.8b

XIII.8c

8, 8a—c ♂ *LYSSOMANES REMOTUS*.

Plate XIII. Fig. 8. *Lyssomanes remotus*, ♂, palpus, left outside; 8a, ditto, inside; 8b, ditto, beneath; 8c, mandible from below.

Lyssomanes remotus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 100, t. 7. figg. 9, 9a (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 5.5 millim.

Hab. Guatemala (Sarg); Panama (Keyserling¹).

I have little doubt that the male taken by Mr. Sarg in Guatemala is identical with *L. remotus*, Peckh., though the figure of the palpal organs is not quite sufficiently detailed to enable one to be quite confident. The palpal organs are simple, the inner spine being straight, stout, bluntly pointed, and not curved at the apex; the outer spine is broadly convex basally, terminating in a curved sharp point, directed inward. The mandibles have a dark band down the centre above; the carapace has a dark central thoracic band behind the eyes; the abdomen has two broad, unbroken, longitudinal dark bands; the ventral area is unicolorous. The protarsus i. is heavily fringed on the apical third with black hairs, otherwise the legs are unicolorous.

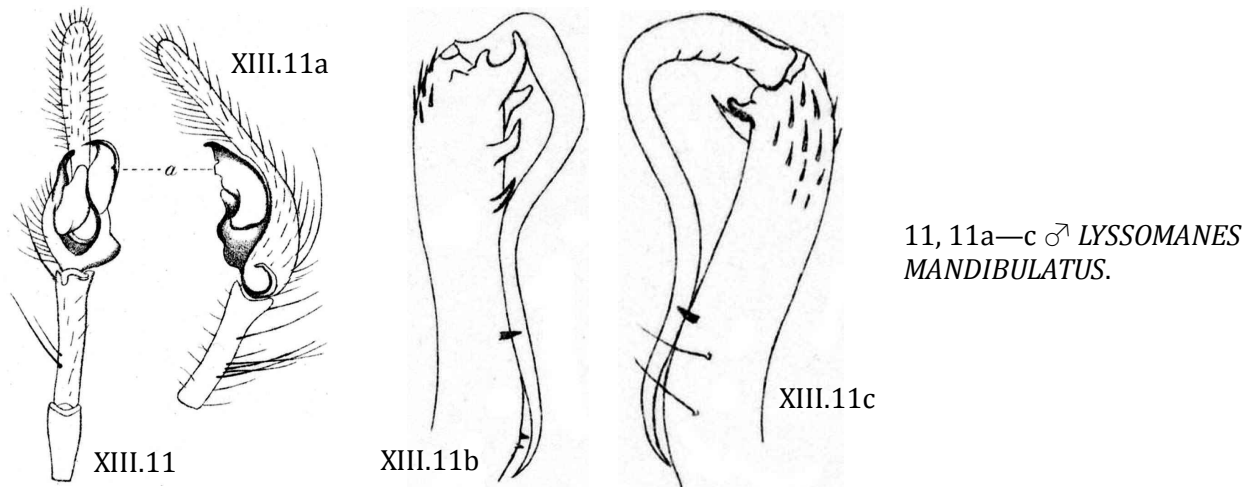
13. *Lyssomanes mandibulatus*, sp. n. (Tab. XIII. figg. 11, 11a—c, ♂)11, 11a—c ♂ *LYSSOMANES MANDIBULATUS*.

Plate XIII. Fig. 11. *Lyssomanes mandibulatus*, ♂, palpus, left below; 11a, ditto, outside; 11b, mandible from below; 11c, ditto from above.

Type, ♂, in coll. Godman & Salvin. Total length 6.5 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*).

The apex of the leg-segments in this species is black, and there is only a very light fringe of dark hairs on each side of the apex of protarsus i. There is also a central thoracic and postero-lateral marginal dark band; while the abdomen, unicolorous below, bears two broken dark dorsal bands. For a description of the palpal organs, see the Table of the species. Two adult males only occur in our collection.

14. *Lyssomanes blandus*. (Tab. XIII. fig. 17, ♀.)17 ♀ *LYSSOMANES BLANDUS*.

Plate XIII. Fig. 17. *Lyssomanes blandus*, ♀, vulva (after Peckham).

Lyssomanes blandus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 241, t. 12. fig. 13 (♀) (Nov. 1888)¹.

Type, ♀, in coll. Peckham. Total length 7.4 millim.

Hab. Guatemala¹.

The form of the vulva of this species as drawn by Peckham is very similar to that of *L. trifurcatus*, but whether the two species are identical or not I cannot say.

15. *Lyssomanes elegans*, sp. n. (Tab. XII. fig. 14, ♀; Tab. XIII. figg. 12, 12 a, b, ♀.)

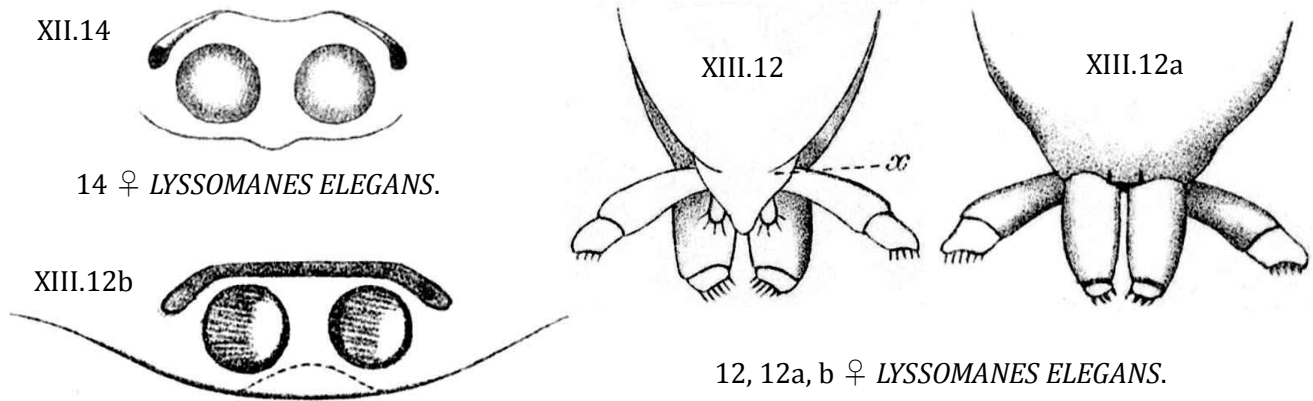


Plate XII. Fig. 14. *Lyssomanes elegans*, ♀, vulva. Plate XIII. Fig. 12. *Lyssomanes elegans*, ♀, spinners from above, (x) anal tubercle; 12a, ditto from below; 12b, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Panama, Bugaba (*Champion*).

Three females only, which can be at once recognized by the form of the vulva (Tab. XII. fig. 14; Tab. XIII. fig. 12b).

16. *Lyssomanes gracilis*, sp. n. (Tab. XIII. fig. 16, ♀.)



Plate XIII. Fig. 16. *Lyssomanes gracilis*, ♀, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Hab. Guatemala (*Sarg*).

A single female only, also recognizable by the form of the vulva.

ASEMONEA.

Asemonea, O. P.-Cambridge, Ann. & Mag. Nat. Hist. (4) iii. p. 65, t. 5. figg. 50—52 (1869).

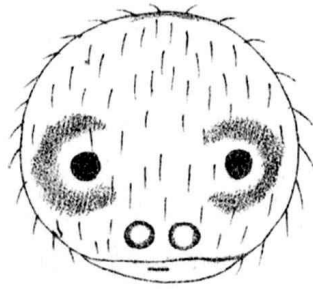
Asamonea, E. Simon, Bull. Soc. Zool. Fr. x. p. 27 (1885).

Type of *A. tenuipes*, O. P.-Cambridge, Ceylon; of *A. puella*, E. Simon, Landana.

The difference between this genus and *Lyssomanes* lies in the greater breadth of the ocular quadrangle; but as to whether this character is the only one or of sufficient importance on which to base a separate generic group, one cannot at present offer any opinion.

1. *Asemonea flava*. (Tab. XIII. fig. 18, ♀.)

XIII.18



18 ♀ *ASEMONEA FLAVA*.

Plate XIII. Fig. 18. *Asemonea flava*, ♀, vulva (after Peckham).

Asamonea flava, Peckh. Trans. Wisc. Acad. Sci. vii. p. 246, t. 12. fig. 18 (♀) (Nov. 1888)¹.

Type, ♀, in coll. Peckham. Total length 5.6 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

AMYCEAE.

187

Hab. Central America¹.

No example of this species is to be found in our collection, the generic characters being taken from Peckham's work.

Group AMYCEAE.

Genera.			
1	A.	Spines beneath tibiae i. and ii. in pairs of 2—2—2—2, those beneath protarsi i. and ii. in pairs of 2—2—2, with or without lateral spines. (Small eyes situated nearer the posterior laterals. Mandibles often highly developed in the males, with 2—2 teeth in both sexes, set widely apart in the male. Cephalic region, in the male, with a tuft of hairs on each side about the middle, in a line with the small eyes, convex in the middle in both sexes, viewed in profile. Clypeus not higher than, often less than, one-third of the diameter of an anterior central eye. Leg i. longest in the male; leg iii. longest in the female. Bulb of palpus not produced basally beyond the apex of the tibia. Spine of bulb apical, slender, and circularly curved, somewhat as in <i>Sidusa</i> .	[(<i>Helorus</i> , Peckh.). <i>Cobanus</i> , nom. nov.]
	B.	Spines beneath tibiae i. and ii. in pairs of 2—2—2, those beneath protarsi i. and ii. in pairs of 2—2, with or without lateral spines.	2
2	i.	Mandibles in both sexes with from 2—5 or 6—5 teeth. Clypeus in male not less than a full diameter of an anterior central eye; in the female (<i>Titanattus</i> , ♀ unknown) about half a diameter. (p. 296:) Mandibles in both sexes with from 2—5 or 6—5 teeth, or 4 on upper margin only.	3
	ii.	Mandibles in male and female with a single tooth on the lower margin and two teeth on the upper. Clypeus usually about one-third of the diameter of an anterior central eye, often much less.	4
3	a.	Anterior row of eyes strongly recurved.	<i>Titanattus</i> , Peckh. (p. 296:) 10

3	b.	Anterior row of eyes only slightly recurved, by their posterior margins. (Small eyes nearer the anterior laterals. Cephalic area in the male with a tuft of hairs in front, behind and between the central and lateral anteriors; the area itself is flat in both sexes, viewed in profile. Leg i. longest in the male, leg. ii. longest in the female. Bulb of palpus not produced basally beyond the apex of the tibia; palpal spine stout, springing from the inner side of the bulb and curving round towards the apex, with its point directed across the tarsus outwards.)	<i>Amycus</i> , C. L. Koch.
4	a.	Tarsus of male palpus more elongate; bulb elongate, often attenuate and produced beyond the apex of the tibia. Palpal spine single, though sometimes bifid, springing either from the outer apical margin or from the apex of the bulb itself, not encircling the bulb in any way.	5
	(not a.)		8

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *December 1900.*

2 B† 2

188

ARANEIDEA.

5	aa.	Palpal spine of male originating from the apex of the bulb, usually slender, more or less circularly or spirally curved, less frequently shorter and stouter.	6
	bb.	Palpal spine of male originating from the inner side of the apical half of the bulb, or from the apex of the inner lobe of the bulb, the spine itself being longer or shorter, sometimes slender, often stouter, and occasionally bifid.	7
6	1.	Mandibles normal in the male sex.	<i>Sidusa</i> , Peckh.
	2.	Mandibles very much developed.	<i>Pensacola</i> , Peckh.
7	a*.	Palpal spine very fine, aculeate.	<i>Colonus</i> , gen. nov.
	b*.	Palpal spine stouter.	<i>Cyrene</i> , Peckh.
8	b.	Tarsus of male palpus not elongate, but broad at the base, more or less circular, with the bulb also circular.	9
9	1.	Spine of palpal bulb single, springing from the apex of the inner side. Patella iii. not developed at the apex.	<i>Thotmes</i> , gen. nov.
	2.	Spine of palpal bulb double; two distinct spines springing usually from the outer side, often widely separate, the inner one sometimes geniculate, the outer one usually the longest, more or less encircling the bulb. Patella iii. more or less developed at the apex. Vulva of female always with a deep, short, transverse cavity about the middle, the upper margin forming a chitinous rim.	<i>Habronattus</i> , gen. nov.
10	a'.	Clypeus in the male not less than one full diameter of an anterior central eye.	<i>Titanattus</i> , Peckh.
	b'.	Clypeus in the male less than one-third the diameter of an anterior central eye.	<i>Tomis</i> , gen. nov.

Note.—The genus *Pardessus* has not been included in this Table because the females alone are known to me. Later modifications to this key described on page 296, including couplet (10) separating *Titanattus* and *Tomis*, have been added in red text.

COBANUS, nom. nov.

Helorus, Peckham, Proc. Nat. Hist. Soc. Wisc. iii. 1, p. 28 (April 1896) (nomen praeocc.*).

Type *H. mandibularis*, Peckham. Central America.

Male. Anterior row of eyes slightly recurved. Centrals three times at least the diameter of the laterals. Clypeus not more than one-fourth the diameter of an anterior central eye. Cephalic quadrangle broader than long, slightly wider in front. Small dorsal eyes midway between the lateral eyes of both rows (or, if anything, rather nearer to the posterior lateral eyes). Posterior laterals slightly larger than the anterior laterals. Sternum a little longer than broad, rather broader behind. Legs 1, 3, 4, 2. Coxa i. long, one-third longer than coxa ii. and more than one diameter of the segment apart at the base. Protarsi i. and ii. with 2—2—2 spines beneath and 2 small apical lateral spines. Tibiae i. and ii. with 2—2—2—2 spines beneath and 1—1 lateral spines on the inner side. Patellae i. with one small spine on the inner side, ii., iii., and iv. with one on each side. Protarsi iii. and iv. with three distinct rings of spines—basal, central, and apical. Tibiae iii. and iv. with, besides lateral spines, a single minute, basal, dorsal spine. Labium scarcely longer than broad. Maxillae long, rounded at the apex, and somewhat dilated laterally. Posterior spinners very slightly longer and more slender than the anterior pair. Mandibles either very long and divergent, or quite short, as in the females. Teeth 2—2 on the upper and lower margins of the fang-groove, widely separate when the mandible is elongated. Fang long or short according to the development of the basal segment, sometimes with an inner basal tooth.


Female. Characters as in the male, except that the coxae of legs i., ii., iii., and iv. are subsimilar, those of iv. the longest. Sometimes a lateral spine outside tibiae i. and ii. Patellae i., ii., iii., and iv. with one spine on each side. Femur of palpus with 1—1 dorsal spines. Mandibles with 2—2 apical teeth on the upper and lower margins.

* Latreille, Hist. Nat. Crust. et Ins. iii. p. 309 (1802) (Hymenoptera).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

COBANUS.

189

<i>Males.</i>		
1	A. Mandibles elongate, divergent; teeth of upper and under sides wide apart. Fang very long. Carapace without tufts of hair on the cephalic area.	2
	B. Mandibles not elongate or divergent, similar to those of the female; fang short. Cephalic area with a pair of short triangular tufts of hair above (often obliterated). Femur of palpus without tufts of white hair above. Legs i. entirely brown, the others yellow, more or less annulated with pale brown.	4
2	i. Fang with no tooth on the inner margin close to the base.	3
	ii. Fang with a tooth near the base on the inner margin.	<i>mandibularis</i> , Peckh.
3	a. The two teeth on the upper margin much wider apart. Femur of palpus clothed above with a dense tuft of white hairs. Patella and tibia i. annulated at their apex with black. Femur i. dark brown; protarsus i. brown, tarsus i. yellow. Legs ii. slightly annulated with brown; iii. and iv. yellow, slightly annulated with brown. Abdomen yellow with four dark spots, having between them three or more dark  -shaped marks. Tarsus of palpus long and narrow, not broader at the base. Tibia of palpus at least one-third longer than the patella. Spur shorter and broader.	<i>extensus</i> , Peckh.
	b. The two teeth on the upper margin much closer together. Femur of palpus without tuft of white hairs. Legs without annulations. Markings on abdomen and carapace obliterated. Tarsus of palpus broader at the base. Tibia of palpus not more than one-fourth longer than the patella. Spur more slender.	<i>unicolor</i> , sp. n.

4	1.	Abdomen yellow, with four dusky spots on the central posterior dorsal area. Paired teeth of mandibles situated opposite each other. Tibial spur of palpus shorter and slightly curved.	<i>flavens</i> , Peckh.
	2.	Abdomen entirely dark olive-green above. Paired teeth of mandibles well separate. Tibial spur longer and straighter.	<i>subfuscus</i> , sp. n.
<i>Females.</i>			
1		Vulva consisting of a broad semicircular disc, divided into two symmetrical areas by a narrow, wedge-shaped, pale groove, wider behind, the rim of which curves round to the sides, then inwards towards the base, and suddenly downwards, at which point it is much blacker.	<i>flavens</i> .

Note.—The legs and carapaces of these spiders are so worn that most of the hairs and scales have been obliterated. The femur, tibia, and protarsus i. are, however, evidently usually fringed with black hairs; the protarsus especially so, being also a little curved. *C. perditus* is unknown to me.

Peckham has suggested that *C. flavens* should form the type of a new genus based on the short mandibles. We have, however, an adult male example which cannot be separated from *C. extensus*, except that it has mandibles similar to those of the male of *C. flavens* (*i. e.* similar to those of the females of the genus). I suspect that these varieties of the male occur frequently, as they do in some other groups of the Salticidae.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

190

ARANEIDEA.

There are no females of either *C. unicolor* or *C. extensus* in our collection; *C. mandibularis* is unknown to me.

1. *Cobanus unicolor*, sp. n. (Tab. XIV. figg. 3, 3a, ♂.)

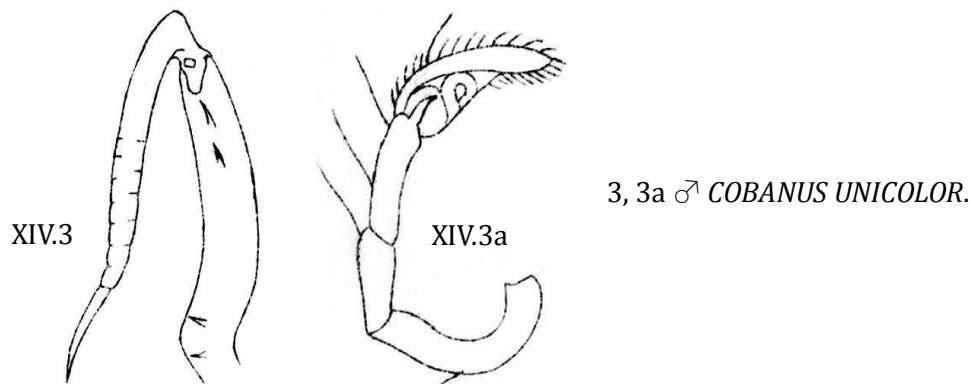


Plate XIV. Fig. 3. *Cobanus unicolor*, ♂, mandible from below; 3a, palpus from the outside.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Hab. Costa Rica (*Sarg*); Panama, Bugaba (*Champion*).

This species can be recognized by the absence of any tooth on the fang of the mandible, by the closer proximity of the two upper teeth of the mandible, and by the absence of dark annulations on the legs. This latter character may not, however, prove constant. The tibia of the palpus is shorter in proportion than in *C. extensus*.

2. *Cobanus mandibularis*. (Tab. XIII. figg. 19, 19a, ♂.)

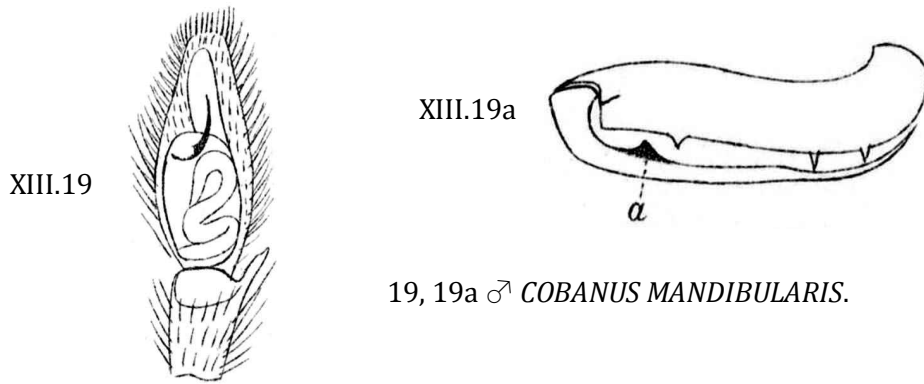


Plate XIII. Fig. 19. *Cobanus mandibularis*, ♂, palpus, left below; 19a, mandible from in front.

Helorus mandibularis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 29, t. 2. figg. 1, 1a—c (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 9 millim.

Hab. Panama¹.

No examples of this occur in our collection. It is a very large species, and may, according to Peckham, be identified by the tooth on the inner side of the fang near its base. Our figures are copied from those given by him.

3. *Cobanus extensus*. (Tab. XIII. figg. 20, 20a—g, ♂; 21, 21a, ♀.)

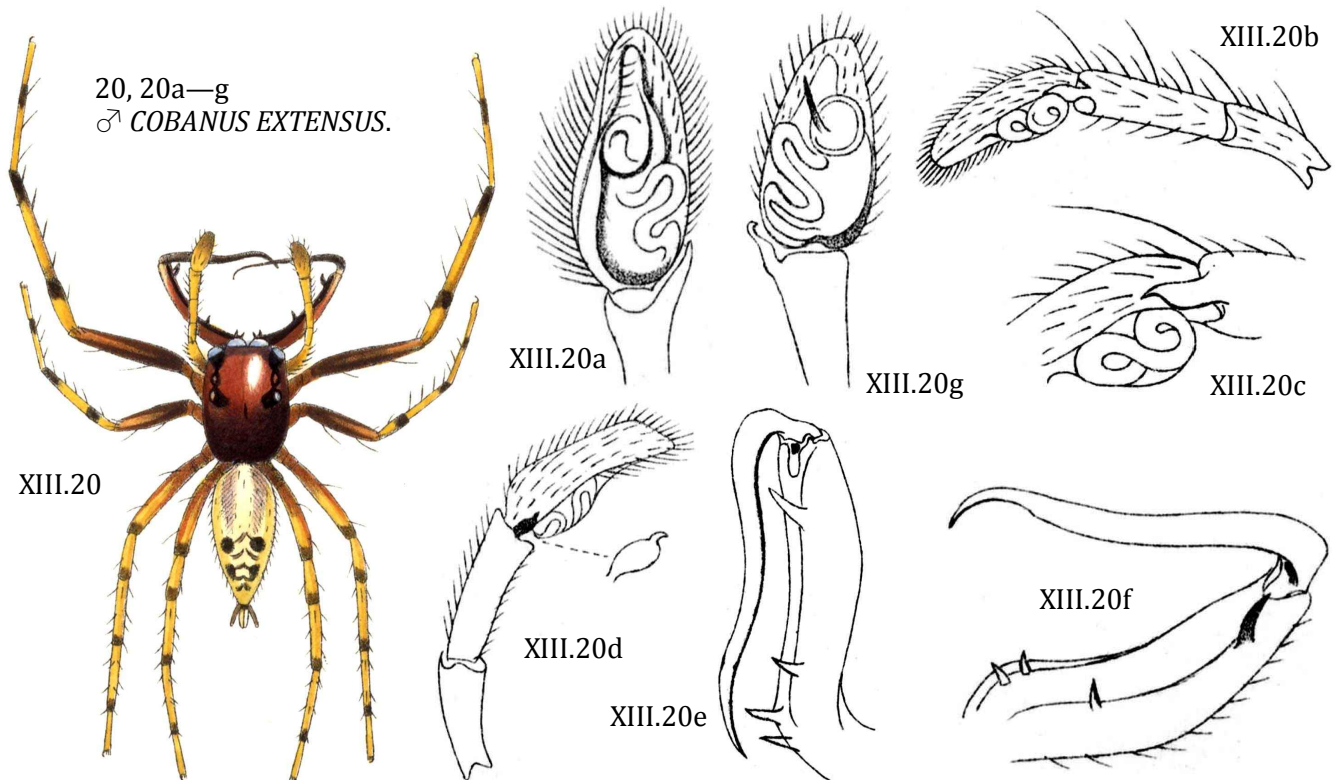


Plate XIII. Fig. 20. *Cobanus extensus*, ♂, full figure (8.5 mm); 20a, palpus, left below; 20b, ditto, outside; 20c, tibial spur, enlarged; 20d, palpus, outside, another view, with tibial spur enlarged; 20e, mandible from below; 20f, ditto, another view; 20g, palpus from below.

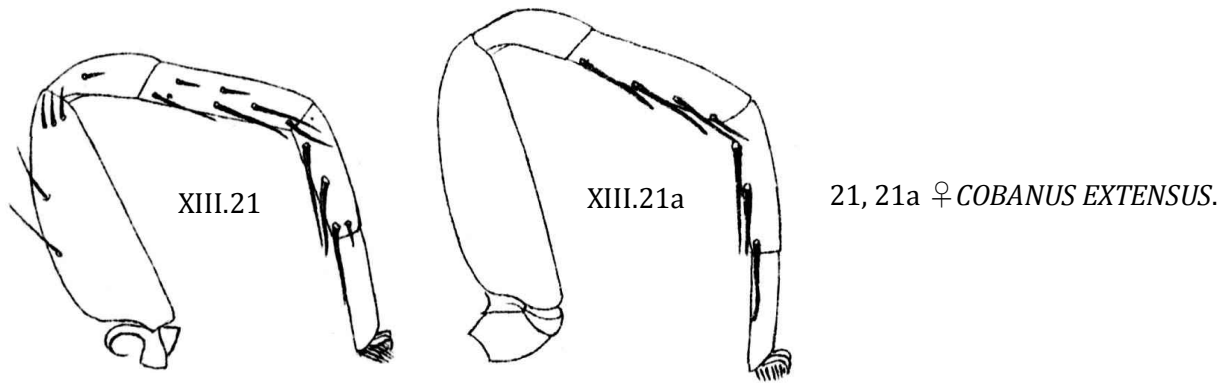


Plate XIII. Fig. 21. *Cobanus extensus*, ♀, leg of first pair, left inside; 21a, ditto, left outside.

Helorus extensus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 30, t. 2. figg. 2, 2a, b (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 6—8.4 millim.

Hab. Panama¹, Bugaba (*Champion*).

I can find no females in our collection which can be assigned to this species: there are none large enough. The male may be recognized by the absence of any inner basal tooth on the fang, and also by the wide separation of the two teeth on the lower margin of the fang-groove. The mandibles vary considerably in length in different examples. In fig. 2 of Peckham's work¹, tibia i. is represented as with three spines only in the apical half: this must be incorrect, and suggests the genus *Dendryphantès* (sec. Peckham).

4. *Cobanus flavens*. (Tab. XIV. figg. 1, 1a—d, ♂; 2, 2a—f, ♀.)

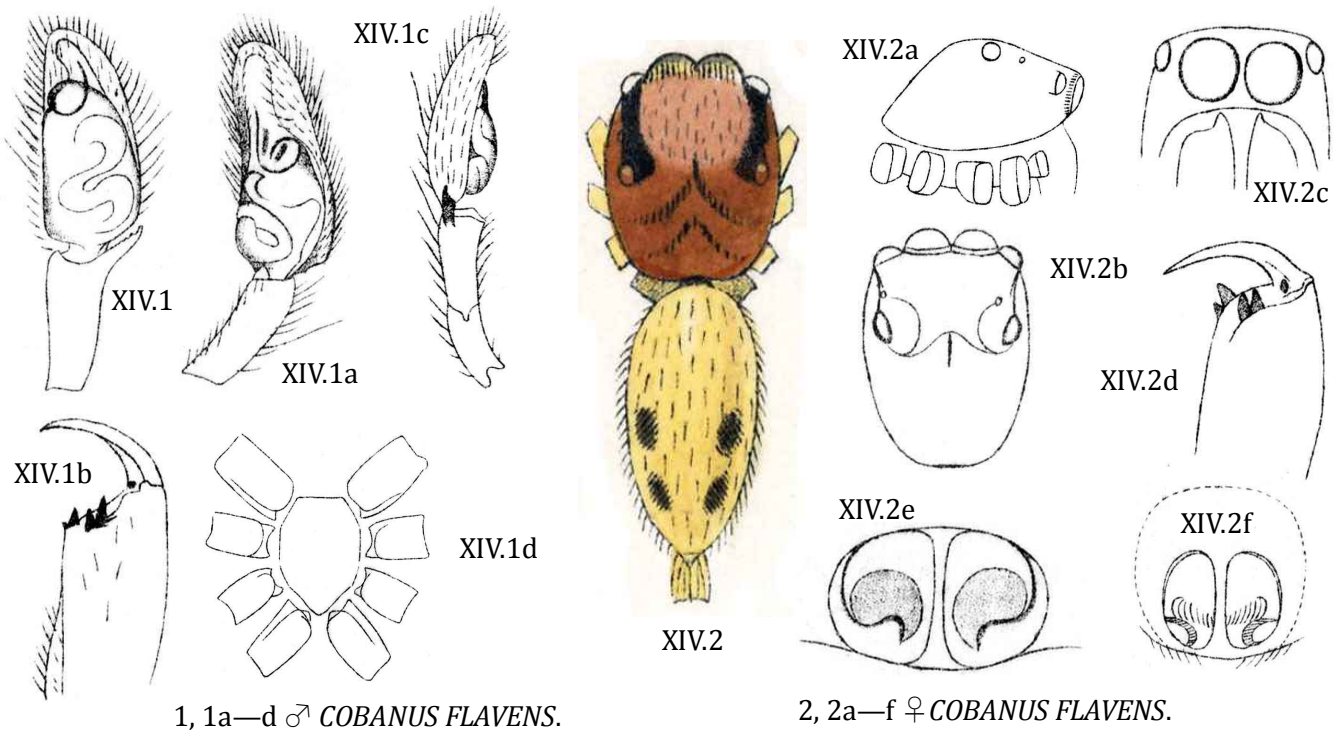


Plate XIV. Fig. 1. *Cobanus flavens*, ♂, palpus from beneath; 1a, ditto, another view; 1b, mandible from beneath; 1c, palpus from the outside; 1d, sternum and coxae of legs. Fig. 2. *Cobanus flavens*, ♀, dorsal aspect, legs and palpi removed (6.3 mm); 2a, carapace and eyes, profile view; 2b, carapace and eyes from above; 2c, eyes and clypeus from in front; 2d, mandible from beneath; 2e, vulva; 2f, ditto, that of a variety.

Helorus flavens, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 31, t. 2. figg. 3, 3a—c (♂) (April 1896)¹.

Type, ♂, in coll. Peckham; deuterotype, ♀, in coll. Godman & Salvin. Total length, ♂ 5.5, ♀ 6.5 millim.

Hab. Panama¹.

The female is here figured and described (see Table) for the first time. The colour is yellow, the abdomen having four black spots in the apical half. It is not possible

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

at a glance to distinguish between this species and *Amycus quadriguttatus*, but the **spinulation** of the first pair of legs will determine the genus at once. The male may be recognized by the fact that the mandibles are normal, as in the female, not elongated.

5. *Cobanus subfuscus*, sp. n. (Tab. XIV. figg. 4, 4a, ♂.)

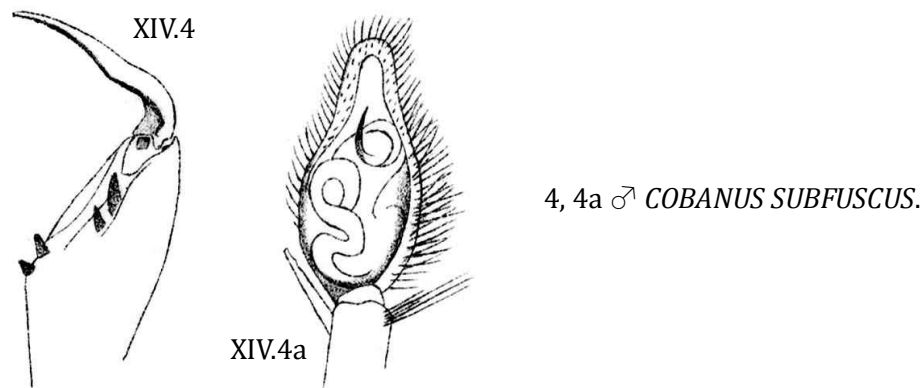


Plate XIV. Fig. 4. *Cobanus subfuscus*, ♂, mandible from below; 4a, palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 6.5 millim.

Hab. Costa Rica (*Sarg.*).

This species may be known by the yellow legs, the first pair darker, and the dark olive-green colour of the dorsal area of the abdomen. The mandibles are normal, but the two pairs of teeth are not opposite each other. If it were not for the coloration and the shape of the tibial spur of the palpus, the form of the mandibles might indicate that *C. subfuscus* was a variety of one of the other species, but, pending the receipt of further material, I prefer to treat it as distinct.

6. *Cobanus perditus*.

Helorus perditus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 283, t. 17. fig. 19 (♂)¹.

Type ♂, gynetype ♀, in coll. Acad. San Francisco.

Hab. Mexico, Tepic¹.

The figure and description are not sufficiently detailed to enable one to judge of either the genus or species to which this spider belongs.

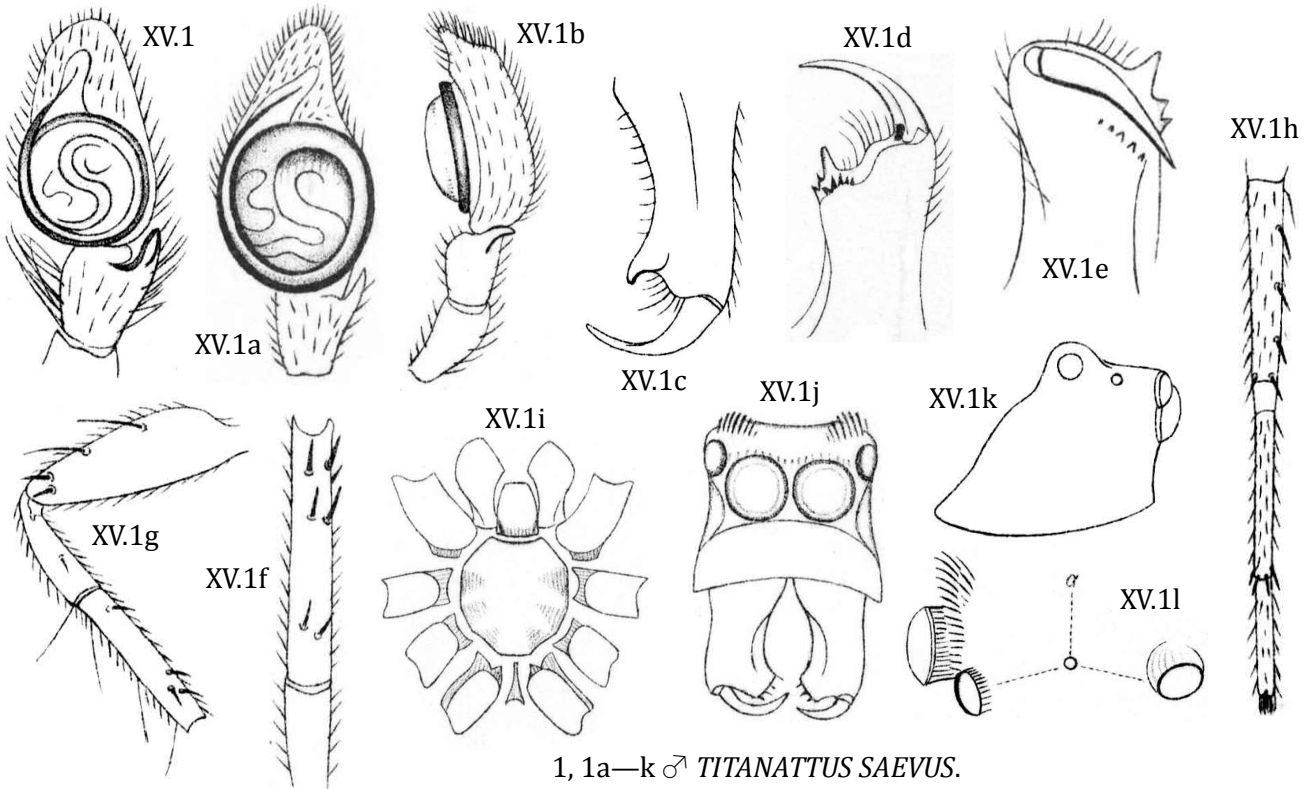
TITANATTUS.

Titanattus, Peckham, Proc. Nat. Hist. Soc. Wisc. 1885, p. 62 (Dec.).

Type *T. saevus*, Peckham. Guatemala.

This genus is very closely allied to *Amycus*, differing only in the greater curvature of the first row of eyes.

1. *Titanattus saevus*. (Tab. XV. figg. 1, 1a—k, ♂.)



1, 1a—k ♂ *TITANATTUS SAEVUS*.

Plate XV. Fig. 1. *Titanattus saevus*, ♂, palpus from beneath (after Peckham); 1a, ditto, another example; 1b, ditto from the outside; 1c, mandible from in front; 1d, ditto from below; 1e, ditto from below, another view; 1f, tibia of leg i. from below; 1g, leg i. from the inner side; 1h, leg iv. from below; 1i, sternum; 1j, eyes, clypeus, and mandibles from in front (after Peckham); 1k, carapace in profile view; 1l, eyes of left side a little from above *. [* The numbers are incorrectly given as 1, 1 a—k in the text.]

Titanattus saevus, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 63, t. 2. figg. 1, 1a—c (♂) (Dec.)¹; Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, pp. 6, 17 (April 1896)².

Type, ♂, in coll. Peckham. Total length 5 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala^{1 2}.

Our figures are partly taken from Peckham's work.

AMYCUS.

Amycus, C. L. Koch, Die Arachn. xiii. p. 182 (1846).

Type *A. spectabilis*, C. L. Koch. Brazil.

These characters are drawn in the main from *A. benignus*, Peckh.:—*Male*. Anterior row of eyes recurved by their posterior margins; centrals twice the diameter of the laterals. Clypeus variable in size, from equal, to almost twice the diameter of, an anterior central eye, concave. Cephalic quadrangle broader

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

than long, slightly wider in front. Small dorsal eyes nearer the anterior laterals. Posterior laterals slightly larger than anterior laterals. Sternum a little longer than broad, rather wider behind. Legs 1, 3, 2, 4 (or 1, 3, 4, 2); coxa i. twice as long as coxa ii., more than one diameter of a coxa apart. Protarsi i. and ii. with 2—2 spines beneath, no small apical lateral spines; tibiae i. and ii. with 2—2—2 spines beneath, one inner lateral spine towards the apex and sometimes extra spines on the inner side. Patellae i. and ii. without spines, iii. and iv. with 1—1 on each side, or sometimes 1 on the inner side only (*A. longipalpis* *). Protarsi iii. with two rings of spines, iv. with an apical ring and two or three spines towards the base. Tibiae iii. and iv. without small dorsal basal spines. Labium slightly longer than broad. Maxillae dilated at the apex, more or less laterally produced. Central and posterior spinners more slender and longer than the anterior. Mandibles not much developed, elongate or divergent, with 5—5 or 6—6 teeth. Fang short, attenuate in the middle, compressed, dilated, scimitar-shaped in the apical half.

Female. Eyes, sternum, and spinners as in the male. Mandibles with 2—6 or 6—5 teeth; fang normal, short. Coxae normal, subequal. Protarsi i. and ii. with 2—2 long spines, no apical ones; iii. and iv. with apical spines and also two or three towards the base. Tibiae i. and ii. with 2—2—2 spines, and sometimes an inner lateral spine. Tibia iv. without small dorsal basal spines. Patellae i. and ii. without spines, iii. and iv. with one spine on the inner side.

<i>Males.</i>		
1	A. Mandibles more or less convex above, without any long, stout, upper inner apical marginal tooth, but with the margin produced, conical, bent outwardly, with its edge sometimes minutely serrate. Maxillae less dilated laterally at their apex. Patella of palpus equal to, or shorter than, the tibia. Clypeus without central white tuft of hairs. (Cephalic area clothed in front with a recumbent fringe of fiery-red or white hairs. Carapace deep brown, almost black on the clypeus, sides, and postero-thoracic region, with a longitudinal white spot on the thoracic stria and a reddish tuft behind the dorsal eyes. Abdomen pale olive-brown, with darker spots, and an anterior narrow transverse white cincture, a central dorsal posterior white line, and two longitudinal white lines on each side of the middle; sides with two or more spots of white hairs. Legs i. and ii., except the basal three-fourths of the femur and often the terminal segments, deep brown; the others yellow, with dusky apical annulations.)	<i>benignus</i> , Peckh.
	B. Mandibles concave above, with a long broad tooth at the inner apical upper angle, and a small sharp spine towards the outer apical angle, where the ridge of the concavity terminates. Patella of palpus longer than the tibia, sometimes nearly as long as the tibia and tarsus together. Maxillae more strongly developed laterally at the apex. (Cephalic area clothed in front with a thick fringe of obliquely erect red hairs tipped with brown, recumbent only in the centre. Ground-colour of carapace unicolorous yellow, with a pure white tuft behind the dorsal eyes. Abdomen pale yellow, usually with four black dots more or less disconnected. Legs dull yellow-brown, often as in <i>A. benignus</i> . Clypeus with or without central white tuft of hairs.)	2
2	i. Tarsus of palpus much shorter than the patella. Patella almost as long as the tibia and tarsus together; tibia one-fourth longer	

* Spelling changed to *longipalpus* with 1905 corrections (x.).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1900.

AMYCUS.

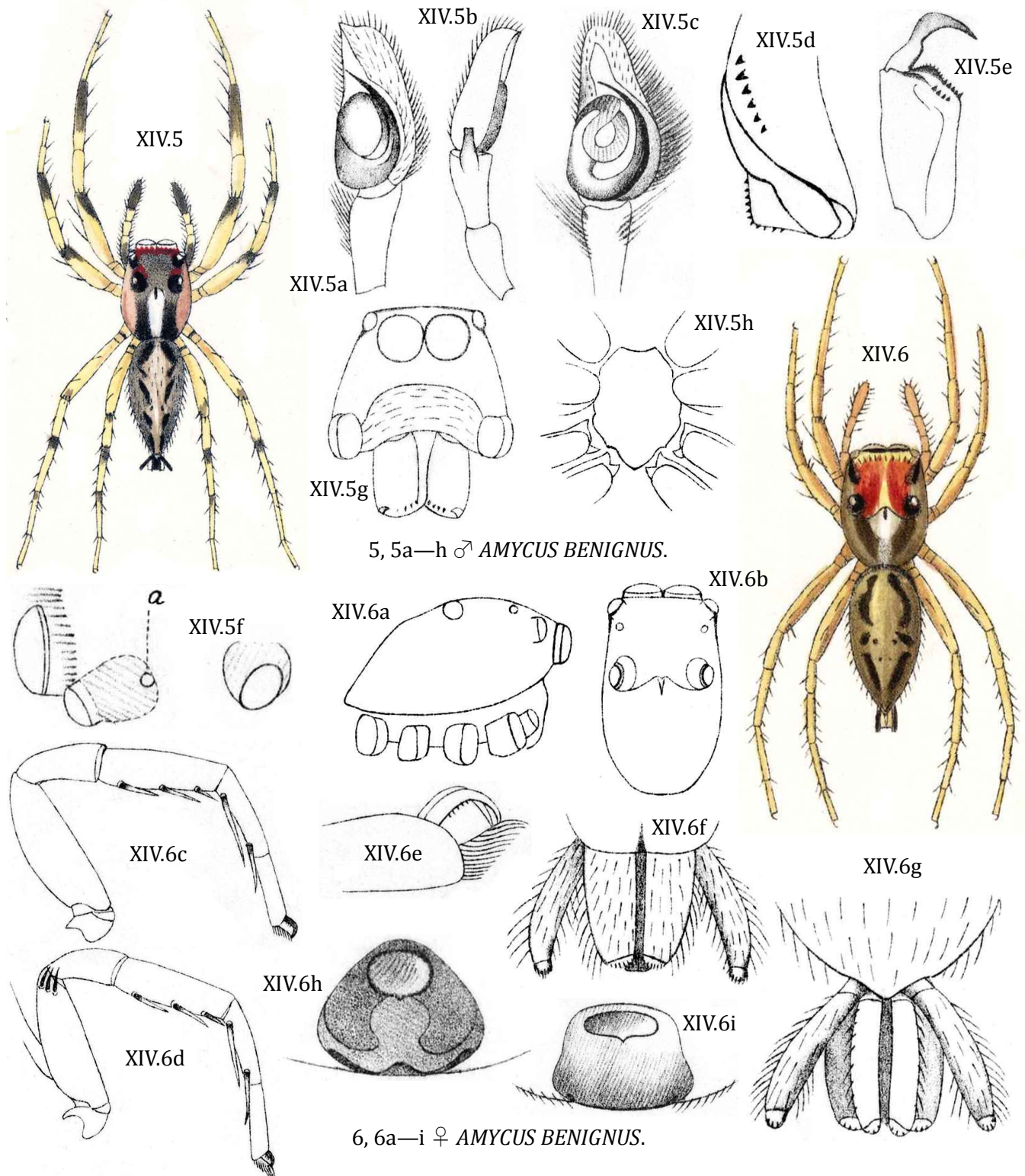
193

2	i.	than the tarsus. No white spot in the centre of the clypeus. Tarsus and bulb smaller, more elongate.	3
	ii.	Tarsus of palpus longer than the patella. Patella shorter than the tarsus; tibia one-half shorter than the tarsus. Tarsus and bulb larger and broader. A triangular white spot at the centre of the clypeus beneath the anterior central eyes. Palpal spine broad, geniculate on its upper outer side, and concavo-tubuliform throughout its length. Tibial spur very similar to that of <i>A. quadriguttatus</i> .	
3	a.	Tibia of palpus slightly longer than the tarsus. Tibial spur parallel-sided, truncato-emarginate at the apex. Mandible with six or seven small teeth on the lower margin.	4
	b.	Tibia of palpus not longer than, but as long as, the tarsus. Tibial spur broad at the base and rounded, attenuate towards the apex and terminating in a blunt point. Mandible with four or five teeth on the lower margin. Palpal spine stout, uniformly curved, not sinuous, not enlarged or recurved at its apex.	
4	aa.	Palpal spine stout, sinuous, its apex slightly enlarged and recurving forwards.	
	bb.	Palpal spine stout, sinuous, its apex aculeate.	

NOTE.—The cephalic area is so liable to become rubbed that one must be very cautious in placing confidence on characters taken from the superciliary hairs and scales.

<i>Females.</i>			
1	A.	Size much larger; abdomen with four dusky spots or a more or less continuous broken band. Vulva consisting of a broad dark red-brown chitinous piece with a large transverse oval concavity near its anterior margin. Mandible with 6—5 teeth.	<i>benignus</i> .
	B.	Size much smaller; abdomen with a pair of dusky shoulder-spots, followed by two pairs of black spots, sometimes connected, and two dusky spots just above the spinners. Vulva consisting of two large pale oval areas near the anterior margin, connected posteriorly by a transverse recurved chitinous rim about midway between the anterior and posterior margins. Mandible with 2—5 teeth.	

1. *Amycus benignus*. (Tab. XIV. figg. 5, 5a—h, ♂; 6, 6 a—i, ♀.)



5, 5a—h ♂ *AMYCUS BENIGNUS*.

6, 6a—i ♀ *AMYCUS BENIGNUS*.

Plate XIV. Fig. 5. *Amycus benignus*, ♂ (5.7 mm): 5a, palpus from the inside; 5b, ditto from the outside; 5c, ditto from below; 5d, mandible from beneath; 5e, ditto with fang opened; 5f, eyes of left side; 5g, eyes and clypeus from in front; 5h, sternum. Fig. 6. *Amycus benignus*, ♀ (5.9 mm): 6a, carapace and eyes, profile view; 6b, carapace and eyes from above; 6c, leg i. from the outside; 6d, ditto from the inside; 6e, tarsus i., showing claws and claw-tufts; 6f, spinners from below; 6g, spinners from above; 6h, vulva; 6i, ditto, that of a variety.

Amycus benignus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 18, t. 1. figg. 2, 2b, d, e (♂), 2a, c (♀) (April 1896)².

Amycus marjorii, Peckh, loc. cit. p. 25, t. 1. figg. 6, 6a—c (♂), 6d (♀)³.

Type ♂, gynetype ♀, of both *A. benignus* and *A. marjorii*, in coll. Peckham. Total length, ♂ 5.2, ♀ 6 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

2 C‡

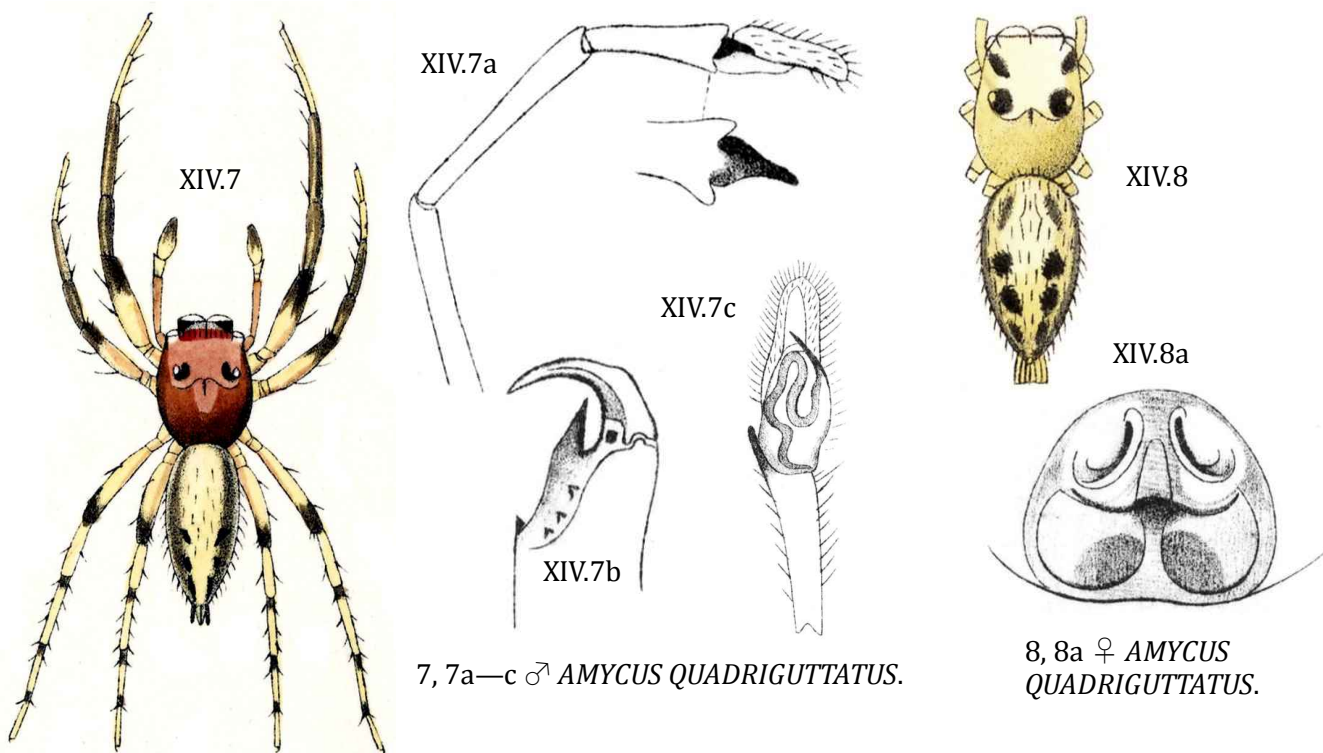
194

ARANEIDEA.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala, Yzabal^{1 3}; Panama², Bugaba (*Champion*).

Having carefully examined numerous males and females from various localities of the two forms described by Peckham under the names *A. benignus* and *A. marjorii*, differentiated by the relative height of the clypeus, I have come to the conclusion that they belong to one and the same species. I cannot discover that the males differ constantly in any respect, either in the form of the tibial spur or in that of the tarsal bulb and spine. The varying height of the clypeus is a phenomenon frequent amongst spiders in the male sex. In the case of the forms under consideration, on the clypeus of those in which it is higher than the central anterior eyes will be observed an obscure transverse line: this marks the line of the normal development of the clypeus. In the specimens named *A. marjorii* the mandibles are not protruded beyond this line. In the case of those named *A. benignus* there are two forms: (1) with the connective membrane recently protruded with the mandibles, and still remaining diaphanous (in which case it is not always easy to determine the height of the clypeus); (2) with the protruded connective membrane chitinized by exposure, forming an extension of the original normal clypeal margin. Neither can I find any difference in the females collected with these two forms which would suggest that there were two distinct species.

2. *Amycus quadriguttatus*, sp. n. (Tab. XIV. figg. 7, 7a—c, ♂; 8, 8a, ♀.)



7, 7a—c ♂ *AMYCUS QUADRIGUTTATUS*.

8, 8a ♀ *AMYCUS QUADRIGUTTATUS*.

Plate XIV. Fig. 7. *Amycus quadriguttatus*, ♂ (5.1 mm): 7a, palpus from the outside, with tibial spur enlarged; 7b, mandible from below; 7c, palpus from beneath. Fig. 8. *Amycus quadriguttatus*, ♀, dorsal aspect, legs and palpi removed (4.5 mm); 8a, vulva.

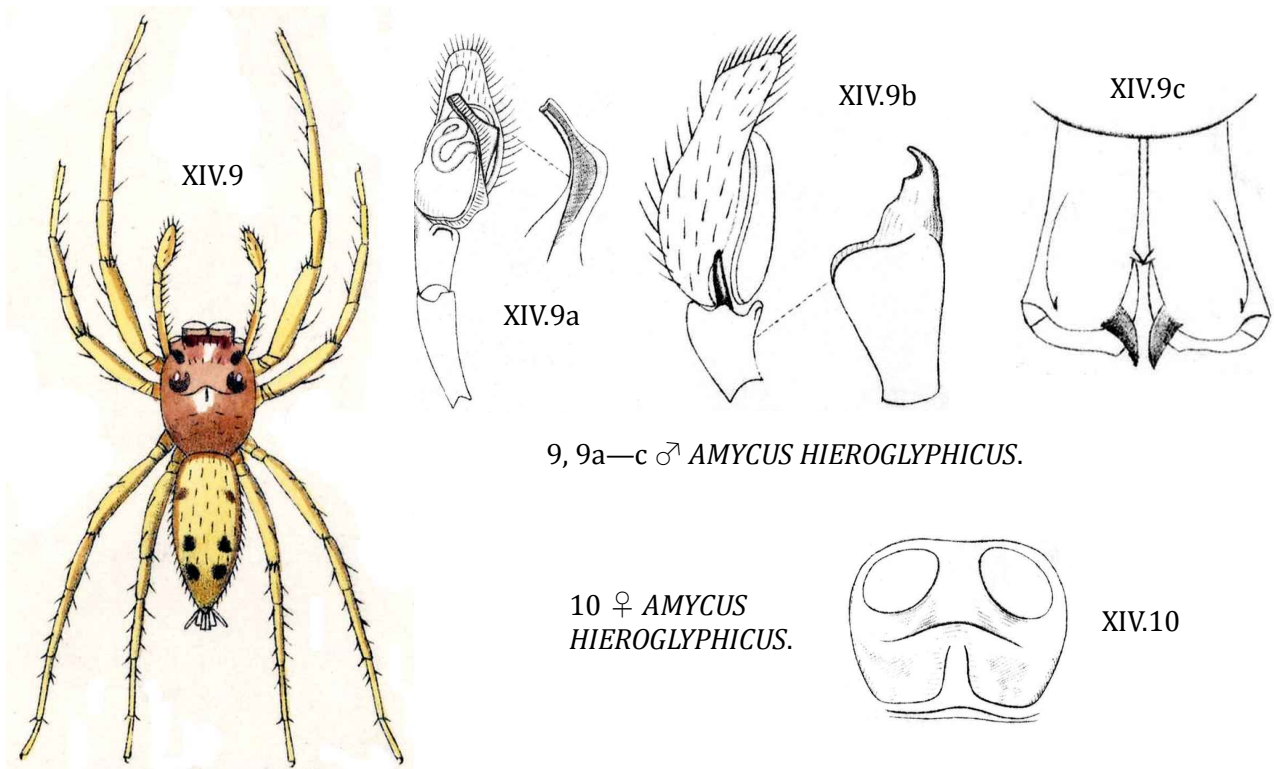
Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 4.5 millim.

For characters, see the Table of the species.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

It appears to me pretty certain that the female I have placed with the male of this species is identical with *A. hieroglyphicus*, Peckh.; but considering that the males of *A. quadriguttatus* are far more abundant in our collection than those of *A. hieroglyphicus* (there being only two of the latter), it is probable that the females belong to the former.

3. *Amycus hieroglyphicus*. (Tab. XIV. figg. 9, 9 a—c, ♂; 10, ♀.)



9, 9a—c ♂ *AMYCUS HIEROGLYPHICUS*.

10 ♀ *AMYCUS HIEROGLYPHICUS*.

XIV.10

Plate XIV. Fig. 9. *Amycus hieroglyphicus*, ♂ (6.0 mm): 9a, palpus from beneath, with spine of bulb enlarged; 9b, palpus from the outside, with tibial spur enlarged; 9c, mandibles from in front. Fig. 10. *Amycus hieroglyphicus*, ♀, vulva (after Emerton).

Amycus hieroglyphicus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 23, t. 1. figg. 4, 4a (♀), 4b, c (♂) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 6, ♀ 5.5 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Panama¹.

A couple of males, which I identify as this species from the drawing of the palpus, were taken in Mexico. Whether there is any difference between this and *A. fallax* it is difficult to gather from the descriptions, and unless the peculiarities represented in the figures are pointed out they lose much of their value.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

4. *Amycus pacatus*. (Tab. XV. figg. 3, 3a, ♂.)

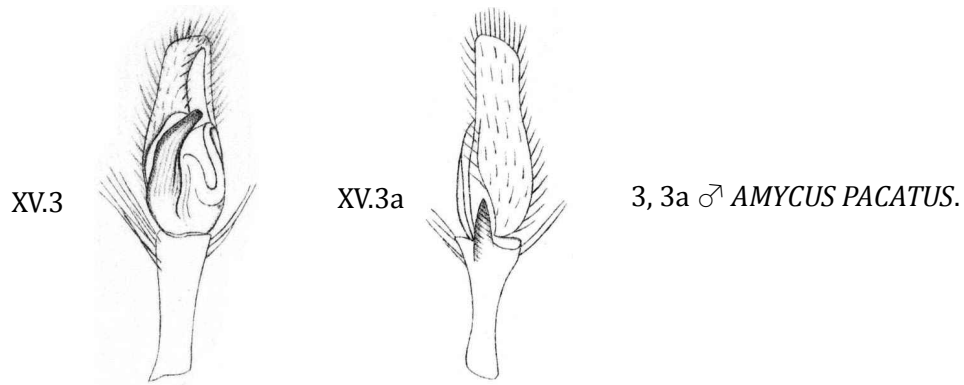


Plate XV. Fig. 3. *Amycus pacatus*, ♂, palpus from beneath; 3a, ditto from the outer side.

Amycus pacatus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 20, t. 1. figg. 5—5 c (♂) (April 1896)¹.

Type ♂, in coll. Peckham. Total length 8 millim.

Hab. Central America¹.

Peckham gives no distinct clue as to how this species is to be distinguished from *A. hieroglyphicus*, except that in *A. pacatus* the "falces are almost as long as the face"; while in *A. hieroglyphicus* the "falces are plainly shorter than the face" (see his Table on page 6). The value of this distinction all depends on the exact meaning one ascribes to *plainly* and *almost*. Considering the variability in the form of the mandibles in the males of the Salticidae, one would have hoped for a more satisfactory distinction. Our figures of this and of the next species are taken from his work¹.

5. *Amycus fallax*. (Tab. XV. figg. 4, ♂, 5, ♀.)

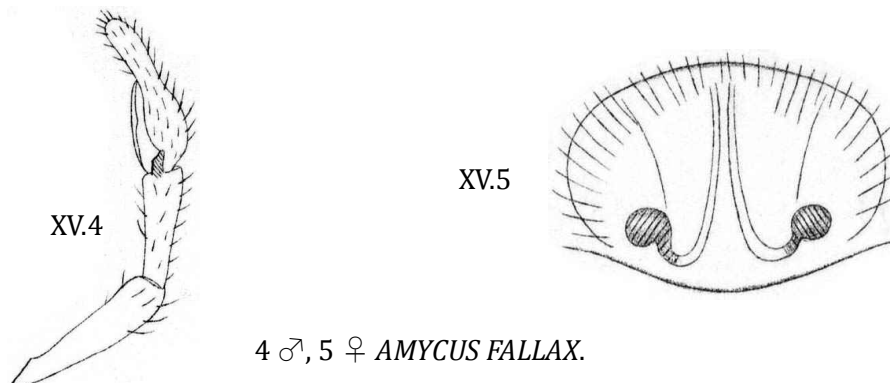


Plate XV. Fig. 4. *Amycus fallax*, ♂, palpus from the outer side (after Emerton). Fig. 5. *Amycus fallax*, ♀, vulva (after Emerton).

Amycus fallax, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 22, t. 1. figg. 3, 3a, b (♂), 3c (♀) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 6, ♀ 5.5 millim.

Hab. Panama¹.

The difference between this species and the two foregoing lies in the absence of red hairs round the eyes.

6. *Amycus longipalpus*.

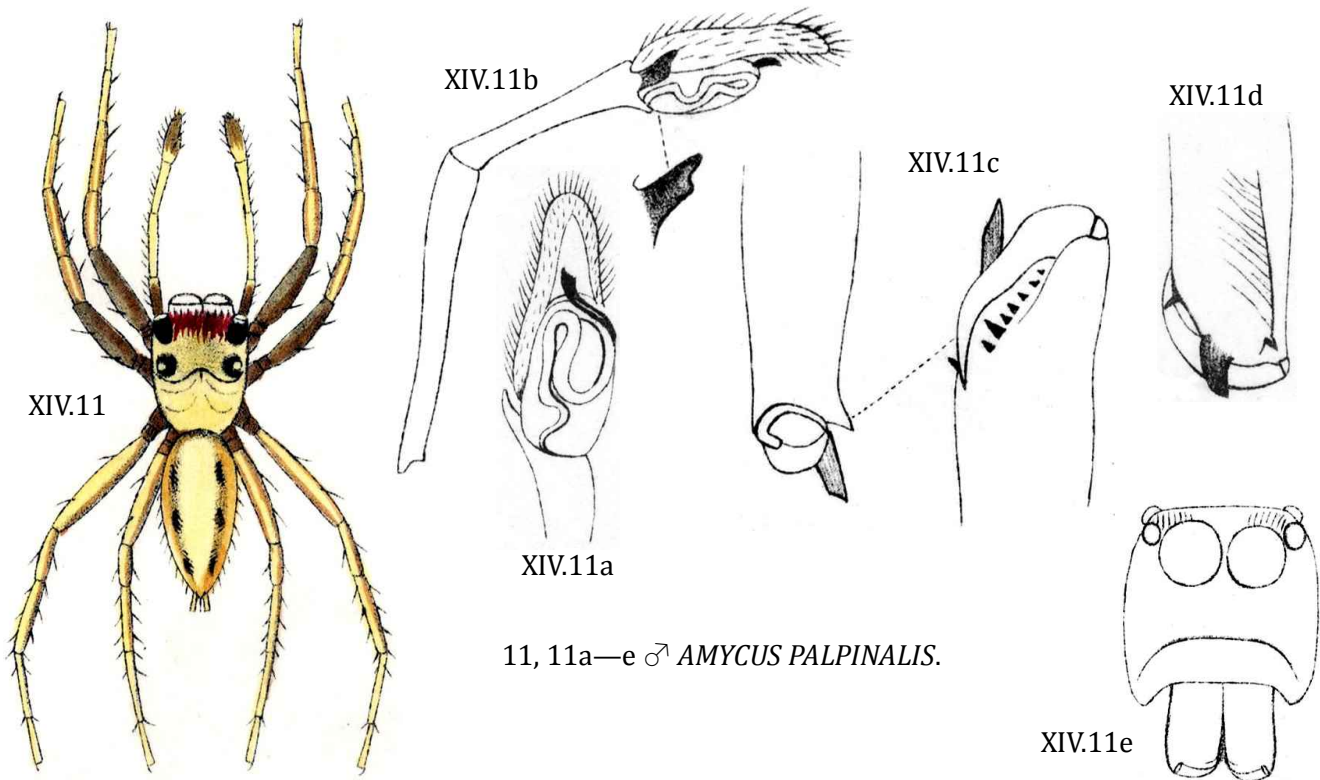
Amycus longipalpus, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 66, t. 2. fig. 3 (♂) (Dec.)¹; Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 19 (♂) (April 1896)².

Type, ♂, in coll. Peckham. Total length 6 millim.

Hab. Guatemala^{1 2}.

Peckham says there are several species closely allied to this one, and the figures of the tarsus and palpal bulb are decidedly different from those of *A. palpinalis*. The apex of the spine is aculeate, instead of enlarged, while the tarsus itself, as drawn, is much shorter. The Table on page 6 of his work² leaves one to infer that the mandible has no apical apophysis, but the text describes such a tooth. It is stated on page 202 that the tibia of the palpus has a strong apophysis at the distal end, on the outer side. There may, however, be several species of which this would be true, e. g. *A. quadriguttatus*. One needs to know the length, breadth, and shape of it, if the character is to be of any practical value.

7. *Amycus palpinalis*, sp. n. (Tab. XIV. figg. 11, 11a—e, ♂.)



11, 11a—e ♂ *AMYCUS PALPINALIS*.

Plate XIV. Fig. 11. *Amycus palpinalis*, ♀ (correction: ♂; 7.6 mm): 11a, palpus from beneath; 11b, palpus from the outside, with tibial spur enlarged; 11c, mandible from the side and from beneath; 11d, ditto from in front; 11e, eyes, clypeus, and mandibles from in front.

Type, ♂, in coll. Godman & Salvin. Total length 7.5 millim.

For characters, see the Table of species.

Hab. Panama, Bugaba (*Champion*).

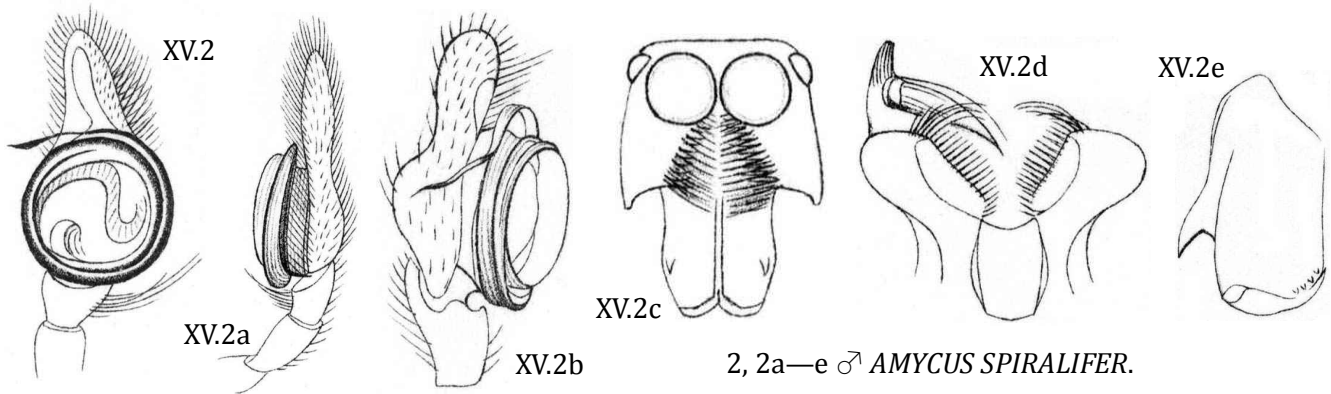
8. *Amycus spiralifer*, sp. n. (Tab. XV. figg. 2, 2a—e, ♂.)

Plate XV. Fig. 2. *Amycus spiralifer*, ♂, palpus from beneath; 2a, ditto from the outer side; 2b, ditto from the inner side; 2c, eyes, clypeus, and mandibles from in front; 2d, mouth-parts and mandible from beneath; 2e, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Hab. Guatemala (*Sarg*).

This species, which was accidentally omitted from the Table (on p. 192), may be recognized at once by the stout spur or cusp on the outer anterior margin of the mandible and by the long spiraloid spine encircling the palpal bulb. The mandibles have a tuft of white hairs at the base in front.

SIDUSA.

Jotus, Peckham, Proc. Nat. Hist. Soc. Wisc. 1885, p. 71 (Dec.) (nec Keyserling).

Sidusa, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 3, p. 175 (Dec. 1895).

Chapoda, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 26 (April 1896).

Escambia, Peckham, tom. cit. p. 41 (April 1896).

Dynamius, Peckham, tom. cit. p. 12 (April 1896).

Type of *Sidusa*, *S. gratiosa*, Peckh., Amazons; of *Chapoda*, *C. festiva*, Peckh., Guatemala; of *Escambia*, *E. conspecta*, Peckh., Guatemala.

I do not know the type-species of *Sidusa*, but *S. recondita* occurs in our collection. I am quite unable to find any definite characters to distinguish the genera here included under *Sidusa*. Peckham originally placed the genus under the Homalatteae, on account of the posterior eyes being on the margin of the carapace and giving it a broader appearance. But if *S. recondita* be a Homalattid, so also is *Chapoda festiva* and *C. sulphurea* for the same reason; neither can one eventually keep out all the Escambiae, since they present every grade in the position of the posterior eyes and in the declivity or otherwise of the posterior portion of the carapace. If *Jotus opimus* of Peckham be really congeneric with Keyserling's type of *Jotus*, from Australia, then this name will have priority over *Sidusa*.

The following characters are common to the various species included:—

4	ii.	Femur, patella, tibia, protarsus, and tarsus of leg i. ornamented with shorter fringes of hair on the <i>sides</i> of the tibia, which is not incrassate. [Femur, patella, and tibia of palpus fringed with long hairs, but no definite tuft; spur long, sinuous, incurved upon the side of the bulb and somewhat clavate at its apex. Apical spine making a bold <i>double</i> spiral circular sweep, the centre very dilated. Carapace orange, cephalic area and margins dark, clothed with silver and golden-grey hairs; clypeus with an erect "mustache" of white hairs. Abdomen dorsally mottled with black streaks, with a black wedge-like spot above the anal tubercle; encircled with a marginal pale band, which is broken in front. Ventral area pale, with indications of longitudinal brown bands towards the spinners. Leg i. very dark brown, with short fringes of black hairs along the sides,	
---	-----	---	--

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

198

ARANEIDEA.

4	ii.	including even the tarsus (very different to those of <i>S. cristata</i>). Legs ii., iii., and iv. yellow, suffused and annulated with brown; tibiae iii. and iv. with a conspicuous narrow dorsal central black band, with also a dorsal basal spine.]	<i>spirorbis</i> , sp. n.
5	B'.	Legs i. and ii., or i., ii., and iii. fringed with hairs.	6
6	i.	Femur, patella, tibia, and protarsus of legs i. and ii. only fringed with hairs. Apical spine of bulb less widely curved from its base.	7
		(not i.)	13
7	aa.	Clypeus clothed with white and grey hairs or scales, or with both hairs and scales.	8
		(not aa.)	12
8	*	Small eyes situated midway between the anterior and posterior laterals. Fringes on legs i. and ii. more conspicuously crested and tipped with white. Tibial spur shorter and stouter. Tibiae i. and ii., especially ii., compressed on the dorsal and inner sides, forming a <i>spinigerous</i> ridge. [Abdomen clothed dorsally with golden-green scales, having a series of transverse dusky-brown chevrons towards the spinners, and an anterior submarginal black band, followed by an irregular white band and some lateral brown spots. Tibiae i. and ii. and the mandibles blue, iridescent. Tibiae iii. and iv. with a small dorsal basal spine.]	<i>conspicua</i> , Peckh.
	**	Small eyes distinctly (in some cases only one-third from) nearer the posterior lateral eyes. Fringes on legs i. and ii. less distinctly crested and not tipped with white.	9
9	AA.	Apical spine of bulb longer and more spiraloid.	10
		(not AA.)	11
10	a.	Tibial spur of palpus very long and slender, filiform, sharp at the apex. Tibiae i. and ii. cylindrical, not compressed on the dorsal and inner sides. Abdomen without any anterior marginal band of yellow hairs, but with a transverse white spot below the middle on each side, and another less conspicuous one on each side nearer the anal tubercle. Tibiae i. and ii. and the mandibles brown; the middle only of protarsi iii. and iv. yellow.	<i>albicincta</i> , sp. n.
	b.	Tibial spur of palpus much shorter, stouter, and bluntly pointed. Tibiae i. and ii., especially ii., compressed dorsally and on the sides. Abdomen with a broad band of yellow hairs on the anterior margin and shoulders; a transverse white or yellow band on each side behind the middle, a few white or yellow central chevrons and a white spot on each side nearer and in front of the anal tubercle. All the legs, palpi, and mandibles more or less blue, iridescent, cephalic area	

SIDUSA.		199
10	b. clothed with azure-blue scales. Protarsi and tarsi iii. and iv. entirely yellow. Tibiae iii. and iv. with a dorsal basal spine.	<i>flavida</i> , sp. n.
11	BB. Apical spine of bulb quite short and only slightly curved. [Tibial spur long and slender. Abdomen with a curved shoulder-spot of white hairs on each side anteriorly; sides of dorsal area black, apical half with a central dorsal white band, with four or five dusky chevrons; sides conspicuously white. Central spinners white, anterior and posterior pairs black. Legs and mandibles not blue or iridescent, but brown. Legs iii. and iv. yellow, suffused with brown. Tibiae i. and ii. cylindrical, not compressed; iii. and iv. with a small dorsal basal spine.]	<i>brevispina</i> , sp. n.
12	bb. Clypeus clothed and anterior central eyes encircled with dull orange scales. [Tibial spur very long and slender, divergent, filiform, sometimes aculeate, but more often furculate at the apex; apical spine and bulb not widely curved at its base, but similar to that of <i>S. conspecta</i> and <i>S. albicincta</i> . Tibia ii. blue, iridescent, but only in some examples. Abdomen clothed with golden-green scales, with a black anterior submarginal band, followed by a narrow white band, with a short white transverse spot on each side behind the middle and a smaller white spot on each side, nearer together, in front of the anal tubercle. Legs unicolorous brown or dull yellow. Tibiae i. and ii. not compressed; iii. and iv. with a small dorsal basal spine.]	<i>lutea</i> , sp. n.
13	ii. Legs i., ii., and iii. with fringing hairs, those of the latter more decidedly crested. Apical spine of bulb much more widely curved from its base and more spiraloid. [Tibial spur very long and slender, often widely divergent, filiform, and aculeate at its apex. Tibia and protarsus iii., sometimes also i. and ii., blue, iridescent, the former compressed dorsally and on the sides. Abdomen variable, with or without a large central anterior dorsal spot of yellow hairs, always with a short transverse white spot or bar just beyond the middle, and another smaller white spot on each side, nearer together, towards the anal tubercle. Carapace with a broad white marginal band on the posterior half, besides other white spots of scales (usually more or less rubbed off) on the cephalic area. Tibiae iii. and iv. with a dorsal basal spine.]	<i>spiralis</i> , sp. n.
14	II. Legs i., ii., and iii. not fringed with hairs.	15
15	aaa. Legs i. and ii. thickly clothed with black hairs. [Tibial spur long and slender, apical spine spiraloid. Carapace with a white	

200		ARANEIDEA.
15	aaa. marginal band. Abdomen with a brown spot on each side just before the middle and a row of brown chevrons towards the spinners. Femora i. and ii. blue, iridescent. Ventral area black, with two narrow longitudinal white lines. Tibiae iii. and iv. with a dorsal basal spine.]	<i>binotata</i> , sp. n.
	bbb. Legs i. and ii. not thickly, but only sparsely and normally, clothed with hairs.	16
16	A ^b . Maxillae normally developed, not unusually dilated at the apex or deeply emarginate on the outer side. Sternum scarcely longer than broad,	17
	(not A ^b .)	21

17	i.	Abdomen yellow-brown or olive-green, with a broad pale dorsal central band somewhat dilate behind the middle.	18
	ii.	Abdomen brown or black, with a sulphur-yellow shoulder-spot, a short transverse band on each side just behind the middle, and a pair of smaller spots, nearer together, toward the anal tubercle. [Tibial spur of palpus a little longer than the segment, sparsely truncate at the apex (possibly accidental). Bulb not developed at the base, with a fine curved spine at the apex, forming a small but complete circle, its point slightly recurved. (Femur of palpus without any definite tuft of white hairs at the apex above.)]	<i>sulphurea</i> , sp. n.
		(not i. or ii.)	20
18	a.	Patella of palpus dilated before the middle of the outer margin. Femur of palpus with a stout conical spur beneath, at the apex. Palpal spine longer and more slender. [Femur of palpus with a tuft of white hair at the apex above.]	<i>festiva</i> , Peckh.
	b.	Patella of palpus not dilate on the outer margin. [Femur of palpus much longer (<i>S. inermis</i>) or shorter (as in <i>S. festiva</i> and <i>S. recondita</i>), but without any conical spur beneath at the apex. Palpal spine shorter and stouter.]	19
19	a'.	Femur of palpus longer. Cephalic area with two erect tufts of hair just before the middle. [Femur of palpus with a tuft of white hairs at the apex above.]	<i>inermis</i> , sp. n.
	b'.	Femur of palpus shorter. Cephalic area without the two erect tufts of hair just before the middle. [Femur of palpus with a tuft of white hairs above at the apex.]	<i>recondita</i> , Peckh.
20	iii.	Abdomen yellow, with a narrow black central dorsal band extending from the anterior margin to the spinners, where it gradually attenuates to a point. [Tibia of palpus with a blunt protuberance beneath at the base; apical spur slender, straight, blunt, minutely serrulate beneath, directed obliquely forward; the tibia itself, viewed from the outer side, being as long as broad. Bulb very large, developed and attenuate basally. Apical spine stout, short, circularly curved; viewed	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

SIDUSA.

201

20	iii.	from the inner side it appears bifid, owing to the base being very protuberant.]	<i>nigropieta</i> , sp. n.
21	B ^b .	Maxillae highly developed, dilated, the outer margin so deeply emarginate as to leave the outer apical angle strongly recurved and a stout conical tooth about the middle. Sternum twice longer than broad. [Patella of palpus dilate <i>behind the middle of the inner margin</i> ; tibia with a conspicuous concavo-conical spur beneath; femur without any spur beneath. Bulb small (as in <i>S. festiva</i>), attenuate, and curved basally, apical spine short, stout, spirally curved. Femur of palpus without a tuft of white hairs at the apex above.]	<i>maxillosa</i> , sp. n.
22	B.	Mandibles more or less excavated on the inner margin in front. Legs 1, 4, 2, 3.	23
23	i.	Excavation of mandibles simple, without any cusp-like tooth in the middle.	24
		(not i.)	28
24	a.	Bulb of palpus much more elongate, either abruptly notched or broadly excavated on the inner basal margin.	25
		(not a.)	26

25	a'. Bulb of palpus abruptly notched on the inner basal margin; apical spine shorter, quite slender. Tibia with a single slender spur. Legs unicolorous brown. [Carapace and legs clothed with azure-blue scales. Clypeus not clothed with white hairs. Abdomen with black shoulders, followed by a patch of yellow hairs, and, in the apical half, five or six dusky brown chevrons. Excavation of mandibles gradual, not confined to the middle of the inner margin.]	<i>excavata</i> , sp. n.
	b'. Bulb of palpus not abruptly notched, but broadly and deeply excavated on the inner basal margin; apical spine broad, flat, circular, slightly dilated at the apex. Tibia with two spurs, having a small cusp between; the upper spur more slender, but short, curved, and sharp, the lower stouter, straight, but also short. Legs i. brown, ii., iii., and iv. yellow with black annulations. [Clypeus with a fringe of white hairs; carapace brown, with a broad band of white hairs round the cephalic area behind the posterior eyes. Abdomen brown, with an anterior marginal pale band, a transverse continuous post-median cincture uniting with another above the spinners, to isolate a large transverse oval brown patch, with two pale chevrons on its disc; ventral area with a broad sooty-black central band extending from the genital rima almost to the spinners.]	<i>nigriventer</i> , sp. n.
26	b. Bulb of palpus less elongate, not notched, abruptly constricted or excavated on the inner basal margin. [Legs ii., iii., and iv. yellow, annulated with black or brown. Carapace and legs without azure-blue scales. Clypeus and base of mandibles clothed with	

26	b. white hairs. Abdomen without black or yellow shoulder-spots, but with a more or less connected central dorsal black band. Excavation of mandibles abrupt, confined to the centre of the inner margin in front.]	27
27	1. Leg i. longer in proportion. Apical spine of palpal bulb much less widely spiraloid.	<i>penicillata</i> , sp. n.
	2. Leg i. shorter in proportion. Apical spine of palpal bulb longer and more widely spiraloid.	<i>minuta</i> , sp. n.
28	ii. Inner excavate margin of the mandibles in front with a stout cusplike tooth about the middle. Apical spine of palpal bulb stout, widely curved, having a cusp on its outer margin.	<i>dentichelis</i> , sp. n.
<i>Females.</i>		
1	A. Protarsus i. without lateral spines either on the inner or outer side, in addition to the two pairs beneath.	2
	(not A.)	7
2	i. Tibiae iii. and iv. with a small dorsal basal spine on each. Tibia i. with one or more lateral spines on the inner side alone, or on both sides.	3
	(not i.)	5
3	a. Tibia i. with one or more lateral spines on each side. [Vulva with a pair of closely approximate brown discs a quarter of their diameter apart, one-half their diameter from the genital rima, each connected with an orifice by a curved duct, the concavity of the curve being directed inward; behind these lie a pair of elongate, convergent, indistinctly visible sacs.]	<i>olivacea</i> , sp. n.
	b. Tibia i. with one or more lateral spines on the inner side only.	4

4	1.	Abdomen unicolorous yellow, with a central dorsal band of indistinct chevrons. Cephalic area, as far as the central stria, black; or, abdomen with a broad dorsal dark pattern, ending in a very dark V-shaped mark just above the spinners, lateral area pale, lower lateral area streaked with black. Legs in both varieties unicolorous yellow. Vulva variable, forming an obtuse triangle, with a pair of conspicuous black spots situated anteriorly, each connected with ducts which curve slightly backward then inward, where they coalesce on the central line and, diverging again on the posterior margin, are lost; on each side of this central line lie a pair of more or less distinct convolutions of the oviducts.	<i>nigrina</i> , sp. n.
	2.	Abdomen dark brown, with a white V-shaped band immediately above the spinners; lateral area brown. Legs very decidedly annulated with black. Carapace brown and clothed to the central stria with white hairs. Vulval area very large, forming a broad transverse oval, divided into two oval areas by a central chitinous septum. For further details, see Plate.	<i>albida</i> , sp. n.
	3.	Carapace dull brown; abdomen ochreous-yellow, speckled with black and with a \wedge -shaped central dusky mark. Vulval	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

SIDUSA.

203

4	3.	area obtuse triangular, consisting of a pair of oval areas, their outer margins slightly sinuous, divided in the central line by a narrow septum, with a pair of large indistinct adjacent discs near the posterior margin. For further details, see Plate.	<i>pallida</i> , sp. n.
	4.	Carapace brown, cephalic area darker. Legs yellow, only very indistinctly annulate. Abdomen pale ochreous-yellow, more or less distinctly mottled with brown and black spots, the most conspicuous being a small anterior central dorsal horseshoe mark, a \wedge -shaped mark at the middle, and a small, distinct, black, wedge-shaped mark just above the spinners. Vulval area* broad transverse-oval, but variable in form, consisting of a pair of oval or circular-oval discs, divided by a narrow septum. For further details, see Plate.	<i>vittata</i> , sp. n.
5	ii.	Tibiae iii. and iv. without any dorsal basal spine. Tibia i. without any lateral spines on either side.	6
6	1.	Carapace brown; abdomen pale, with speckles and markings very much as in <i>S. vittata</i> ; legs very distinctly annulated with black. Vulval area broad transverse-oval, the posterior margin sinuous, divided, though not very definitely, into a pair of oval areas, each with a pair of dark adjacent circular discs situated close to the genital rima, their inner margins forming a curving duct leading to black spots on the anterior portion of each area.	<i>penicillata</i> .
	2.	Carapace brown, with rose-pink iridescence, posterior lateral margin with a broad blotch of yellow scales. Abdomen brown, with a pair of yellow shoulder-spots, a pair of curved transverse yellow bars behind the middle, followed by two or three small central spots, a larger yellow spot just above the spinners and one on each side of it. Legs unicolorous yellow-brown, i. and ii. darker. Vulval area elongate-oval, with a pair of sometimes adjacent, sometimes slightly separate, dark circular discs situated on the genital rima, in front of each being a spiraloid duct of about the same diameter as the discs, connected with a central black spot.	<i>sulphurea</i> .
7	B.	Protarsus i. with lateral spines on both sides, in addition to the two pairs beneath.	8

8	i.	Tibiae iii. and iv. with a small dorsal basal spine on each.	9
		(not i.)	22
9	a.	Tibia i. with one or more lateral spines on the inner side only.	10
		(not a.)	14
10	aa.	Carapace without any broad lateral posterior marginal band of white or yellow scales.	11
		(not aa.)	12
11	1.	Abdomen golden-buff, with a broad black anterior marginal band, followed by a sinuous white line on each side not united in the middle; a pair of black posterior dorsal spots,	

* It is possible that the varieties of *S. nigrina* and *S. vittata* figured may really belong to a distinct species, but I hesitate to separate them on so few examples.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

2 D‡ 2

204

ARANEIDEA.

11	1.	with a circular white bar on each side, together forming a transverse "parenthesis," each being often broken up into two separate spots. Legs yellow, annulated with brown or black. Vulva very distinct in form, consisting of a pair of larger adjacent central circular dark discs, well removed, nearly two diameters, from the genital rima, and a smaller oval dark spot on each side, its position not always constant, connected with the others by a duct sweeping backward in a circular lobe, with also another shorter circular connecting duct beneath	<i>voluta</i> , sp. n.
	2.	Abdomen with a broad anterior marginal band of sulphur-yellow scales, followed by a transverse white bar on each side; just behind the middle are two very small central dots, and two small, but more conspicuous, white spots, widely separate, above the spinners. Vulva consisting of a pair of circular adjacent dark discs, one-fourth their diameter distant from the genital rima, with a very widely curved spiro-circular duct, connected with a central dark spot.	<i>flavida</i> .
	3.	Abdomen rich black-brown, with an anterior dorsal curving hieroglyphic white band on each side, not connected on the front middle line, followed to the spinners by a broad central pale band, relieved by a series of five or six brown chevrons; lateral area streaked with black anteriorly, but white in the posterior half. Vulval area broad, transverse-oval, with a large, dark, reniform disc on each side of the anterior lateral margin, and a pair of obliquely transverse-oval dark discs, posteriorly, about one transverse diameter from the genital rima, with a pair of dark black spots in the central portion between the reniform discs.	<i>brevispina</i> .
12	bb.	Carapace with a broader or narrower posterior-lateral marginal band of white or yellow hairs and scales.	13
13	1.	Abdomen brown and white mottled, with a central pale band, resolved into five or six pale chevrons, to the spinners, and four white spots, set in brown patches, the first pair smaller, the second larger and transverse. Legs orange-yellow, with dusky annulations. Vulval area transverse-oval, emarginate before and behind, divided into a pair of large circular-oval adjacent discs, whose outer margin curves inward, forming a duct, becoming enlarged towards the centre and terminating in a large black spot.	<i>quadriguttata</i> , sp. n.

13	2. Abdomen brown, with a pair of slender parallel anterior marginal white lines, followed by a central spot of orange hairs, and a pale central band, more or less broken up into chevrons, to the spinners. In the posterior half are two	
-----------	--	--

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

SIDUSA.

205

13	2. longitudinal lateral black spots, with a pair of white marks forming a "parenthesis," often broken in the middle to form four white bars (as in <i>S. quadriguttata</i>). Legs yellow-brown, first pair darker. Vulval area broad, transverse-oval, situated on the genital rima, divided into a pair of large circular adjacent areas (or discs), each with a spiro-circular duct terminating in a central spot.	<i>fulvoguttata</i> , sp. n.
	3. Abdomen brown, with an anterior marginal black band, followed by a narrow white band not interrupted in the middle, continued obliquely at least two-thirds along the lateral margin. Dorsal area with the usual circular white "parenthesis-like" mark on each side. Legs yellow, apical half of femora and extreme apex of each segment annulated with brown. Vulval area forming a triangular pentagon, longer than broad, apex obtuse, with a pair of small adjacent circular discs half a diameter from the genital rima, bounded by a duct which terminates in a dark spot on the posterior lateral margin of each.	<i>murcida</i> , sp. n.
	4. Abdomen brown, with two slender transverse white lines across the anterior dorsal area, followed by a straight transverse narrow white band just behind the middle and a short oblique white band just above the spinners on each side. Legs brown, mottled with white hairs; tarsi paler. Vulva consisting of a transverse-oval area, about its own diameter from the genital rima, with a pair of spiro-circular ducts curving inwards and terminating behind in a pair of piriform circular adjacent dark discs, their posterior margins almost in contact with the genital rima.	<i>circumcincta</i> , sp. n.
14	b. Tibia i. with one or more lateral spines on both sides.	15
15	aa. Vulva not presenting two pairs of adjacent (a larger posterior and a smaller anterior pair) dark discs close to the genital rima, but a pair of large circular or oval areas either on or remote from the rima, either adjacent or divided by a septum.	16
	(not aa.)	19
16	a'. Abdomen with an anterior marginal continuous band of white hairs.	17
	(not a'.)	18
17	1. Abdomen brown, with a black anterior marginal band followed by a thin encircling white line, extending obliquely a little down the sides; a pair of oblique white spots lie above the spinners, connected with a narrow white transverse cincture just behind the middle. Legs yellow, more or less suffused with brown. Carapace with a posterior lateral marginal band of white hairs. Vulva consisting of a pair of large oval-circular areas, in contact on their inner margins, touching the genital rima,	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

17	1.	with a pair of elongate piriform dark posterior discs, each connected with a dark angularly curved duct, appearing in the centre of each area, and a pair of larger somewhat circular dark discs just beneath the anterior margins of each area.	<i>albicincta</i> .
	2.	Abdomen with a broad black anterior marginal band, followed by a broad pale encircling band, extending obliquely down the sides; with a broad pale central dorsal band, angular in the middle, resolved into chevrons above the spinners; with a conspicuous white and black twin-spot on each side just beyond the middle; lower lateral area with a longitudinal white speckled band. Vulva consisting of a transverse-oval area, its own diameter from the rima, divided into a pair of spiro-circular areas, the spiral duct terminating in a central black spot; between these and the rima lies, more or less distinctly, another spiral duct, in some examples connected with a small dark circular disc.	<i>conspicua</i> , Peckh.
18	b'.	Abdomen very distinctly marked with a large pale orange oblique shoulder-spot, followed by a central pale band, resolved into a series of pale chevrons, to the spinners, with a pair of white spots nearer together about midway and four white spots further apart in the apical half; lateral area brown. Vulva consisting of a pair of large oval adjacent areas, a quarter of their diameter remote from the genital rima, each with a short spiro-circular duct connected with a central dark spot.	<i>alacris</i> , Peckh.
19	bb.	Vulva presenting two pairs of adjacent dark discs close to the genital rima, a larger posterior and a smaller anterior pair.	20
20	1.	Sternum almost twice longer than broad. [Carapace brown, margined with white, including the clypeus. Abdomen olive-brown, with an anterior marginal black line and five or six pale chevrons towards the spinners; ventral area pale, with a broad central sooty-black band. Vulval area broad, oval-circular, transverse, divided anteriorly into a pair of ellipsoidal cavities, separated by a narrow septum, with a pair of larger oval transverse dark discs situated on the genital rima, and a pair of smaller oval brown discs longitudinally situated on each side of the central septum.]	<i>maxillosa</i> .
	2.	Sternum scarcely longer than broad, almost circular.	21
21	a ¹ .	Cephalic area clothed with rose-pink scales, a short central and a broad posterior-lateral marginal band of white hairs. Abdomen dark olive-brown, with a broad central-dorsal pale band, widening, dilated behind and narrowing	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

21	a ¹ .	to the spinners; down its centre runs a narrow dusky band, resolved into chevrons, to the spinners. Vulva consisting of an anterior transverse-oval area, half its diameter distant from the genital rima, with a pair of larger oval adjacent dark discs transversely situated on the rima, with another pair of small adjacent dark discs longitudinally situated and slightly overlapping the larger pair; at this point is a pair of dark spots connected with a circularly curving duct which bounds the anterior transverse-oval area.	<i>recondita</i> , Peckh.
----	------------------	--	---------------------------

21	a ² .	Cephalic area very distinctly yellow, margined round the eyes with black; carapace with a broad patch of white scales on the posterior-lateral margin. Abdomen very similar in pattern to that of <i>S. recondita</i> . Vulva also very similar; forming a transverse-oval area divided by a narrow septum into a pair of circular-oval areas, half a diameter distant from the rima, with a pair of large dark adjacent oval discs transversely situate, and a small pair of adjacent oval spots obliquely situate in front of the former and slightly overlapping them; these are, however, much smaller than in <i>S. recondita</i> , but are similarly connected by a black spot with a circularly curving duct	<i>festiva</i> , Peckh.
22	ii.	Tibiae iii. and iv. without any small dorsal basal spine.	23
23	1.	Carapace yellow, cephalic area and eyes margined with black. Legs and palpi pale yellow, with dusky apical and basal annulation on each segment. Abdomen very pale olive-green, with a pale central dorsal scalloped band, broadly dilated behind, above the spinners. Vulva consisting of a broad transverse-oval area, with a pair of large circular adjacent transverse-oval dark discs, each connected by a broad duct with a dark spot near the anterior margin of the area; beneath each spot lies an indistinct pale disc.	<i>marmorea</i> , sp. n.
	2.	Carapace brown, cephalic area black, with a broad pale band behind the posterior eyes and continued to the anterior margin on each side. Legs unicolorous yellow. Abdomen rich brown or black, mottled, with a broad pale band encircling the anterior margin and continued obliquely down the sides; posteriorly is a large transverse-oval black spot with a pair of pale spots in its centre, cut out by a pale band which broadens to the spinners, bearing one or more central black spots. Vulva consisting of a pair of white auriculoid areas confluent on the central line, with a pair of dark oval adjacent discs behind, not quite one diameter distant from the rima, connected by a slender duct with a dark spot, each spot also connected with the duct which encircles the area.	<i>nigriventer</i> .

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

208

ARANEIDEA.

General Characters.

The males and females may also be recognized by the following characters:—

1	A.	Dorsal area of abdomen pale, with either a broad or narrow, dark, broken or unbroken central band.	2
	B.	Dorsal area of abdomen pale, either mottled with olive-green spots or with a paler, broad, central band, dilated behind, with or without a pair of lateral spots about the middle.	<i>festiva</i> , <i>inermis</i> , <i>recondita</i> , <i>maxillosa</i> , <i>marmorea</i> , <i>olivacea</i> , <i>pallida</i> .
	C.	Abdomen black, with either an anterior broken or unbroken white or yellow band, or a pair of white or yellow shoulder-spots, of variable form; followed by a continuous or broken post-median transverse bar, and another bar nearer the anal tubercle; both these are sometimes continuous as a girdle, or broken to form an anterior pair of elongate transverse spots and another posterior pair of smaller spots, nearer together, in front of the anal tubercle.	3
2	a ¹ .	Central band narrow, black, continuous, extending from the anterior margin to the anal tubercle, becoming gradually attenuated.	<i>denticelis</i> , <i>minuta</i> , <i>nigropicta</i> .

2	b ¹ . Central band broader, more or less diffused over the whole dorsal area, though with a darker central bar; usually with a pale continuous marginal band, but often having only a pale V-shaped spot in front of the anal tubercle.	<i>penicillata, vittata, cristata, albida, spirorbis, nigrina.</i>
3	c ¹ . Posterior band continuous to form a uniform pale unbroken girdle (in <i>S. murcida</i> probably sometimes broken).	<i>nigriventer, murcida.</i>
	c ² . Posterior band more or less broken in front or behind, or on each side.	4
4	d ¹ . Anterior portion of abdomen with a pair of parallel transverse narrow white lines.	<i>fulvoguttata.</i>
	d ² . Anterior portion of abdomen with a single continuous or broken pale band, or a pair of shoulder-spots.	5
5	e ¹ . Anterior band continuous. [Posterior lateral bands broken up into four small spots, the anterior pair larger.]	<i>albicincta, lutea, spiralis.</i>
	e ² . Anterior band broken in front. [Anterior lateral bands broken up into four spots, the anterior pair larger, transverse.]	<i>voluta, sulphurea, flavida.</i>

S. quadriguttata, conspecta, circumcincta, alacris, and brevispina stand rather apart from the above, while in *S. excavata* and *binotata* the abdominal pattern has been slightly obliterated.

1. *Sidusa festiva*. (Tab. XVI. figg. 1, 1a—e, ♂; 2, 2a—g (f), ♀.)

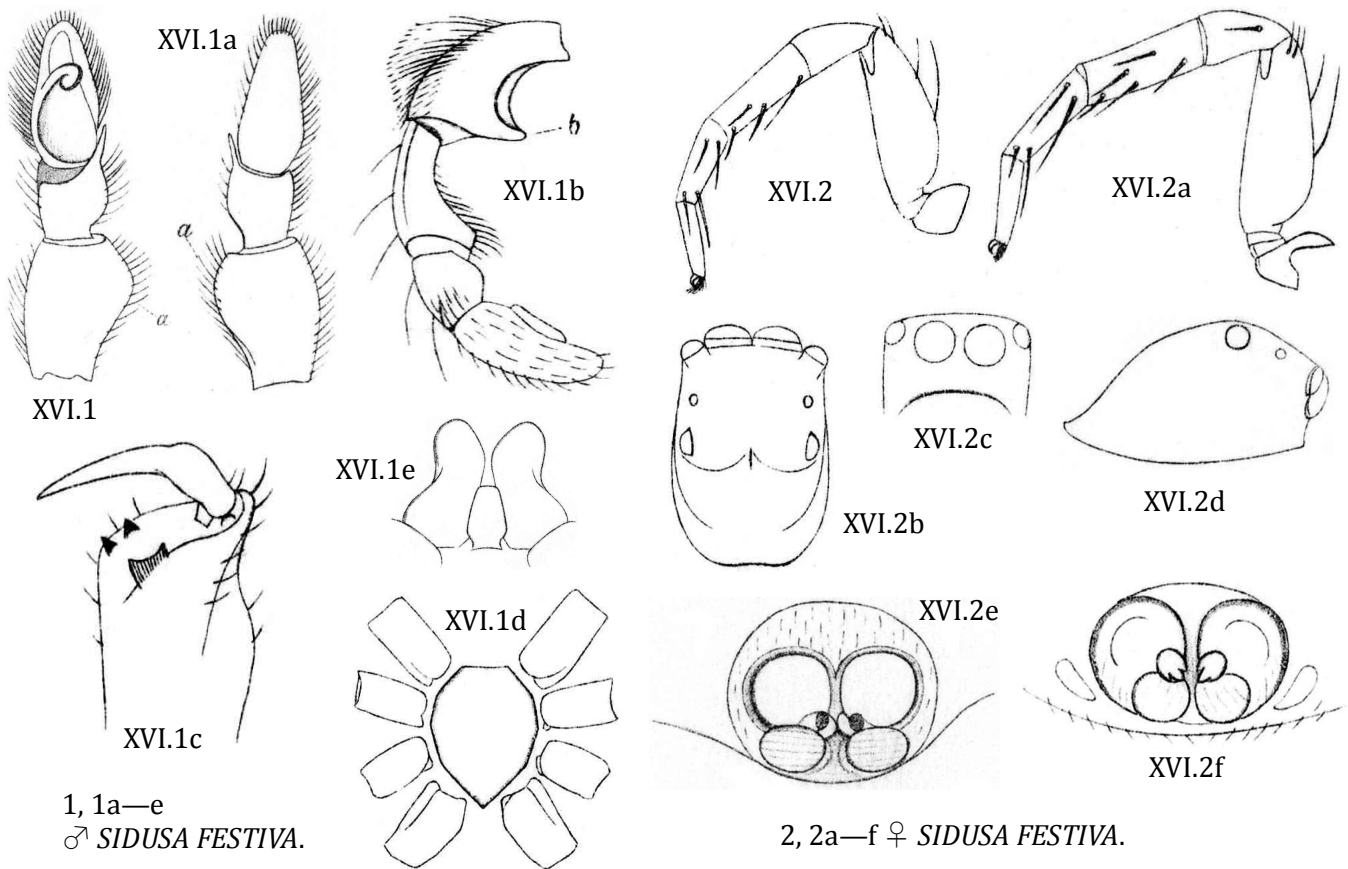


Plate XVI. Fig. 1. *Sidusa festiva*, ♂, left palpus from beneath; 1a, ditto from above; 1b, ditto from the inner side; 1c, mandible from beneath; 1d, sternum; 1e, maxillae and labium. Fig. 2. *Sidusa festiva*, ♀, leg i. from the outside; 2 a, ditto from the inner side; 2 b, eyes from above; 2c, ditto from in front; 2d, carapace and eyes in profile; 2e, vulva; 2f, ditto, immature example.

Chapoda festiva, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 26, t. 1. figg. 7, 7c, d (♂), 7a, b (♀) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 5, ♀ 6 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., January 1901.

SIDUSA.

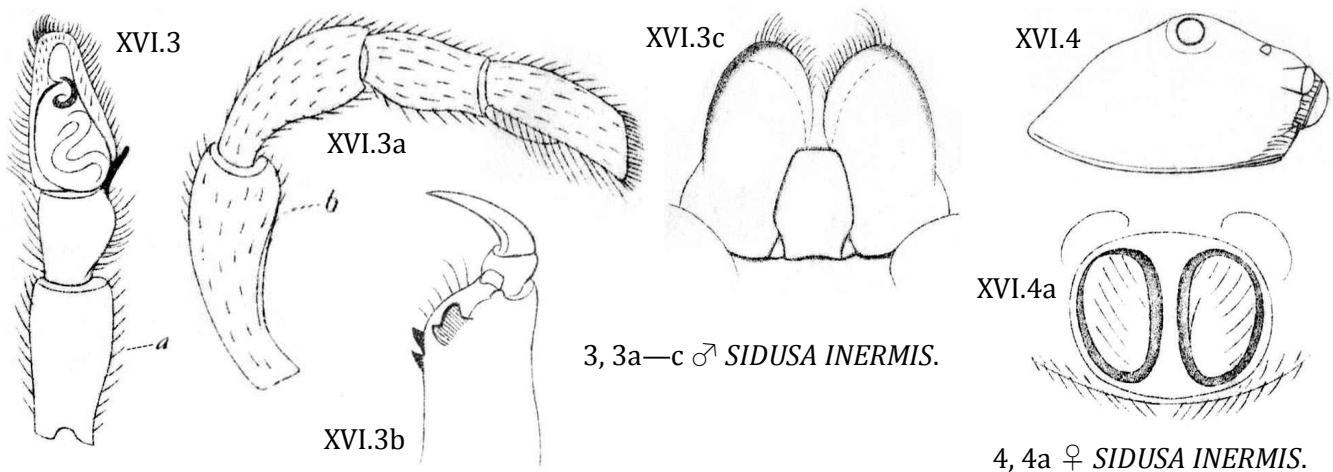
209

Legs brown, i. and ii. darker; tarsus i. yellow. Carapace brown. Cephalic area coloured white or yellow (probably white in fresh specimens), owing to an aggregation of cretaceous pigment cells beneath the epidermis, its sides deep black; posterior lateral margin with a patch of white scales or hairs. Apex of femur of palpus with a thick tuft of white somewhat clavate hairs. Abdomen dull whitish-brown, speckled with darker brown, exhibiting on each side of the lanceolate heart-area a row of cretaceous-white spots, with a dense central dorsal band of the same in the apical half. Sternum pale yellow and ventral area dusky brown. Spinners white, their outer sides suffused with brown. Palpus very characteristic, incrassate. Femur strongly curved, with a thick bunch of clavate hairs at its apex above. Patella longer than broad, narrower behind, much enlarged on the outer side towards the apex. Tibia scarcely longer than broad, narrower behind, with a short, sharp, straight, slender spine at its outer apical angle. Tarsus narrow, longer than the tibia; bulb dilated behind on the outer side, with a slender spiraloïd spine at its apex.

Hab. Guatemala¹ (*Sarg.*).—Brazil, Chapada¹.

One cannot doubt that our examples from Guatemala are identical with Peckham's species, though it must be borne in mind that his figure of the tibia of the palpus is drawn quite twice longer than broad; but the description gives it as nearly as wide as it is long, thus agreeing with our examples. Peckham has not given any drawing of the vulva of the female, which is here figured, so far as I know, for the first time. The enamelled covering of scales with the crackled appearance on the cephalic area and the abdomen, mentioned by Peckham, lies of course beneath the epidermis and consists of aggregations of cretaceous pigment cells; in one example they are entirely absent from the abdomen. The males, though somewhat rubbed, present two similar tufts of hair about the middle of the cephalic area to those present in *S. inermis*. The species is liable to be confused with *Titanattus saevus*, Peckh.

2. *Sidusa inermis*, sp. n. (Tab. XVI. figg. 3, 3a—c, ♂; 4, 4 a, ♀.)



3, 3a—c ♂ *SIDUSA INERMIS*.

4, 4a ♀ *SIDUSA INERMIS*.

Plate XVI. Fig. 3. *Sidusa inermis*, ♂, left palpus from beneath; 3a, ditto from the inner side; 3b, mandible from beneath; 3c, maxillae and labium. Fig. 4. *Sidusa inermis*, ♀, carapace and eyes in profile; 4a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 6 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Costa Rica (*Rogers*).

The type-specimen is from Costa Rica. The coloration is almost exactly as in *S. festiva*, except that the femur of leg i. is much darker (in *S. festiva* it is usually yellow, though slightly suffused with brown in some examples). The abdominal pattern is less distinct in *S. inermis*, but practically the same in both species. The best distinctive character will be found in the femur of the palpus, especially when seen from the inner side, it being much longer than in *S. festiva* and without the stout curved spur at the apex beneath, so conspicuous in that species. Other differential characters will be found mentioned in the Table. The male has a conspicuous erect tuft of dark hairs just before the middle of the cephalic area on each side. In this respect it resembles *Titanattus saevus*, except that in the latter the tufts are nearer the anterior eyes. Superficially, the two spiders look identical, on account of these tufts of hair. The female was not detected till after the Table was printed: for the vulva, see the Plate.

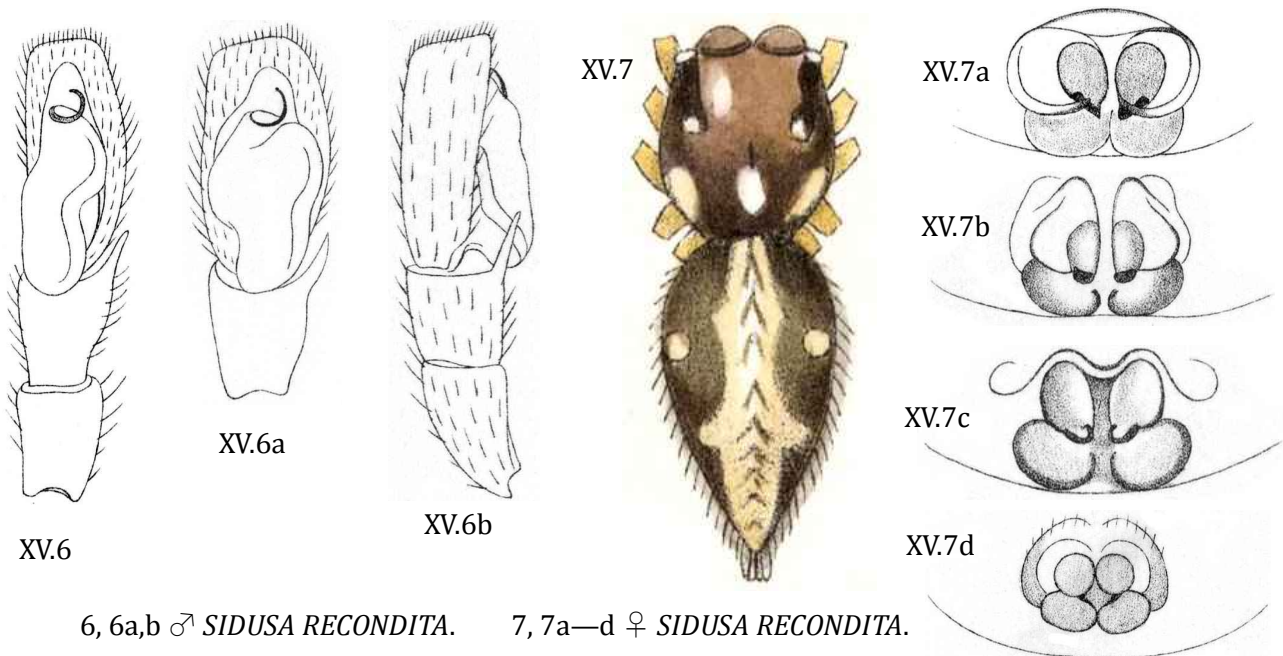
BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

2 E‡

210

ARANEIDEA.

3. *Sidusa recondita*. (Tab. XV. figg. 6, 6a, b, ♂; 7, 7a—d, ♀.)



6, 6a,b ♂ *SIDUSA RECONDITA*. 7, 7a—d ♀ *SIDUSA RECONDITA*.

Plate XV. Fig. 6. *Sidusa recondita*, ♂, palpus from beneath; 6a, ditto, another view; 6b, ditto from the outer side. Fig. 7. *Sidusa recondita*, ♀, dorsal view, legs removed (4.4 mm); 7a, vulva; 7b, ditto from another example; 7c, ditto from a third example; 7d, ditto from a fourth example.

Sidusa recondita, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 96, t. 7. figg. 6—6b (♀) (April 1896)¹.

Type, ♀, in coll. Peckham; deuterotype, ♂, in coll. Godman & Salvin. Total length, ♂ 3.5, ♀ 4 millim.

♂ ♀. Carapace brown, sides involving the lateral eyes and posterior portion much darker, almost black. A short central band of white hairs behind the thoracic stria, and a broad postero-lateral marginal band of white hairs. Cephalic area covered with pink iridescent scales. Abdomen dark olive-brown, with a broad centro-dorsal pale band gradually widening and suddenly dilated behind immediately above the spinners, narrowing again to the latter. Down the middle of this band runs a sooty-black band, becoming broken up

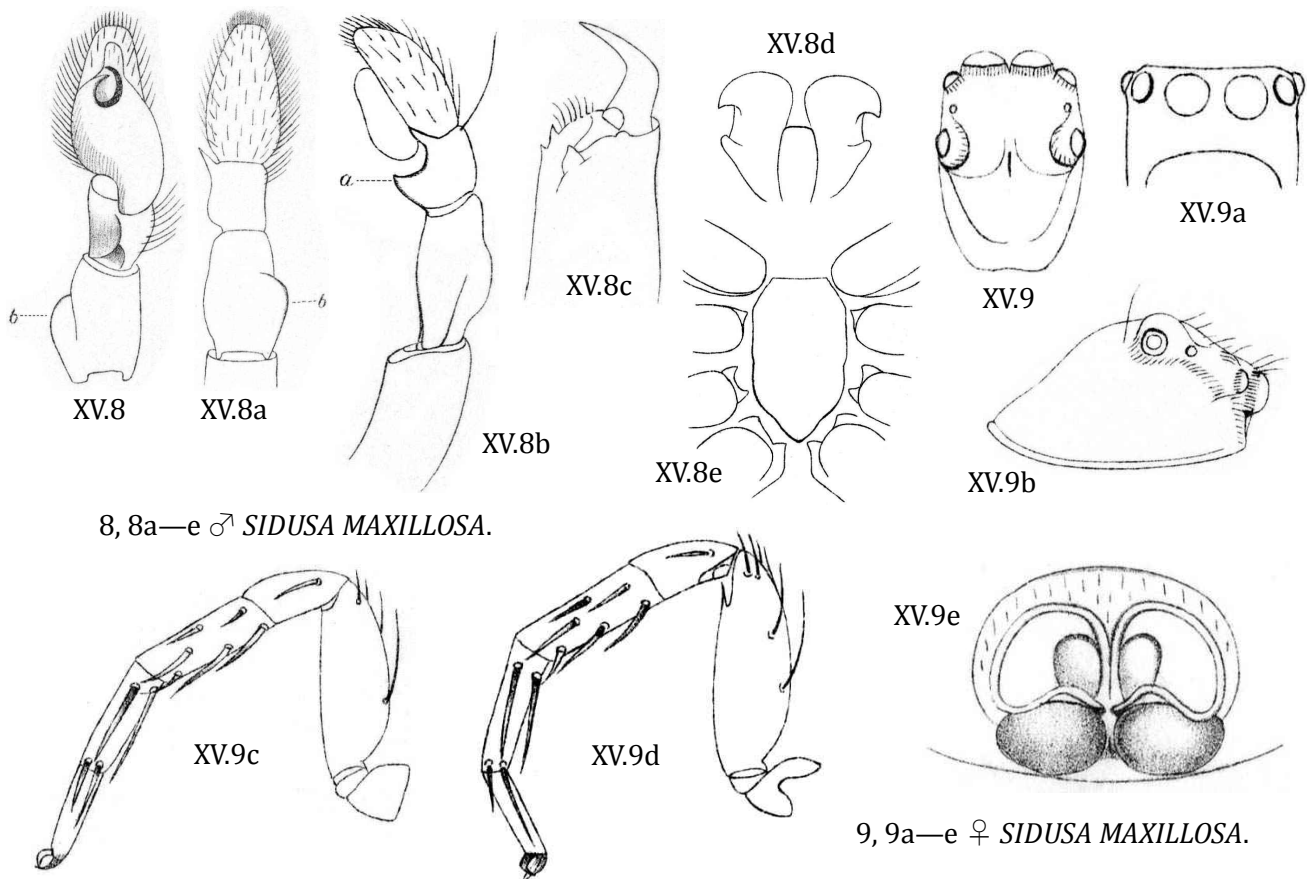
into distinct chevrons towards the spinners. A pale band runs along the antero-lateral margin, discontinued in front, suddenly enlarged behind, and running upwards dorsally, about the middle of the abdomen; seen from above, this portion appears as a pair of white spots. Lower lateral area sooty, followed by a broad pale band; ventral area sooty. Legs yellow, browner in the male, with the first two pairs darker.

Palpus of the male with an apical tuft of white hairs on the femur, similar to that of others of the genus, but the femur is not produced below; the patella is as long as the tibia; the bulb is attenuate behind, and the apical spine forms a short circular curve. There is a long slender tibial spur. For further details, see the Table of species. Vulva of the female characteristic: area broader than long, with two pairs of distinct spermathecal spots, one pair larger, adjacent, and transversely situated on the posterior margin, the other pair smaller longitudinally, or slightly obliquely situated immediately behind the former, the posterior end darker and overlapping. In individual examples the precise form varies a little.

Tibia i. and protarsus i. with lateral spines on both sides; tibiae iii. and iv. with dorsal basal spines.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

4. *Sidusa maxillosa*, sp. n. (Tab. XV. figg. 8, 8a—e, ♂; 9, 9a—e, ♀.)



8, 8a—e ♂ *SIDUSA MAXILLOSA*.

9, 9a—e ♀ *SIDUSA MAXILLOSA*.

Plate XV. Fig. 8. *Sidusa maxillosa*, ♂, palpus from beneath; 8a, ditto from above; 8b, ditto from the outer side; 8c, mandible from beneath; 8d, maxillae and labium; 8e, sternum. Fig. 9. *Sidusa maxillosa*, ♀, eyes from above; 9a, ditto from in front; 9b, carapace, profile view; 9c, leg i. from the outer side; 9d, leg i. from the inner side; 9e, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 6, ♀ 7 millim.

♂. Carapace, palpi, and legs entirely brown, the former, including the clypeus, margined with white; legs iii. and iv. paler. Abdomen olive-brown, with an anterior marginal black line, with five or six pale chevrons in

the apical third. Ventral area pale, with a broad central sooty-black band. Sternum entirely yellow.

♀. Carapace, palpi, and legs yellow; carapace suffused on the cephalic area and sides with brown, margined as in the male. Abdomen paler, but, as in the male, with anterior marginal dark line and two larger anterior dorsal pale chevrons followed by five smaller and more adjacent ones to the spinners. Ventral area as in the male, and sternum yellow.

♂. Patella of the palpus dilated behind the middle of the inner margin. Tibia of palpus with a conspicuous concavo-conical spur beneath. Femur of palpus without any spur beneath and without any tuft of white hairs at the apex above. Palpal spine stout and spiraloid. Maxillae highly developed, dilated, the outer margin so deeply emarginate as to leave an outer apical angle hooked and directed backward, and a stout conical tooth about the middle. Sternum oval, elongate, almost twice longer than broad.

♀. Female very like the male generally, but with the maxillae not abnormally developed, simply dilated at the apex. Fang-grooves with two smaller teeth on the upper, and one large, broad tooth on the lower, margin. Vulva very similar to that of *S. festiva*, consisting of a broad oval area, divided anteriorly into a pair of ellipsoidal cavities separated by a narrow septum, with a pair of larger, oval, dark adjacent spermathecal spots transversely situate on the posterior margin, and a pair of smaller, oval, brown spots longitudinally situated on each side of the septum just in front of but not overlapping the larger spots.

Hab. Guatemala (*Sarg.*).

One would be inclined to propose a new genus for this species, or at any rate to separate it from *Sidusa*, on account of the very great difference in the form of the

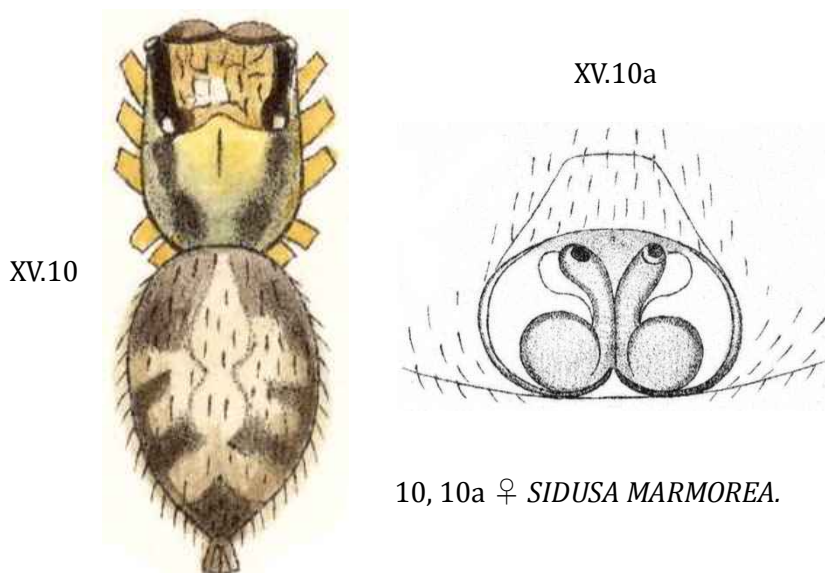
BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., February 1901.

SIDUSA.

211

sternum in both sexes. But the palpi of the male and the vulva of the female are remarkably similar to those of *S. festiva*.

5. *Sidusa marmorea*, sp. n. (Tab. XV. figg. 10, 10a, ♀.)



10, 10a ♀ *SIDUSA MARMOREA*.

Plate XV. Fig. 10. *Sidusa marmorea*, ♀, dorsal view, legs removed (3.6 mm); 10a, vulva.

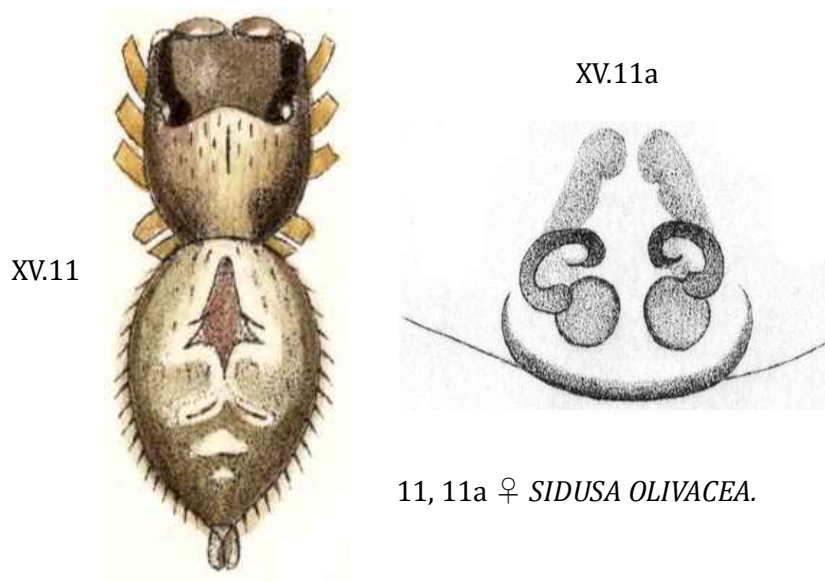
Type, ♀, in coll. Godman & Salvin. Total length 4 millim.

Carapace yellow, cephalic area and eyes margined with black, with two brown, convergent, indistinctly defined bands behind the posterior lateral eyes, and a broad pale marginal band, with a narrow dark brown marginal line. Abdomen (pubescence worn off) very pale olive-green, with a pale central dorsal scalloped band, broadly dilated above the spinners, and other large pale mottlings on the sides; ventral area and sides pale, mottled with pale olive-green. Legs and palpi pale yellow, each segment with a dusky black basal and an apical annulus.

Vulva consisting of a broad transverse oval area, with a pair of dark circular adjacent, confluent, spermathecal spots on the posterior margin, each connected with an orifice by a narrow duct visible beneath the epidermis, and beneath each orifice lies a very indistinct pale oval spermathecal spot. Tibiae iii. and iv. without dorsal basal spines; tibia i. and protarsus i. with lateral spines on both sides.

Hab. Panama, Bugaba (*Champion*).

6. *Sidusa olivacea*, sp. n. (Tab. XV. figg. 11, 11a, ♀.)



11, 11a ♀ *SIDUSA OLIVACEA*.

Plate XV. Fig. 11. *Sidusa olivacea*, ♀, dorsal view, legs removed (5.0 mm); 11a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 5 millim.

Carapace brown, more or less clothed with white hairs, with an indistinct pale band running from the central stria to the posterior margin, and one or two pale submarginal spots. Cephalic area and eyes margined with black. Abdomen olive-green, with a central deeply scalloped pale band, divided into three, the first portion elongate-triangular, the second with a large divergent lobe on each side, the third forming a narrower triangular spot above the spinners; sides olive-green, ventral area pale. (The pubescence, however, is worn off, so that it is difficult to describe exactly the pattern and colour of the abdomen.) Legs yellow, with a basal and an apical dusky annulus on each segment.

Small eyes distinctly nearer the anterior laterals. Protarsus i. without lateral spines; tibia i. with 1—1 lateral spines on each side; protarsus and tibia ii. with lateral spines; tibiae iii. and iv. with a dorsal basal spine. Vulval area forming a broad triangle, with a pair of closely approximate circular spermathecal spots half their own diameter from the posterior margin, connected with the usual pair of orifices by a narrow curved duct, while in front lie another pair of elongate dusky spermathecal spots.

Hab. Guatemala (*Sarg*).

7. *Sidusa pallida*, sp. n. (Tab. XV. fig. 12, ♀.)

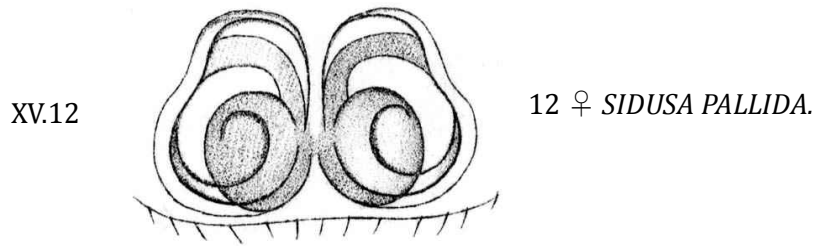


Plate XV. Fig. 12. *Sidusa pallida*, ♀, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4 millim.

Carapace dull brown, clothed with white hairs; no marginal band of white. Abdomen pale ochreous-yellow, speckled with dusky black and with a central broad \wedge -shaped black mark, and an indistinct wedge-shaped dark mark above the spinners (very similar to that of *S. vittata*). Legs yellow, obscurely spotted with dusky brown.

Tibia i. with lateral spines on the inner side; protarsus i. with no lateral spines on either side; tibiae iii. and iv. with a small dorsal basal spine. Small eyes distinctly nearer the posterior laterals. Vulva consisting of a pair of oval areas, narrower in front, their outer margins slightly sinuous, with a pair of very large internal brown adjacent discs close to the posterior margin.

Hab. Guatemala (*Sarg.*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

2 E‡ 2

212

ARANEIDEA.

8. *Sidusa denticelis*, sp. n. (Tab. XV. figg. 13, 13a, b, ♂.)

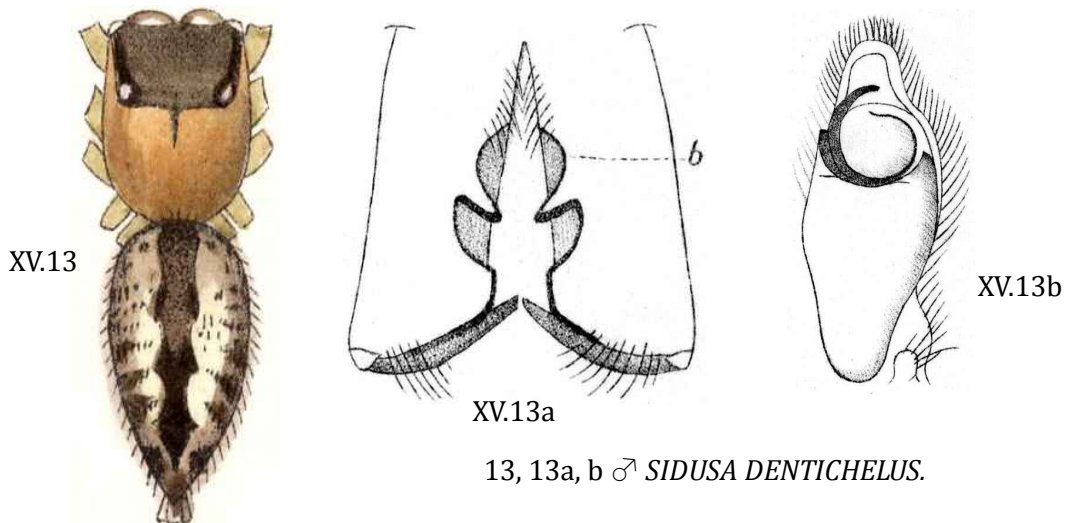


Plate XV. Fig. 13. *Sidusa denticelis*, ♂, dorsal view, legs removed (6.3 mm); 13a, mandibles from beneath; 13b, palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Hab. Mexico, Amula in Guerrero (*H. H. Smith*).

This species is in general appearance very similar to *S. minuta* and *S. penicillata*, but may be recognized by the tooth on the inner excavated margin of the mandibles and the cusp on the outer margin of the widely curved apical palpal spine.

9. *Sidusa minuta*, sp. n. (Tab. XV. figg. 14, 14a, b, ♂.)

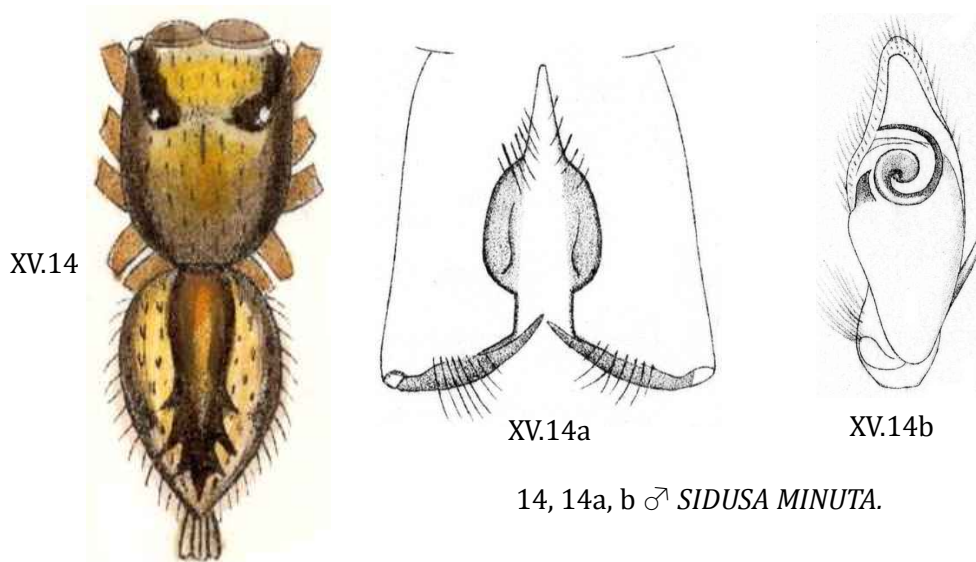


Plate XV. Fig. 14. *Sidusa minuta*, ♂, dorsal view, legs removed (4.9 mm); 14a, mandibles from beneath; 14b, palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 5 millim.

Carapace clothed with white and golden-orange hairs and scales. Abdomen with a central dorsal wedge-shaped dark band, and clothed with golden-orange scales and hairs, and with dull white hairs on the sides.

Hab. Mexico, Omilteme in Guerrero (*H. H. Smith*).

Recognizable by the excavate mandibles, and the more widely sweeping spiraloid curve of the spine at the apex of the bulb.

10. *Sidusa nigropicta*, sp. n. (Tab. XV. figg. 15, 15 a—d, ♂.)

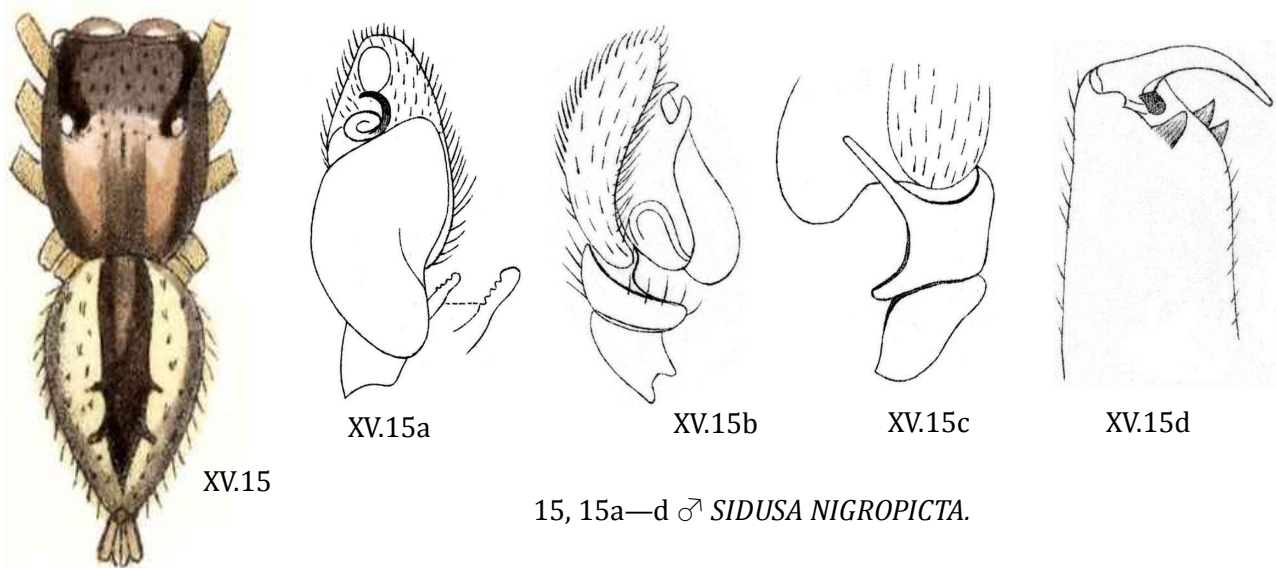


Plate XV. Fig. 15. *Sidusa nigropicta*, ♂, dorsal view, legs removed (3.8 mm); 15a, palpus from beneath; 15b, ditto from the inner side; 15c, ditto from the outer side; 15d, mandible from beneath.

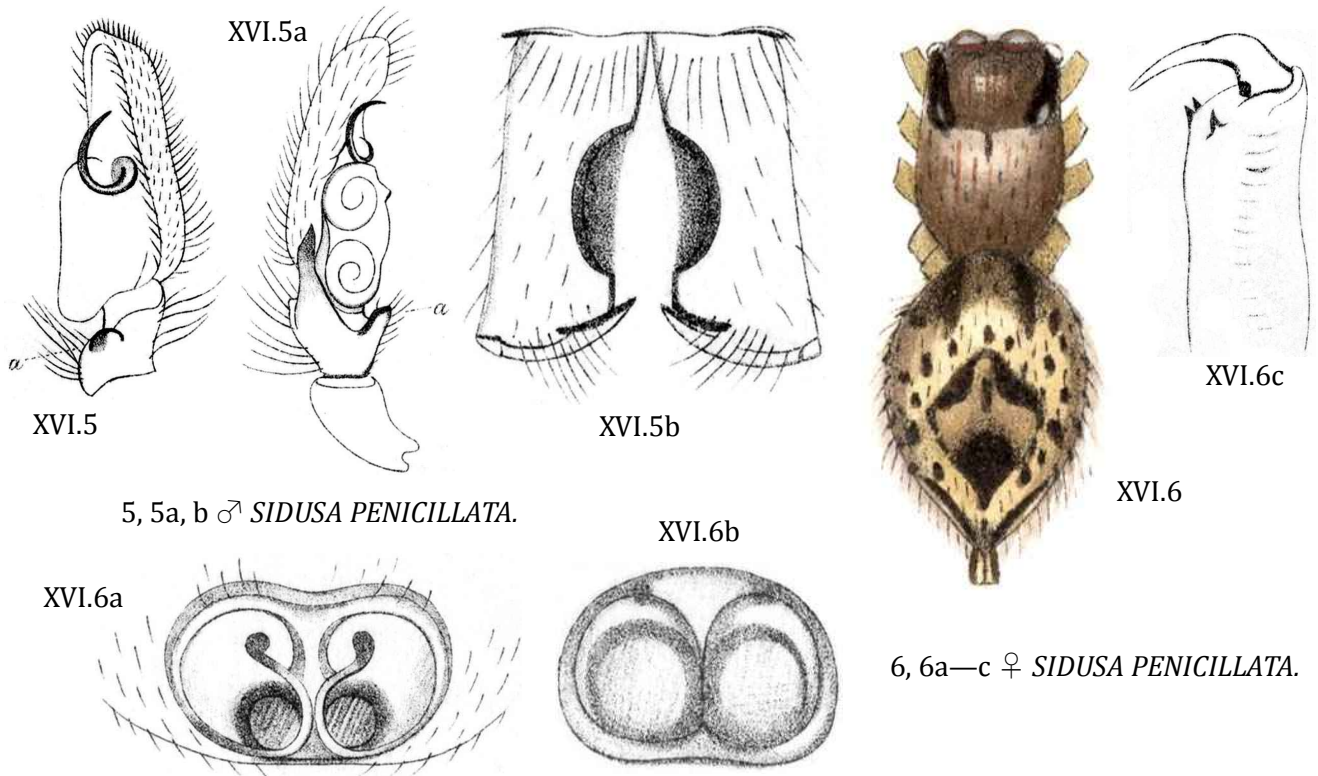
Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

Carapace dark brown, cephalic area almost black, thoracic area with a pale lateral, indistinctly defined band on each side, extending from behind the posterior lateral eyes to the posterior margin. Abdomen dull white, or possibly pale yellow, thinly speckled with brown, with a central longitudinal black band, broader in front, narrowing to the spinners, with two slight pointed offshoots on each side; lateral margins black, lower lateral and ventral areas pale. Sternum dull yellow. Palpi brown. Legs yellow, i. and ii. darker, often quite brown: femora iii. and iv. with a basal and apical dark annular spot, the tibia and protarsus also with a dusky basal annular spot.

Small eyes distinctly nearer the posterior laterals. Tibia and protarsus i. with lateral spines on the inner side only. Tibiae iii. and iv. with a small dorsal basal spine. Palpal bulb enlarged, protuberant at the base, not narrowed, but very similar to that of other species of the group; apical spine stout, forming an almost complete circle; tibial spur long, slender, pointed, slightly serrate beneath towards the apex. Sternum distinctly longer than broad. Mandibles weak, not developed, with a single broad tooth on the inferior margin and two small subsimilar teeth on the upper.

Hab. Panama, Bugaba (*Champion*).

11. *Sidusa penicillata*, sp. n. (Tab. XVI. figg. 5, 5a, b, ♂, 6, 6a—c, ♀.)



5, 5a, b ♂ *SIDUSA PENICILLATA*.

6, 6a—c ♀ *SIDUSA PENICILLATA*.

Plate XVI. Fig. 5. *Sidusa penicillata*, ♂, tibia and tarsus of palpus from the inner side; 5a, ditto from the outer side; 5b, mandible from beneath. Fig. 6. *Sidusa penicillata*, ♀ (7.7 mm): 6a, vulva; 6b, ditto, immature form; 6c, mandible from beneath.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 7, ♀ 8 millim.

♂. Carapace clothed with brown, white, or orange hairs. Abdomen whitish-yellow, with a broad, central, dorsal, brown, dentated band, consisting of two pairs of dark spots, more or less connected, and an apical triangular black spot. The first two pairs of spots are often resolved into a pair of \wedge -shaped black marks. Along the sides are a pair of pale spots, with a pencil of white hairs issuing from them, while on each side of the apical dark spot is a white spot, these often coalescing to form a single white, semicircular, pale bar, entirely embracing the dark spot posteriorly. Ventral area dark brown or speckled with black. Clypeus and base of mandibles clothed with white hairs. Posterior margins of anterior central eyes encircled with orange hairs.

♀. The coloration is practically the same as in the male. The form of the vulva is shown on the Plate. The

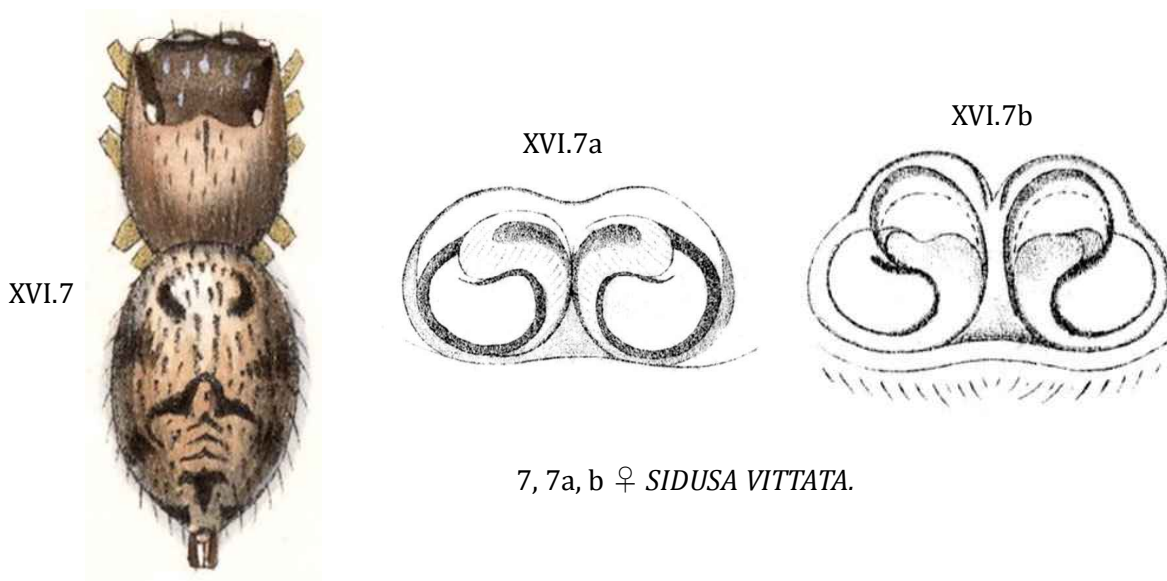
BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

figure (fig. 6b) exhibiting what I believe to be the vulva of the immature female may possibly represent that of a distinct, though exceedingly closely allied, species.

Hab. Mexico, Omilteme, Orizaba (*H. H. Smith*) ; Guatemala (*Sarg*).

It can be recognized by its excavated mandibles and brown mottled colour. See Table of species.

12. *Sidusa vittata*, sp. n. (Tab. XVI. figg. 7, 7a, b, ♀.)



7, 7a, b ♀ *SIDUSA VITTATA*.

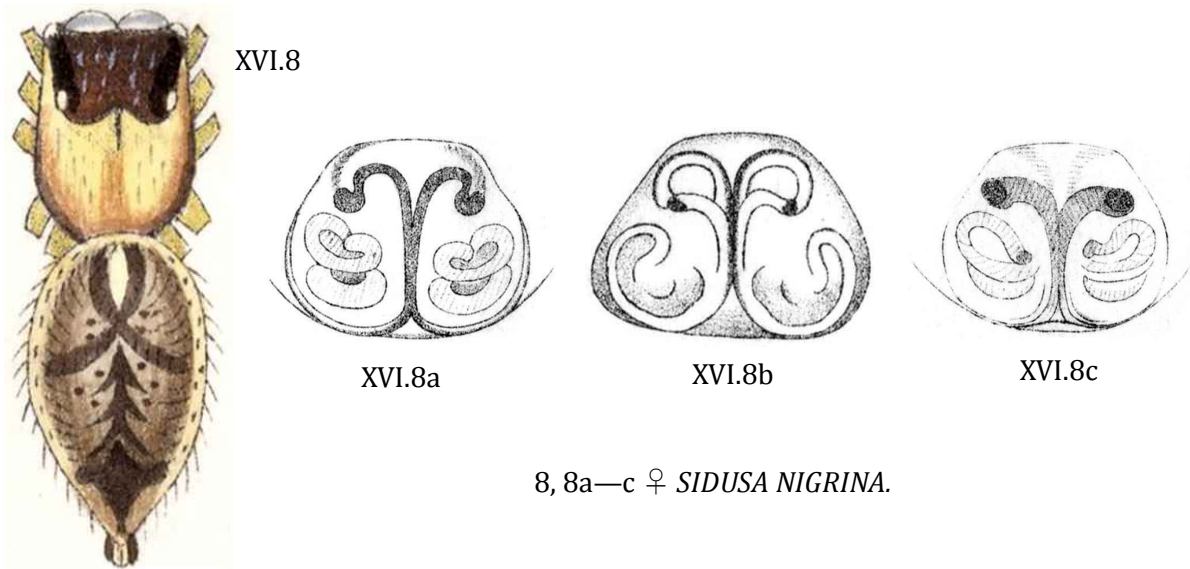
Plate XVI. Fig. 7. *Sidusa vittata*, ♀ (5.7 mm): 7a, vulva; 7b, ditto, variety.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Carapace brown, cephalic area darker, more or less clothed with white hairs, no marginal white band. Legs yellow, the apex of the segments slightly suffused with dusky brown. Abdomen pale, more or less distinctly mottled with black streaks and spots; there is a more conspicuous, but small, recurved horseshoe-shaped dorsal dark mark anteriorly, a central broad \wedge -shaped black slender mark about the middle, followed, just above the spinners, by a small but distinct black wedge-shaped mark. Ventral and lateral areas pale and speckled with sooty-black. In some examples these marks are almost obliterated. Vulva variable, according to the amount and disposition of the pigment present: see Plate. Tibia i. with lateral spines inside; protarsus i. without any lateral spines; tibiae iii. and iv. with a dorsal basal spine.

Hab. Guatemala (*Sarg*).

13. *Sidusa nigrina*, sp. n. (Tab. XVI. figg. 8, 8a—c, ♀.)



8, 8a—c ♀ *SIDUSA NIGRINA*.

Plate XVI. Fig. 8. *Sidusa nigrina*, ♀ (5.9 mm): 8a, vulva; 8b, ditto, variety; 8c, ditto, immature form.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Carapace yellow or orange, with the cephalic area entirely black. Legs wholly yellow. Abdomen dull white, with a large, more or less distinct, black, piriform dorsal patch, narrowing somewhat abruptly to the spinners; lower lateral area streaked and spotted with black; ventral area dull white, with or without one or more broken dusky lines.

Tibia i. with lateral spines on the inside; protarsus i. without any lateral spines; tibiae iii. and iv. with small dorsal basal spines. Vulval area obtuse triangular; with a pair of black orifices anteriorly, more or less definitely connected with curving sinuous internal ducts (see Plate).

Hab. Mexico, Omilteme in Guerrero (*H. H. Smith*).

14. *Sidusa albida*, sp. n. (Tab. XVI. fig. 9, ♀.)



Plate XVI. Fig. 9. *Sidusa albida*, ♀, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 5 millim.

General appearance very much as in *S. vittata*, but the abdomen is dorsally almost entirely dark black-brown, with a small lateral white spot just about the middle, and an elongate oblique white blotch on each side of the apex, nearly meeting above the spinners. Legs as in *S. vittata*, but darker. Ventral area pale and speckled. Vulva consisting of a broad transverse oval area, divided in the middle by a narrow longitudinal septum, forming on each side a large longitudinally situate oval disc, with circular convoluted ducts appearing within each area. Protarsus i. without lateral spines; tibia i. with a lateral spine on the inner side; tibiae iii. and iv. with a small dorsal basal spine.

Hab. Mexico, Amula in Guerrero (*H. H. Smith*).

15. *Sidusa cristata*, sp. n. (Tab. XVI. figg. 10, 10a—c, ♂.)

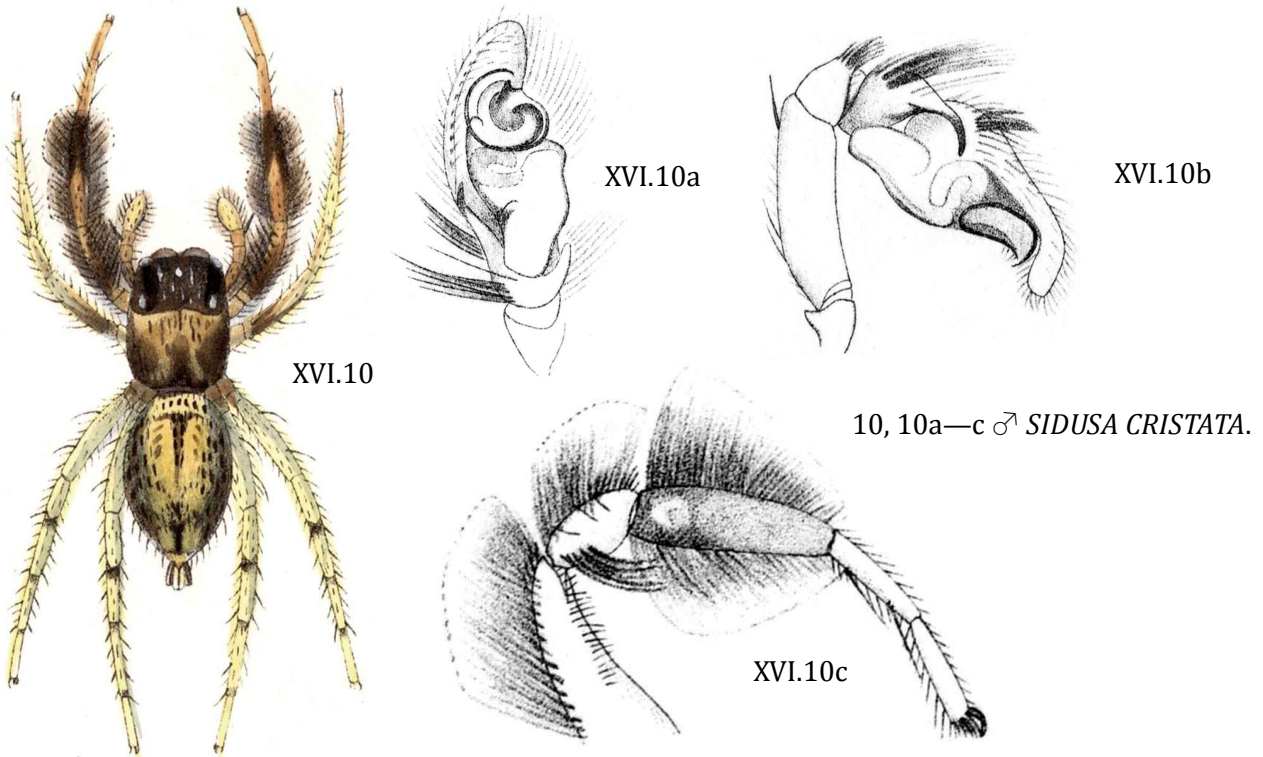


Plate XVI. Fig. 10. *Sidusa cristata*, ♂ (5.3 mm): 10a, right palpus from beneath; 10b, ditto from the outside; 10c, leg i. from the inner side.

Type, ♂, in coll. Godman & Salvin. Total length 5 millim.

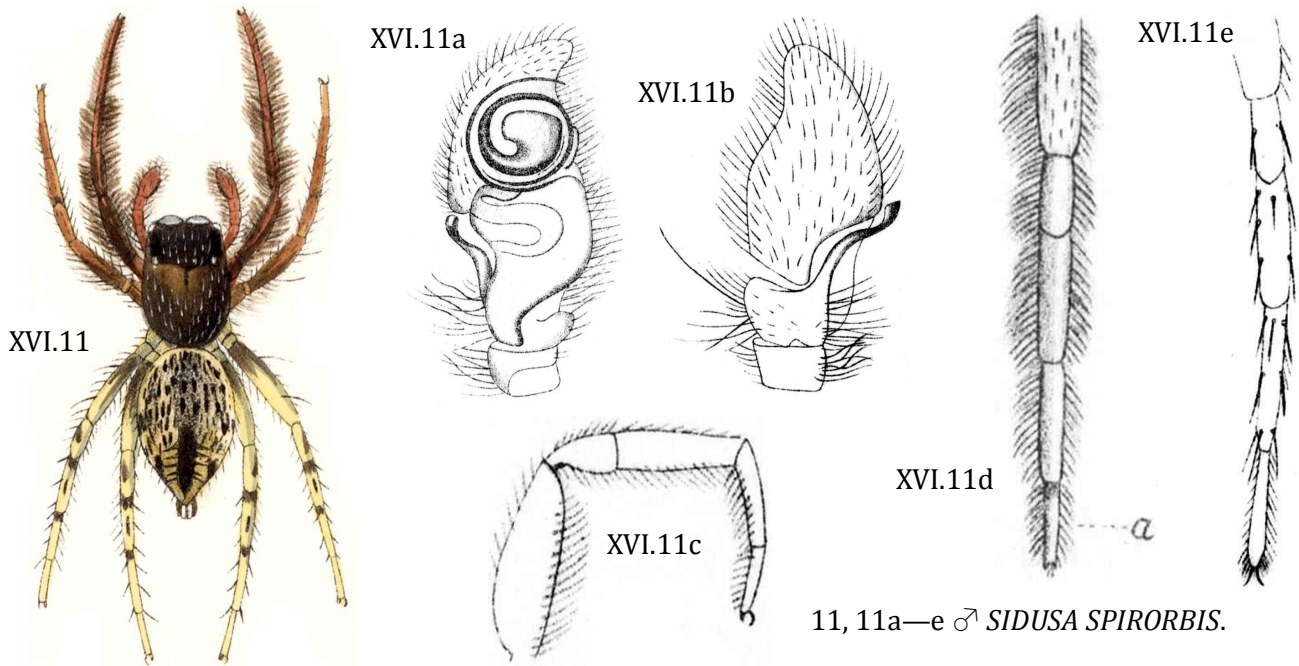
Hab. Mexico, Teapa (*H. H. Smith*).

This beautiful species may be at once recognized by the crested fringes of long brown

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

hair tipped with white on the first pair of legs, and the tufts of hair on the tibia of the palpus. At first sight, it may be taken for a *Habrocestum*, but the form of the tarsus and bulb of the palpus will at once prevent any confusion.

16. *Sidusa spirorbis*, sp. n. (Tab. XVI. figg. 11, 11a—e, ♂.)



11, 11a—e ♂ *SIDUSA SPIRORBIS*.

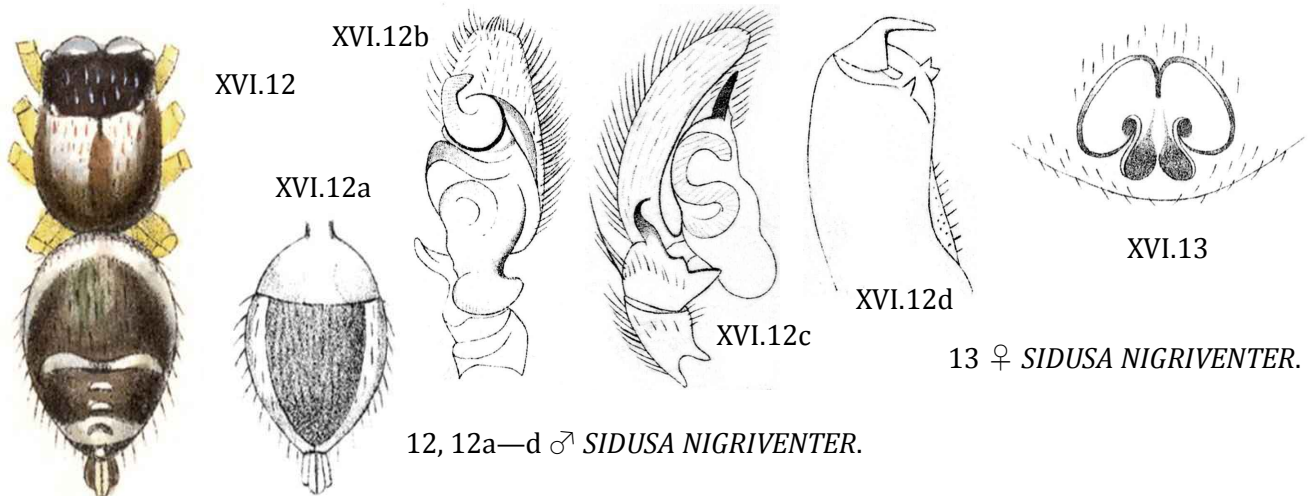
Plate XVI. Fig. 11. *Sidusa spirorbis*, ♂ (4.3 mm): 11a, right palpus from below; 11b, ditto from above; 11c, leg i. from the inner side; 11d, ditto from above, (a) shows the fringe on the tarsus; 11e, leg iv. from above.

Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

Hab. Panama, Bugaba (*Champion*).

This small species resembles *S. cristata* in the fact that the first pair of legs alone is fringed with hairs, but the disposition and character of the fringes are very different. The differential characters will be found in the [Table](#) and on the [Plate](#).

17. *Sidusa nigriventer*, sp. n. (Tab. XVI. figg. 12, 12a—d, ♂; 13, ♀.)



13 ♀ *SIDUSA NIGRIVENTER*.

12, 12a—d ♂ *SIDUSA NIGRIVENTER*.

Plate XVI. Fig. 12. *Sidusa nigriventer*, ♂ (7.5 mm): 12a, ventral area of abdomen; 12b, right palpus from beneath; 12c, ditto from the outside; 12d, left mandible from beneath. Fig. 13. *Sidusa nigriventer*, ♀, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ ♀, 8 millim.; a smaller example, 5 millim.

♂ ♀. Carapace brown, cephalic area black, with a broad pale band behind the posterior eyes and continued to the anterior margins on each side. Legs unicolorous yellow. Abdomen rich brown or black, mottled, with a broad, anterior, pale band continuous in front and running obliquely along the sides: on the posterior half is a large transverse oval area cut out by a pale band, with a pair of pale spots in the centre; the pale band broadens at the spinners, and bears one or more small black central spots. (These pale and dark central longitudinal spots are the remains of the normal chevrons.) Lateral areas pale, speckled with dusky brown; ventral area pale, with a broad black longitudinal central band, beginning at the genital rima, but not quite reaching the spinners.

Tibia i. with lateral spines on the inner side; protarsus i. with lateral spines on both sides; tibiae iii. and iv. without any dorsal basal spine.

Vulva consisting of a pair of white auriculoid discs confluent on the central line, with a pair of dark oval discs behind.

Hab. Panama, Bugaba (*Champion*).

18. *Sidusa murcida*, sp. n. (Tab. XVI. figg. 14, 14a, ♀.)

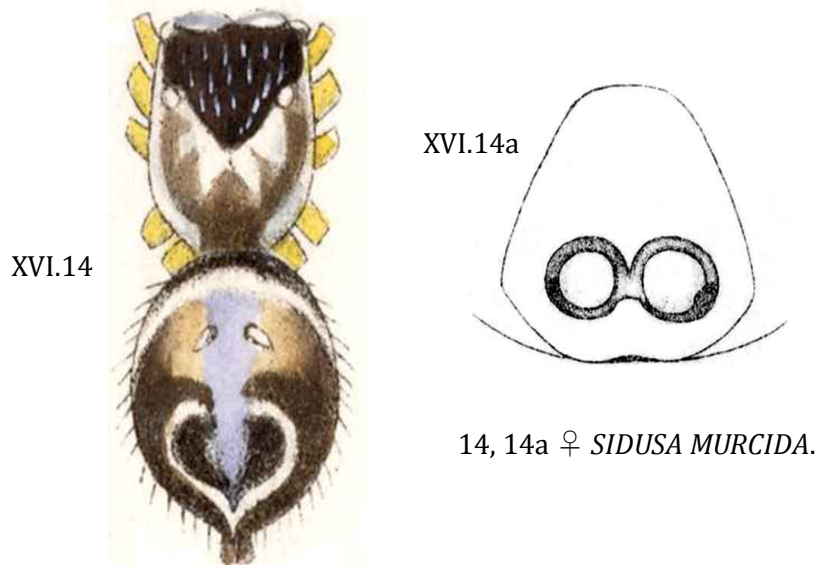


Plate XVI. Fig. 14. *Sidusa murcida*, ♀ (5.6 mm): 14a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Carapace brown, cephalic area as far as the central stria clothed with white hairs, and with a posterior marginal white band. Legs yellow, apical half of femora and apex of each other segment annulated with brown. Abdomen brown, with an anterior marginal black band, followed by a white band, not interrupted in the middle, and continued obliquely at least two-thirds along the lateral margin. The dorsal area is somewhat deprived of hairs, but the parenthetical white curved lines on each side in the apical half are present. Tibia i. with lateral spines on the inner side; protarsus i. with lateral spines on both sides; tibiae iii. and iv. with a small dorsal basal spine.

Vulva consisting of a pair of small circular discs, bounded by a duct, in contact on their inner margin with a black spot, possibly marking an orifice on the outer posterior margin. The discs are situated almost a diameter from the genital rima.

Hab. Guatemala (*Sarg*).

19. *Sidusa fulvoguttata*, sp. n. (Tab. XVII. figg. 1, 1a, ♀.)

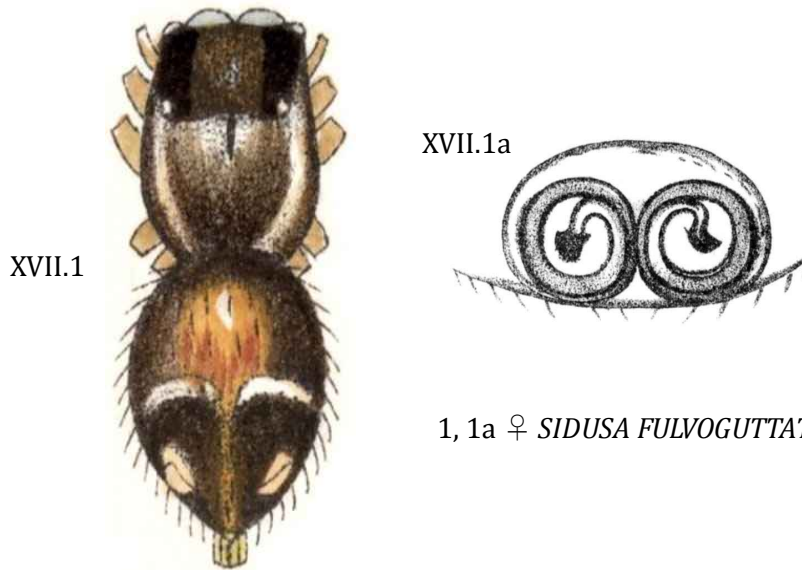


Plate XVII. Fig. 1. *Sidusa fulvoguttata*, ♀, dorsal view (8.6 mm); 1a, vulva.

Type, ♀ in coll. Godman & Salvin. Total length 8.5 millim.

Carapace brown, with a posterior marginal white band and other white spots (much obliterated) on the cephalic and thoracic areas. Abdomen brown, with a pair of slender, parallel, white lines on each side on the

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

SIDUSA.

215

anterior margin, followed by a square central orange spot and by a central pale band, more or less broken up into chevrons, to the spinners. In the posterior half are two longitudinal, black, marginal spots, in connection with a pair of circularly curved, parenthetical, white bands, often broken in the middle and forming four separate, short, white bars. Ventral area dusky white. Legs yellow-brown, first pair darker.

Vulva consisting of a pair of circular discs, in contact on their inner margins, each with a spiral internal duct, coiled from right to left, starting at the centre of the right disc (seen from below) and vice versa with the other disc. Protarsi i. and ii. with lateral spines on both sides; tibia i. with lateral spine on the inner side; tibiae iii. and iv. with small dorsal basal spines.

Hab. Mexico, Atoyac in Vera Cruz (*H. H. Smith*); Guatemala (*Sarg*), Guatemala city (*Stoll*).

The pattern on the abdomen is very similar to that of *S. flavida*, *S. albicincta*, and *S. voluta*, with the exception of the central orange patch. This species is probably identical with *Jotus (Dynamius) opimus*, Peckh., though whether also agreeing with [Banks's](#) identification of the same species it is impossible to say.

20. *Sidusa albicincta*, sp. n. (Tab. XVII. figg. 2, 2a—d, ♂; 3, 3a, ♀.)

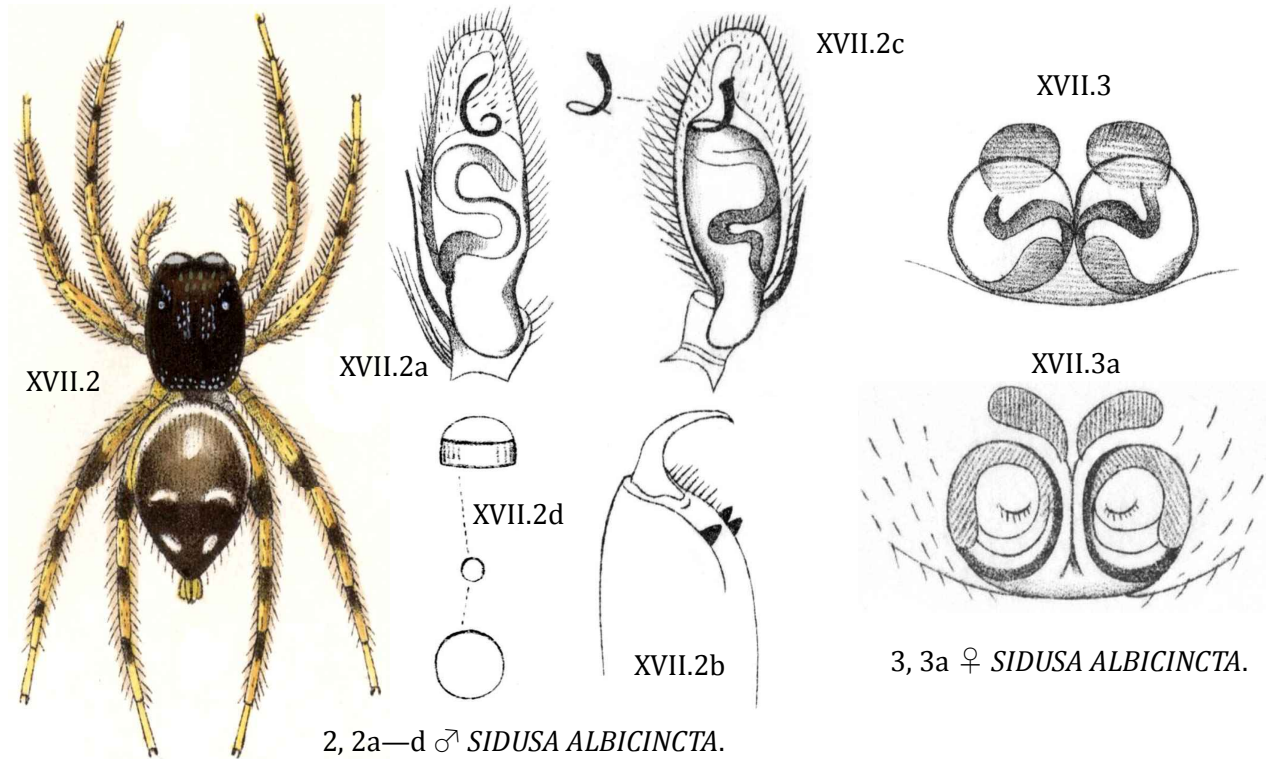


Plate XVII. Fig. 2. *Sidusa albicincta*, ♂ (4.9 mm): 2a, palpus from beneath; 2b, mandible from beneath; 2c, palpus from beneath, variety; 2d, eyes from the left side. Fig. 3. *Sidusa albicincta*, ♀, vulva; 3a, ditto, variety or immature.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 6 millim.

♂ ♀. Carapace brown, with a pale spot of hairs between the lateral eyes, two pale spots on each side of the central stria, and a posterior marginal band of white scales. Abdomen brown, with a black anterior marginal band, followed by a thin encircling white line extending obliquely a little down the sides; a pair of oblique white spots lie above the spinners and are connected with a circular transverse narrow white cincture just behind the middle. Ventral area pale or suffused with dusky brown. Legs yellow, more or less suffused with brown.

Tibia and protarsus i. with lateral spines on each side; tibiae iii. and iv. with a small dorsal basal spine.

Vulva consisting of a pair of oval-circular discs in contact on their inner margins, touching the genital rima, with a pair of posterior spermathecal spots, each connected with a dark angularly curved duct appearing in the centre of each disc; and a pair of larger, somewhat circular, dark spots appear just beneath the anterior margin. The palpus of the male is very similar to others of the group, very like that of *S. flavida*, but the tibial spur is very long and slender, and the apex of the bulbal spine more or less clavate.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

21. *Sidusa parvula*. (Tab. XVII. figg. 4, ♂; 5, ♀.)

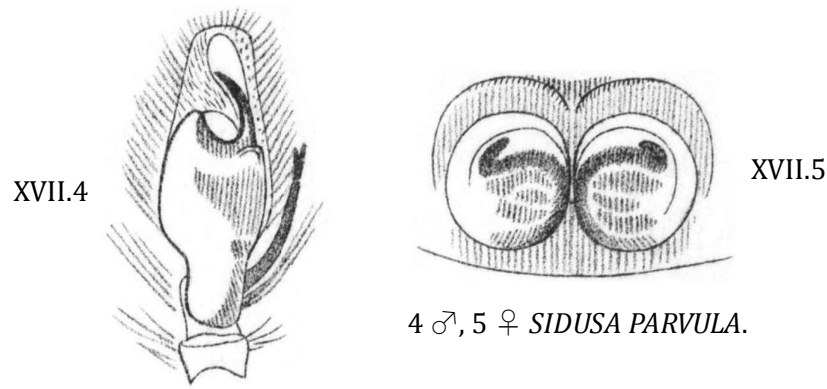


Plate XVII. Fig. 4. *Sidusa parvula*, ♂, palpus from beneath. Fig. 5. *Sidusa parvula*, ♀, vulva.

Escambia parvula, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 44, t. 3. figg. 4, 4b (♂), 4a, 4c (♀) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 5, ♀ 6 millim.

Hab. Guatemala, Eastern district¹.

It is curious that this species should not occur in our collection, but no example with the palpal spine as depicted on the Plate has yet come before me. In the female of *S. albicincta* the vulva very much resembles that of *S. parvula* (Emerton's figure), but there are decided differences. Our figures are taken from Peckham's work.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

22. *Sidusa conspecta*. (Tab. XVII. figg. 6, 6a—c, ♂; 7, 7a—g, ♀.)

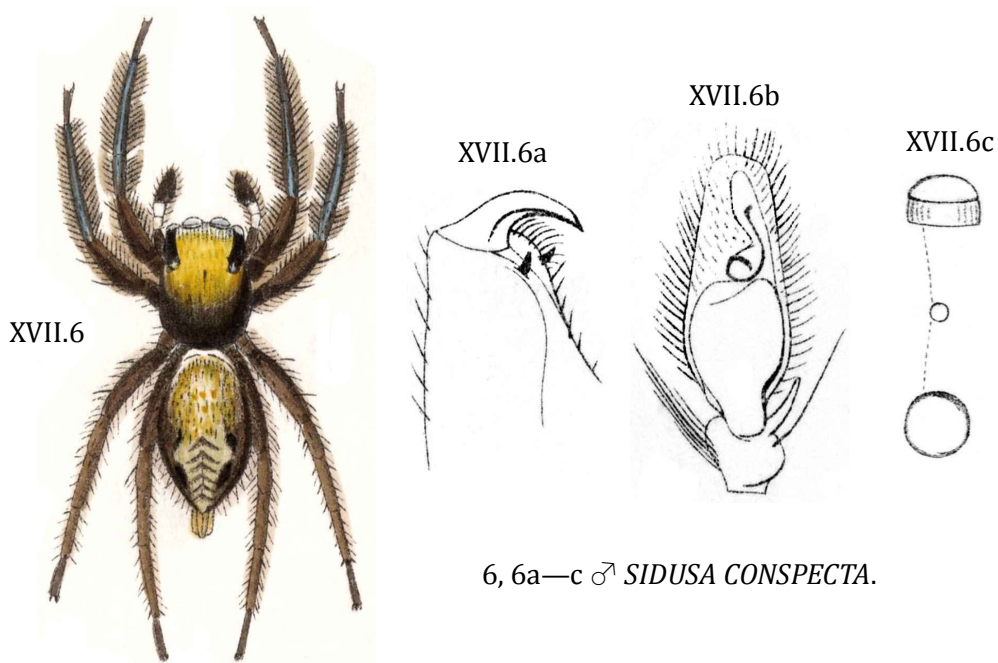
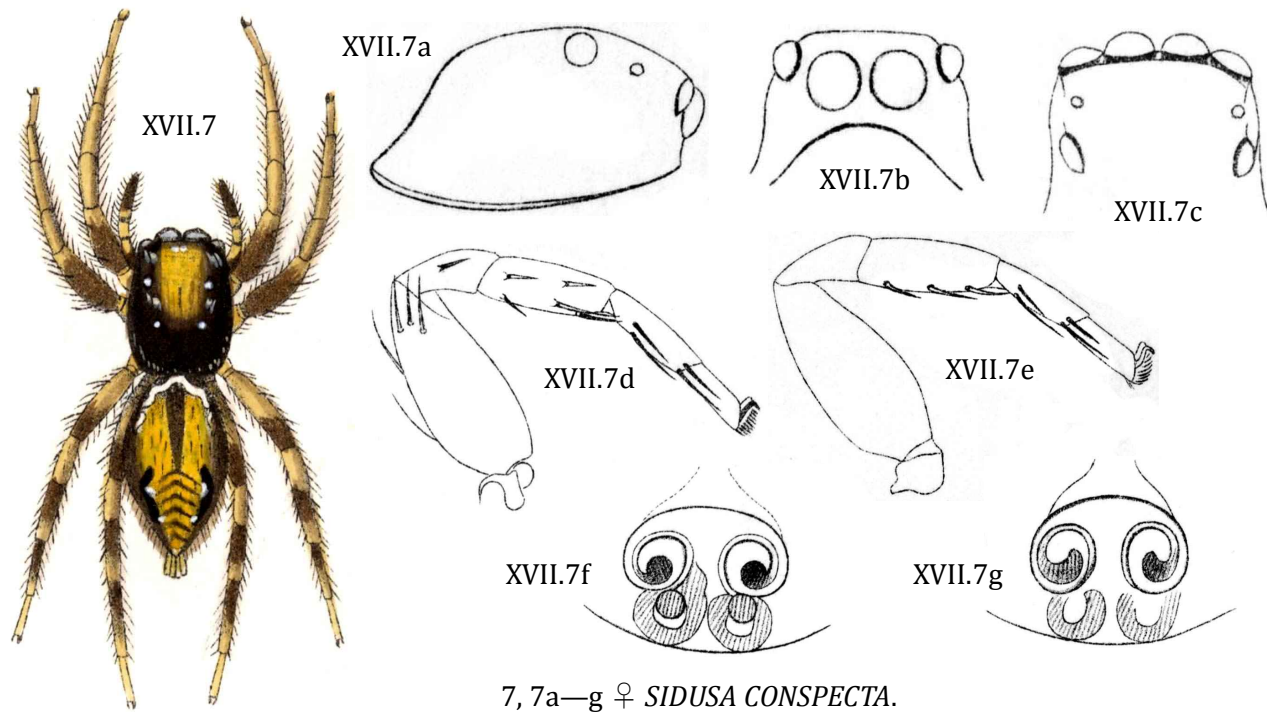


Plate XVII. Fig. 6. *Sidusa conspecta*, ♂ (6.6 mm): 6a, mandible from beneath; 6b, palpus from beneath; 6c, eyes from the left side.



7, 7a—g ♀ *SIDUSA CONSPECTA*.

Plate XVII. Fig. 7. *Sidusa conspecta*, ♀ (8.4 mm): 7a, carapace and eyes, profile; 7b, ditto from in front; 7c, ditto from above; 7d, leg i. from the inner side; 7e, leg i. from the outer side; 7f, vulva; 7g, ditto, variety or immature.

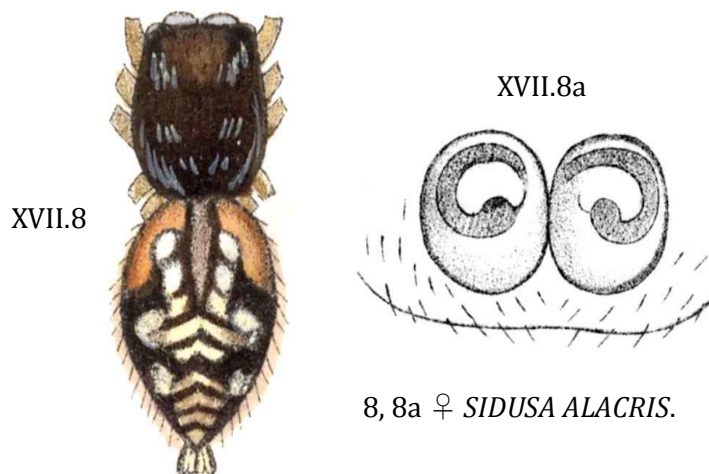
Escambia conspecta, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 42, t. 3. figg. 3, 3d (♂), 3a, b, c, e (♀) (April 1896)¹.

Type ♂, gynetype ♀. in coll. Peckham. Total length, ♂ 7, ♀ 9 millim.

Hab. Mexico, Teapa, Orizaba (*H. H. Smith*); Guatemala, Eastern district¹ (*Sarg*); Costa Rica (*Rogers*).

Of this species we have numerous males and females in our collection. There can be no doubt, owing to the excellent figures of Emerton, that they belong to *S. conspecta* (Peckh.).

23. *Sidusa alacris*. (Tab. XVII. figg. 8, 8a, ♀.)



8, 8a ♀ *SIDUSA ALACRIS*.

Plate XVII. Fig. 8. *Sidusa alacris*, ♀, dorsal view, legs removed (6.9 mm); 8a, vulva.

Escambia alacris, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 46, t. 3. figg. 5, 5 a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 7 millim.

Carapace brown (but the pubescence is more or less obliterated in our specimen), with a white spot in front of the lateral posterior eyes and a posterior white marginal band. Abdomen very distinctly marked with a large, pale orange, oblique shoulder-spot, followed by a central pale band, resolving itself into a series of pale chevrons, to the spinners, with a pair of white spots nearer together about midway, and four white spots further apart, in the apical half; lateral area brown; ventral area pale, suffused with sooty brown. Legs brown, mottled with spots of white hairs.

Small eyes midway between the laterals; tibia and protarsus i. with lateral spines on both sides; tibiae iii. and iv. with a small dorsal basal spine. Vulva consisting of a pair of large, slightly longitudinal, oval discs, in contact along their inner margins, about a quarter of their diameter from the genital rima, with a dark spot near the centre connected with a circular internal duct.

Hab. Guatemala, Eastern district¹ (*Sarg*).

24. *Sidusa circumcincta*, sp. n. (Tab. XVII. fig. 9, ♀.)

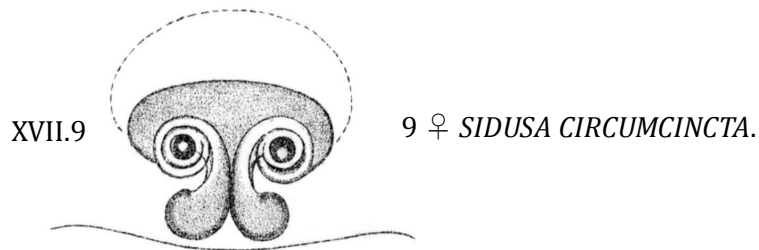


Plate XVII. Fig. 9. *Sidusa circumcincta*, ♀, vulva.

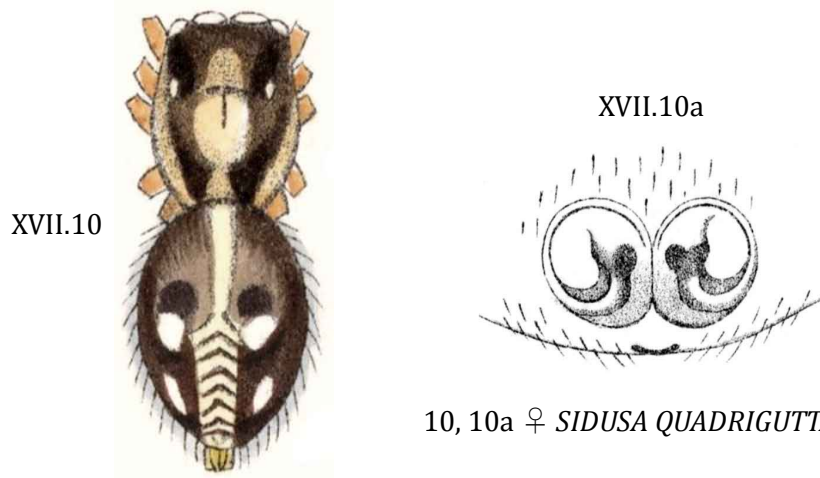
Type, ♀, in coll. Godman & Salvin. Total length 4 millim.

Carapace black-brown; cephalic area margined with a slight band of scattered white hairs and a posterior marginal band of the same. Abdomen brown, with two slender transverse lines of white hairs across the anterior dorsal area, followed by a straight transverse white line (or narrow band) just behind the middle, and a short oblique white band just above the spinners on each side. Legs brown (tarsi paler), mottled with white hairs.

Tibia i. with lateral spines on the inner side; protarsus i. with lateral spines on both sides; tibiae iii. and iv. with a small dorsal basal spine. Vulva consisting of a transverse-oval area, about its own diameter from the genital rima, with a pair of circular discs, terminating behind in a somewhat pear-shaped form, curving outwards, in contact on their inner margins, being the two normal posterior spermathecal spots, the anterior discs having a dark central spot connected with a spiraloid internal duct.

Hab. Mexico, Teapa (*H. H. Smith*).

25. *Sidusa quadriguttata*, sp. n. (Tab. XVII. figg. 10, 10a, ♀.)



10, 10a ♀ *SIDUSA QUADRIGUTTATA*.

Plate XVII. Fig. 10. *Sidusa quadriguttata*, ♀, dorsal view, legs removed (6.5 mm); 10a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Carapace brown, clothed with white hairs, with a pale posterior central and a broad pale marginal band. Abdomen brown and dull white, mottled, with a central pale band, resolved into five or six pale chevrons, to the spinners, and four white spots set in brown patches, the first pair smaller, the second pair larger

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., February 1901.

SIDUSA.

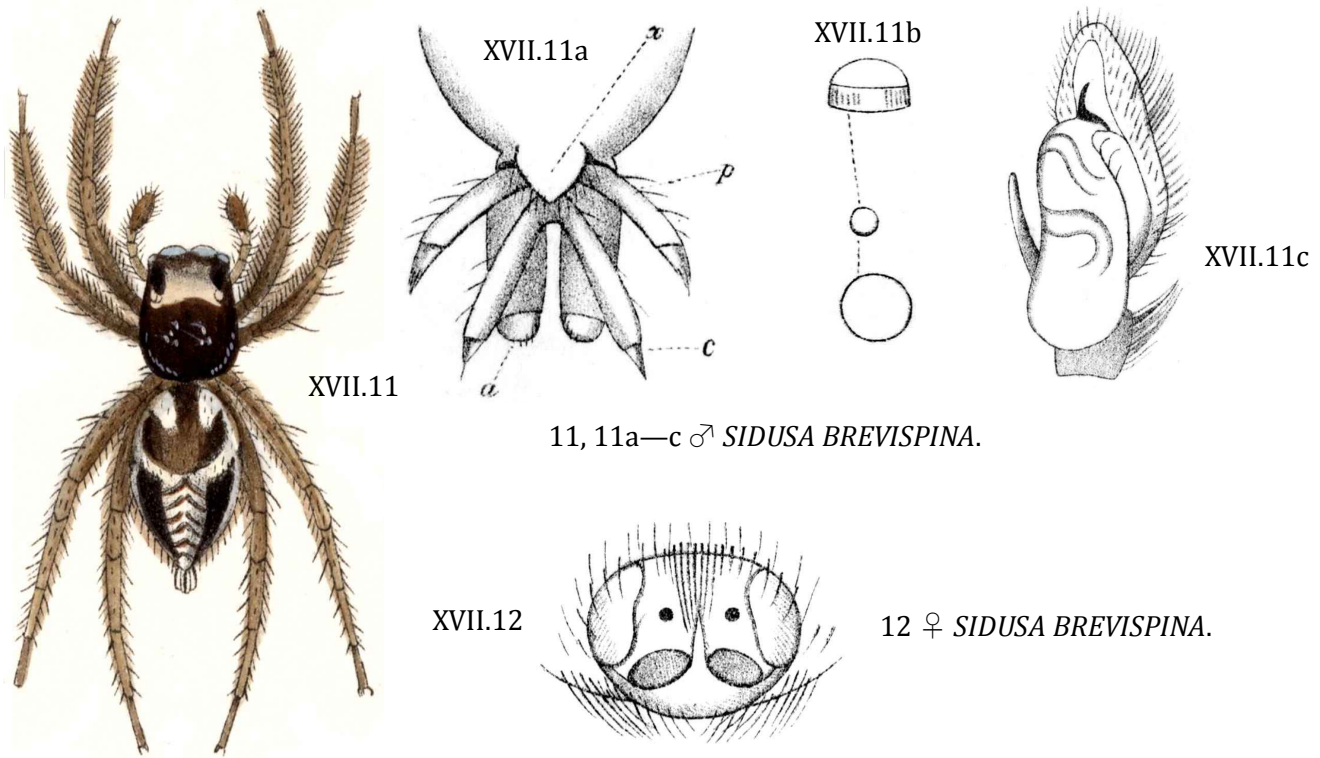
217

and transverse. Ventral area pale, speckled. Legs orange-yellow, with slightly indicated dusky annulations.

Tibia i. with lateral spines on the inner side; protarsus i. with lateral spines on both sides; tibiae iii. and iv. with a single dorsal basal spine. Patellae i. and ii. with one inner spine, iii. and iv. with a spine on each side. Sternum one-half longer than broad, broader in front. Vulva consisting of two large circular-oval adjacent areas, fused on their inner margins, about one-fourth a diameter from the posterior margin, their outer margins curving inwards and becoming enlarged about the centre of each area.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

26. *Sidusa brevispina*, sp. n. (Tab. XVII. fig. 11, 11a—c, ♂; 12, ♀.)



11, 11a—c ♂ *SIDUSA BREVISPINA*.

XVII.11

XVII.12

Plate XVII. Fig. 11. *Sidusa brevispina*, ♂ (4.9 mm): 11a, spinners, from above (a, anterior pair; c, central pair; p, posterior pair; x, anal tubercle); 11b, eyes from the left side; 11c, palpus from beneath. Fig. 12. *Sidusa brevispina*, ♀, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 6 millim.

Coloration similar in both sexes, but lighter in the female.

♂. Legs i. and ii. fringed above and below on the femur, patella, tibia, and protarsus with black hairs. Carapace brown or black, more or less mottled with white hairs, a ring round the posterior eyes and a posterior marginal band being more conspicuous. (The carapace in the male is much rubbed and almost entirely devoid of hairs.) Legs i. and ii. black or brown, iii. and iv. paler yellow-brown. Abdomen rich black-brown, with an anterior dorsal curved hieroglyphic white band on each side, not connected in front, followed to the spinners by a broad central pale band relieved by a series of five or six brown chevrons; lateral area pale in the second half, but streaked with black anteriorly; ventral area pale, with a central elongate U-shaped brown spot, encircled by a pale band with two central broken pale bands within its area, the pale outer encircling band being flanked with a black-streaked border, these markings varying very considerably in different examples. Tibia i. with lateral spines on the inside, iii. and iv. with a small dorsal basal spine; protarsus i. with lateral spines on each side. Small eyes much nearer the posterior laterals. Tibial spur of palpus long and slender, apical spine of bulb quite short, only slightly curved.

Vulva consisting of a broad transverse oval area, with a large dark reniform spermathecal disc on each side on the lateral margin, and a pair of obliquely transverse oval dark discs posteriorly, with a pair of dark spots in the central portion of the area.

Hab. Guatemala (*Sarg*).

27. *Sidusa lutea*, sp. n. (Tab. XVII. fig. 13, ♂.)

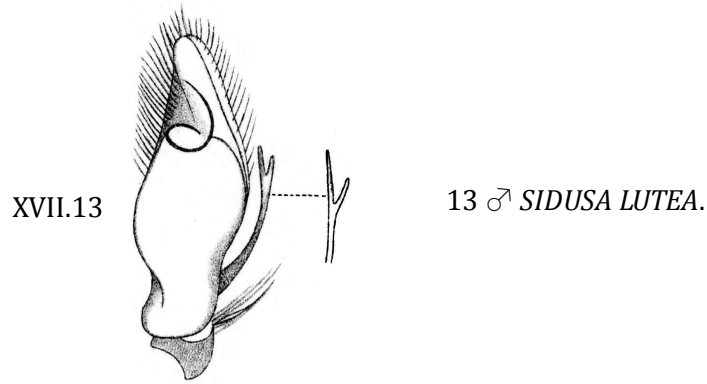


Plate XVII. Fig. 13. *Sidusa lutea*, ♂, palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 5 millim.

Hab. Mexico, Teapa (*H. H. Smith*).

This little species can be distinguished from *S. albicincta* by the dull orange scales on the clypeus and round the central anterior eyes. Other characters are given in the Table. The little fork at the end of the tibial spur is characteristic, though sometimes one of the prongs is broken off.

Had Peckham made any mention of orange scales on the clypeus one would have suspected that this species was his *S. parvula*, for in the figure the tibial spur is very clearly bifurcate.

28. *Sidusa spiralis*, sp. n. (Tab. XVII. figg. 14, 14a—e, ♂.)

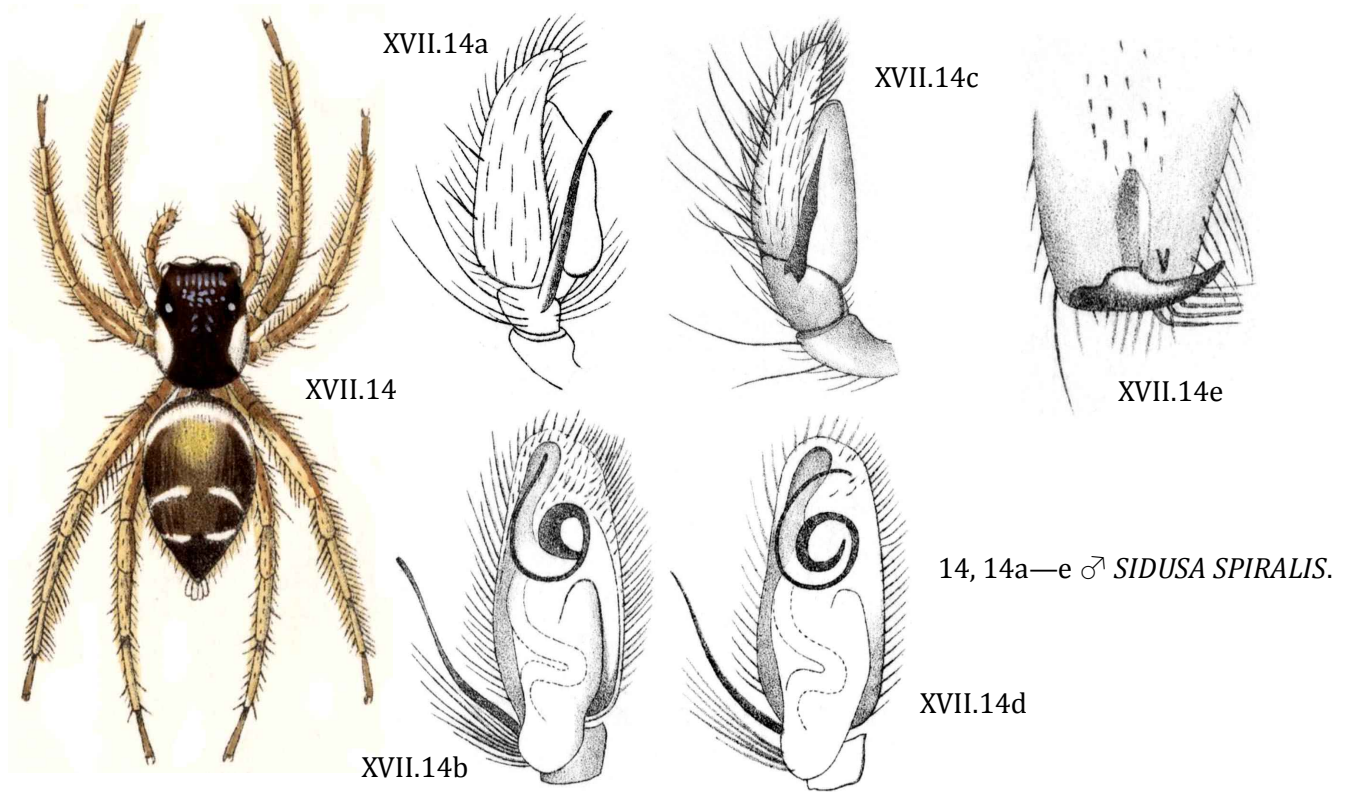


Plate XVII. Fig. 14. *Sidusa spiralis*, ♂ (4.8 mm, 9.5 mm): 14a, right palpus from the outer side; 14b, ditto from beneath; 14c, ditto from the outer side, another view; 14d, ditto, variety, from beneath; 14e, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 5 millim., varying in other examples to 10 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

2 F‡

218

ARANEIDEA.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

The smaller examples are very similar in general appearance to *S. parvula*, but the species may be recognized at once from all forms known to me by the cresting fringes on the *third* pair of legs and also by the more widely curving, more spiraloid form of the apical palpal spine.

29. *Sidusa voluta*, sp. n. (Tab. XVII. figg. 15, 15a, ♀.)

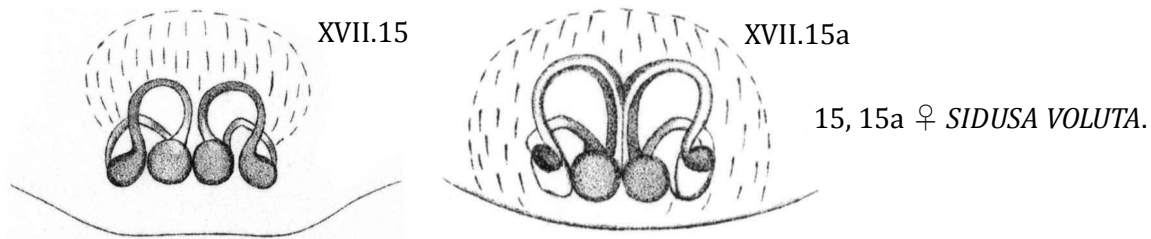


Plate XVII. Fig. 15. *Sidusa voluta*, ♀, vulva; 15a, ditto, variety.

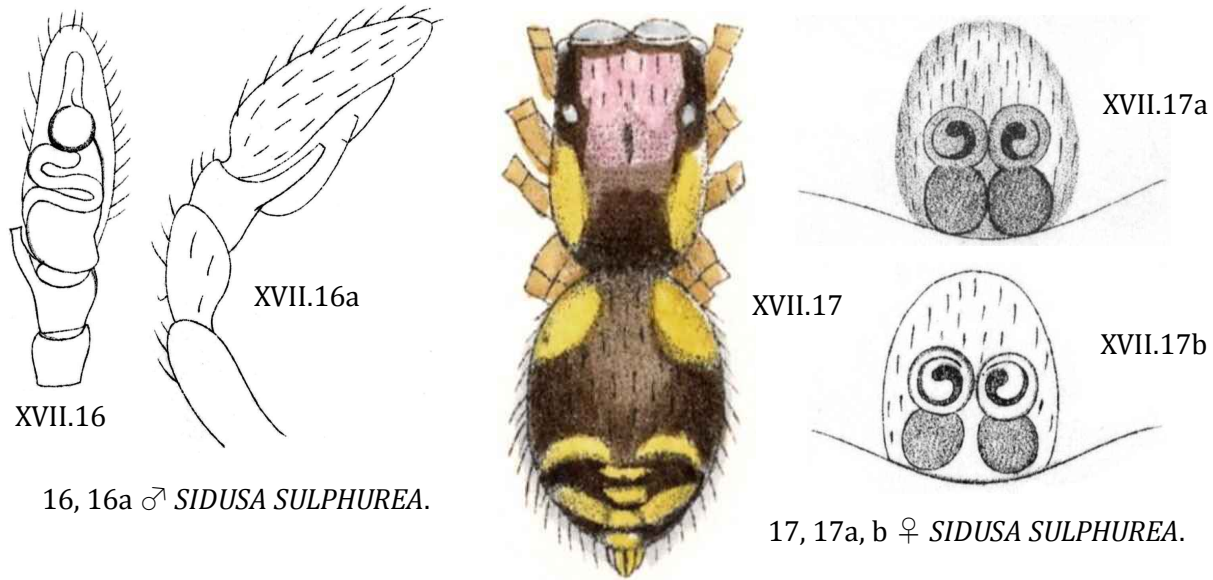
Type, ♀, in coll. Godman & Salvin. Total length 4 millim.

Carapace brown, margined with white scales, with a white spot between the lateral eyes and two or more spots in the region of the central stria. Cephalic area and eyes margined with black. Abdomen golden-buff, with a broad, black, anterior marginal band followed by a sinuous white line on each side, not united in the middle. On the posterior dorsal area are a pair of black spots on each side in connection with a circular parenthetical white bar on each side, often resolved into two spots (as in some varieties of *S. albicincta*). Ventral area pale, with olive-green speckles. Legs yellow, more or less distinctly annulated with brown. Tibia i. with lateral spines on the inner side; protarsus i. with lateral spines on both sides; tibiae iii. and iv. with a small dorsal basal spine. Vulva consisting of two circularly margined areas in contact along their inner margins, with four dark spermathecal spots in a transverse line about one diameter (variable) from the genital rima, the central pair circular and slightly larger, the lateral pair smaller and piriform, connected by a second curved internal duct; the first constitutes the margins of the disc on each side.

Hab. Panama, Bugaba (*Champion*).

The pattern on the abdomen of this small species is very similar to that of others of the group, especially *S. albicincta* and *S. flavida*, but the disposition of the ovaries and oviducts is very distinct.

30. *Sidusa sulphurea*, sp. n. (Tab. XVII. figg. 16, 16a, ♂; 17, 17a, b, ♀.)



16, 16a ♂ *SIDUSA SULPHUREA*.

17, 17a, b ♀ *SIDUSA SULPHUREA*.

Plate XVII. Fig. 16. *Sidusa sulphurea*, ♂, palpus from beneath; 16a, ditto from the outer side. Fig. 17. *Sidusa sulphurea*, ♀, dorsal view, legs removed (4.0 mm); 17a, vulva; 17b, ditto, variety.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 3, ♀ 4 millim.

Carapace dark brown, clothed with pink iridescent scales, with a broad posterior marginal blotch of sulphur-yellow scales. Abdomen brown or black, with a pair of conspicuous sulphur-yellow shoulder-spots; a pair of curved transverse yellow bars (sometimes separate in the centre, sometimes united and forming a single transverse bar) just behind the middle, followed by two or three small central spots, a larger yellow spot just above the spinners, and one on each side of this; sides spotted with dusky brown; ventral area pale. Legs brown or yellow-brown; i. and ii. rather darker.

Cephalic area more globular than in most of the allied species. Small eyes midway between the laterals. Tibia i. and protarsus i. without lateral spines on either side; tibiae iii. and iv. without a dorsal basal spine. Tibial spur of male palpus a little longer than the segment, sparsely truncate at the apex (but this is probably the result of accident, and in reality it is more or less aculeate). Bulb not developed basally, with a fine circularly curved spine at the apex, its point slightly recurved.

Vulva characteristic, consisting of a pair of circular brown discs, in some cases in contact, in others slightly separate, situated on the posterior margin, with a pair of circularly-spiral ducts in front, forming two discs about the same size as the posterior pair, or slightly larger.

Hab. Panama, Bugaba (*Champion*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

31. *Sidusa flavida*, sp. n. (Tab. XVIII. figg. 1, 1a, ♂; 2, ♀.)

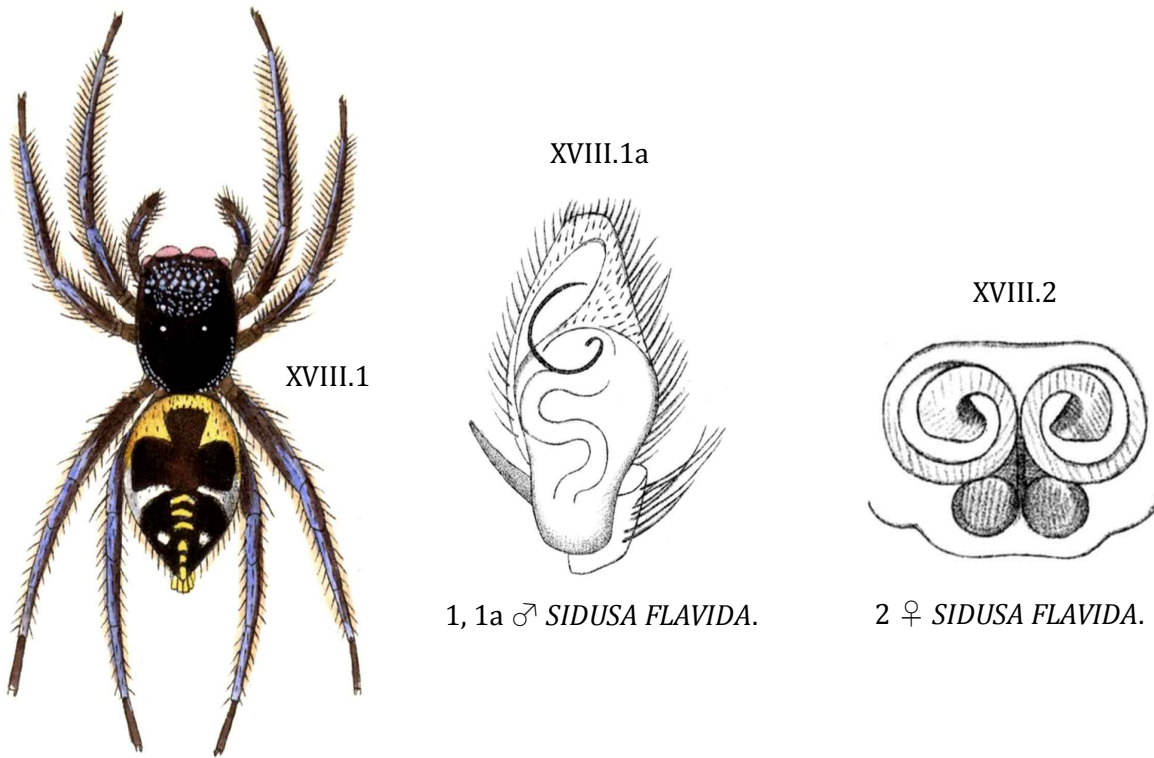


Plate XVIII. Fig. 1. *Sidusa flavida*, ♂ (4.9 mm): 1a, palpus from beneath. Fig. 2. *Sidusa flavida*, ♀, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 6 millim.

Hab. Guatemala (*Sarg*).

This little species can be recognized by the conspicuous band of yellow hairs on the anterior margin of the abdomen in both sexes. Other characters are given in the Table of species. *Jotus optimus*, Peckh., is closely allied to this species and also to *S. sulphurea*.

32. *Sidusa binotata*, sp. n. (Tab. XVIII. fig. 3, ♂.)

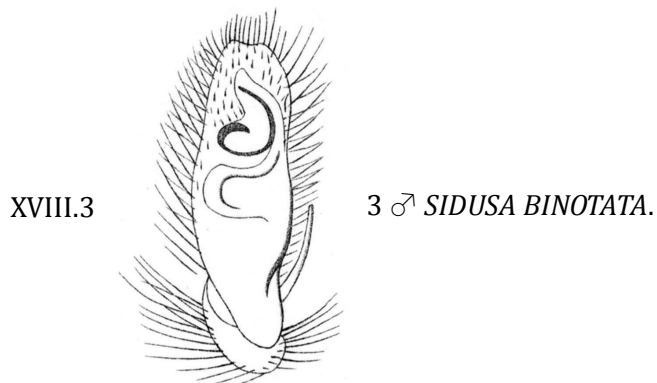


Plate XVIII. Fig. 3. *Sidusa binotata*, ♂, palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 8 millim.

Hab. Mexico, Atoyac in Vera Cruz (*H. H. Smith*).

In size and general appearance this spider is very like *S. conspecta* (Peckh.), but the tibial spur is longer and more slender, and there are no brown and white crested fringes above and beneath patellae, tibiae, and protarsi i. and ii., but only a more dense clothing of black hairs; tibiae i. and ii. are, moreover, cylindrical and not quadrate, seen in transverse section, as in *S. conspecta*. Otherwise the coloration is very similar indeed. The distinctive characters are given in the Table.

33. *Sidusa excavata*, sp. n. (Tab. XVIII. figg. 4, 4a, b, ♂.)

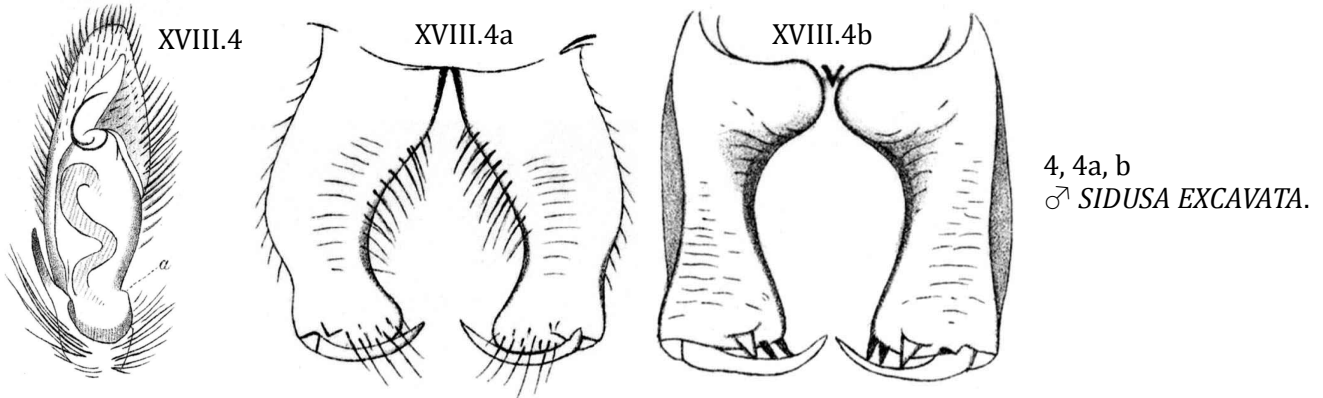


Plate XVIII. Fig. 4. *Sidusa excavata*, ♂, palpus from beneath; 4a, mandibles from above; 4b, ditto from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 8 millim.

Legs unicolorous brown. Carapace and legs clothed with azure-blue scales, the former also with a spot of white scales between and beneath the lateral eyes, and another on each side behind the posterior lateral eyes, but approaching the central line. Apex of femur and tibia of palpus yellow, clothed with white scales. Clypeus not clothed with white hairs.

Hab. Guatemala (*Sarg*).

This species may be recognized by the excavated mandibles (the excavation not confined to the middle) and the absence of a tooth on their margin, the absence of fringing hairs on the legs, the abrupt constriction on the inner basal margin of the palpal bulb, and the less sweeping curve of the apical spine.

34. *Sidusa opima*. (Tab. XVIII. figg. 5, ♂; 6, ♀.)

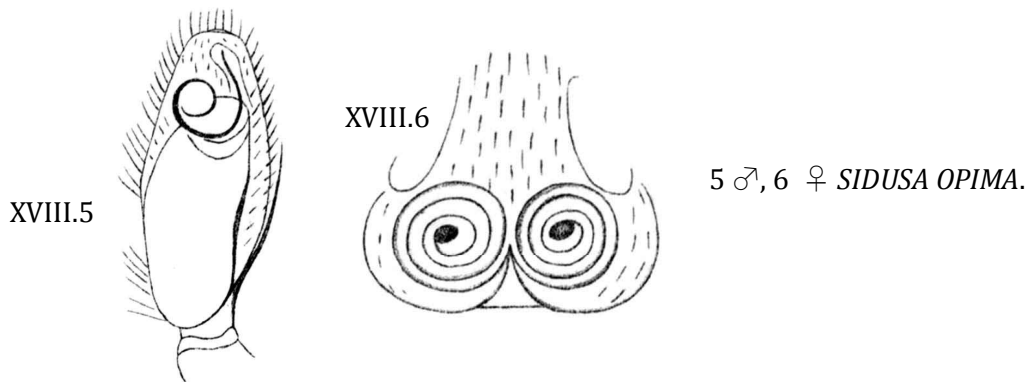


Plate XVIII. Fig. 5. *Sidusa opima*, ♂, palpus from beneath. Fig. 6. *Sidusa opima*, ♀, vulva.

Jotus opimus, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 71, t. 2. figg. 7, 7b (♀), 7a (♂) (Dec.)¹.

Dynamius opimus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 12 (♀) (April 1896)²; Banks, Proc. Calif. Acad. Sci. (3) i. p. 283, t. 17. fig. 25 (♀) (1898)³.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 8, ♀ 10.7 millim.

Hab. Mexico, Tepic³; Guatemala^{1 2}.

This species is evidently closely allied to others of the "*Escambia*" group of *Sidusa*. ; probably the same as *S. fulvoguttata*.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

2 F† 2

220

ARANEIDEA.

PENSACOLA.

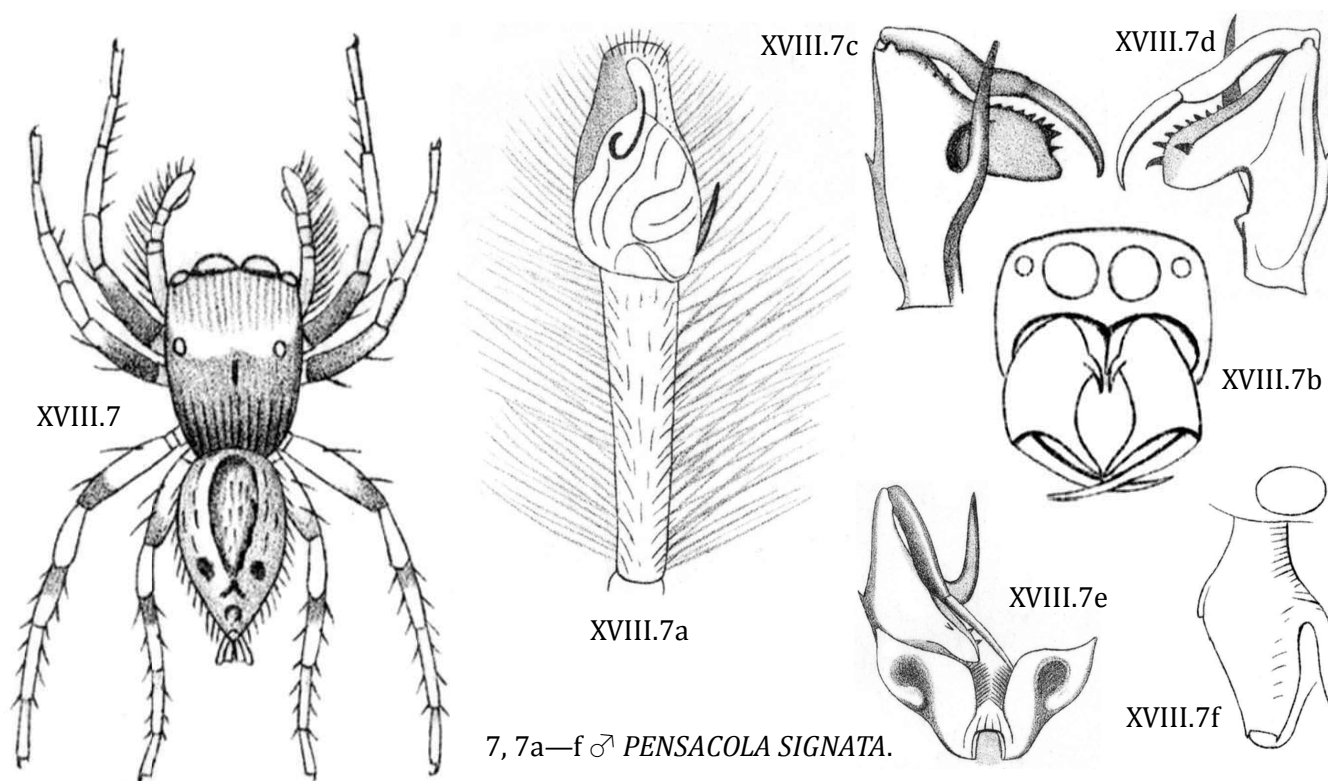
Pensacola, Peckham, Proc. Nat. Hist. Soc. Wisc. 1885, p. 83 (Dec.).

Hamillus, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 70 (April 1896).

Type of *Pensacola*, *P. signata*, Peckh., Guatemala; of *Hamillus*, *H. sylvestris*, Peckh., Guatemala.

Characters drawn from the adult male of the type-species of *Hamillus*:—Cephalic quadrangle much broader than long, slightly wider in front. Dorsal eyes nearer the lateral posteriors. Anterior row of eyes straight by their posterior margins or slightly procurved; central anteriors less than twice the diameter of the laterals. Clypeus very narrow, less than one-fourth the diameter of the anterior centrals. Sternum nearly three times longer than broad; coxae of legs subequal. Legs 3, 1, 2, 4, or 3, 1, 4, 2. Leg i. the stoutest, with the patella and tibia fringed below with longer hairs. Patellae i. and ii. with one inner spine, iii. and iv. with 1—1 spines. Tibiae i. and ii. with 1—1—1 lateral spines on each side, and 1—1 extra lateral inner spines. Protarsi i. and ii. with 1—2 spines on the outer side, 2—2 on the inner side; iii. and iv. with a subbasal and an apical ring of spines. Tibiae iii. and iv. with, besides lateral spines, a single small central dorsal basal spine. Maxillae very much enlarged and dilated laterally at their apex. Mandibles greatly enlarged, variable individually. Both fang-grooves situated on a semi-detached bracket-like piece of the basal segment, variously shaped; upper margin numerously toothed and with a single larger tooth at its inner, or posterior, angle; lower margin with a single large tooth at its inner, or posterior, angle. The basal segment has a long, sharp, curved spur, starting from the inner margin in front towards the base, directed downwards and forwards; there is also often a more or less developed cusp on the outer margin about the middle of the basal segment. Palpi long and slender; femur strongly curved; tarsus narrow, bulb narrow and elongate, with a slender apical, slightly spiraloid, spine; tibial spur slender.

1. *Pensacola signata*. (Tab. XVIII. figg. 7, 7a—f, ♂.)



7, 7a—f ♂ *PENSACOLA SIGNATA*.

Plate XVIII. Fig. 7. *Pensacola signata*, ♂ (6.3 mm): 7a, palpus from beneath; 7b, mandibles and eyes from in front; 7c, mandible from above; 7d, ditto from beneath; 7e, maxillae and right mandible from beneath; 7f, right mandible from in front and above.

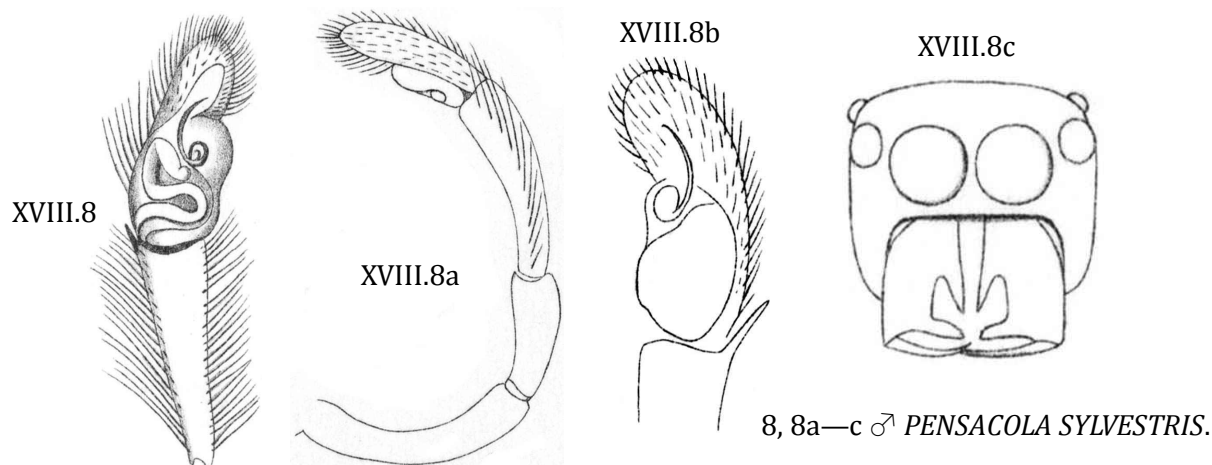
Pensacola signata, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 84, t. 2. figg. 13, 13a—e (♂ ♀) (Dec.)¹.

Type, ♂, in coll. Peckham. Total length 6 millim.

Hab. Guatemala¹.

I strongly suspect that this species is identical with *Hamillus sylvestris*, Peckh., but without the type-specimens at hand for examination one cannot be certain.

2. *Pensacola sylvestris*. (Tab. XVIII. figg. 8, 8a—c, ♂.)



8, 8a—c ♂ *PENSACOLA SYLVESTRIS*.

Plate XVIII. Fig. 8. *Pensacola sylvestris*, ♂, palpus from beneath; 8a, ditto from the inner side; 8b, tarsus and apex of tibia of ditto from the outer side; 8c, eyes and mandibles from in front.

Hamillus sylvestris, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii.1, p.71, t. 6. figg. 3, 3 a—c (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 5 millim.

Tibia and patella i. fringed with red or brown hairs beneath. Palpus clothed with white hairs; the tibia white and in one example with a black line down its whole dorsal length. There may be two species characterized by this difference in the tibia of the palpus and the red or brown hairs beneath tibia i.; but I can see no difference in the palpal organs, and have not material sufficient at hand to decide the question.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala, Eastern district¹.

3. *Pensacola radians*. (Tab. XVIII. fig. 9, ♀.)

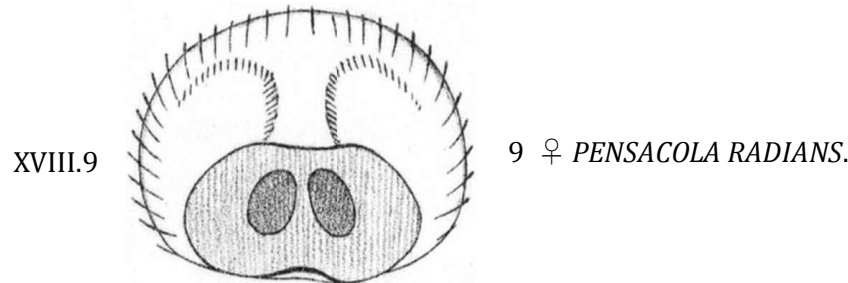


Plate XVIII. Fig. 9. *Pensacola radians*, ♀, vulva.

Hamillus radians, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 72, t. 6. figg. 4, 4a (♀) (April 1896)¹.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

PENSACOLA.—PARDESSUS.

221

Type, ♀, in coll. Peckham. Total length 6.2 millim.

Hab. Panama¹.

I have not come across any examples of this spider in our collection.

PARDESSUS.

Pardessus, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 35 (April 1896).

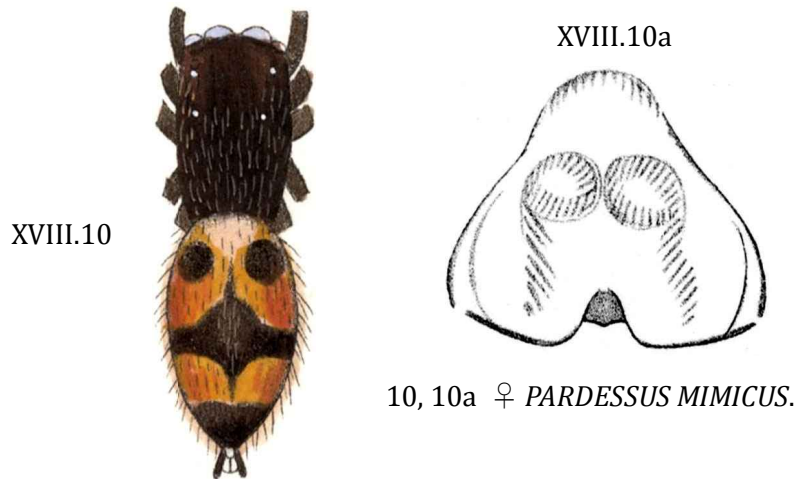
Type *Pardessus mimicus* (C. Koch). Brazil.

The type-species (sec. Peckham), of which there is only a female in our collection, appears to me to be very close to *Cyrene*, but not having the males also it is difficult to settle the point. I therefore leave the genus as it is, but am unable to give any characters by which it can be satisfactorily separated from the above.

1	I. Patellae i. and ii. without spines. Abdomen orange or orange-red, with two large adjacent black spots in front and two broad transverse black bars behind, the first often dilate in the middle, the second apical. Abdomen with a dark anterior marginal band. Ventral area brown, with a pale cincture, formed by the continuance beneath of the first dorsal pale band. Carapace clothed with rust-red or yellow-red hairs; cephalic area darker. Legs brown; patellae, tibiae, and protarsi orange.	<i>mimicus</i> , Koch.
----------	--	------------------------

1	<p>II. Patellae i. and ii. with spines on the inner side. Abdomen brown, with orange speckles, having a broad lateral-anterior marginal orange band scarcely meeting in front, posteriorly deflected about the middle of the lateral area; and a broad, transversely procurving, orange band, whose ends are bent below and recurved towards the spinners. Ventral area pale brown. Carapace black, with red hairs and a marginal band of white hairs. Legs brown; patellae rather paler; protarsi of all four pairs clothed above with white scales; femora and other segments also with white scales.</p>	<i>gratiosus</i> , Koch.
----------	---	--------------------------

1. *Pardessus mimicus*. (Tab. XVIII. figg. 10, 10a, ♀.)



10, 10a ♀ PARDESSUS MIMICUS.

Plate XVIII. Fig. 10. *Pardessus mimicus*, ♀, dorsal view, legs removed (10.2 mm); 10a, vulva.

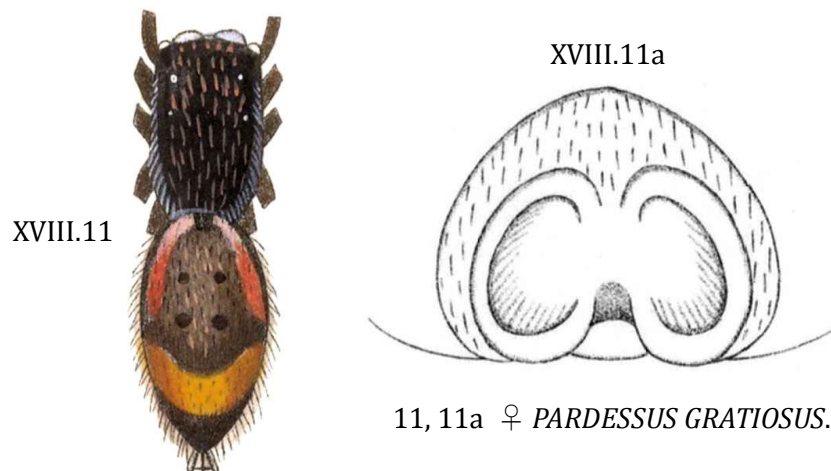
Plexippus mimicus, C. L. Koch, Die Arachn. xiii. p. 111, fig. 1173 (♀)¹.

Pardessus mimicus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 36, t. 3. figg. 1, 1a, b (♀) (April 1896)².

Type, ♀, in coll. Peckham. Total length 9—10 millim.

Hab. Panama².—Brazil¹, Chapada¹.

2. *Pardessus gratiosus*. (Tab. XVIII. figg. 11, 11a, ♀.)



11, 11a ♀ PARDESSUS GRATIOSUS.

Plate XVIII. Fig. 11. *Pardessus graciosus*, ♀, dorsal view, legs removed (9.7 mm); 11a, vulva.

Phiale gratiosus, C. L. Koch, Die Arachn. xiii. p. 193, figg. 1240, 1241 (♀)¹.

Pardessus gratiosus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 36 (April 1896)².

Hab. Panama, Bugaba (*Champion*).—Brazil¹.

The specimen shown on our Plate has been identified by Peckham as *Pardessus*

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

222

ARANEIDEA.

gratiosus, and it may be referable to Koch's species, judging from the two published figures.

CYRENE.

Cyrene, Peckham, P. Z. S. 1893, p. 698.

Heraclea, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 76 (April 1896).

Type of *Cyrene*, *C. decorata*, Peckham (*in Mus. Brit.*), St. Vincent, W. I. (♀); of *Heraclea*, *H. regia*, Peckham, Guatemala.

I am unable at present to recognize any generic distinction based on the structure which would incline one to uphold the use of these two distinctive names. I am also unable to understand on what system Peckham's classification is based, or whether there is any system intended. He, however, remarks that *Heraclea* is near *Epinga*, but does not mention that *Cyrene* even enters the same group. *Epinga*, in my opinion, is not very nearly allied to either of them. It is of course possible that *C. niveoguttata*, *C. delecta*, *C. aprica*, and *C. interrupta* may, with the type-species, whose abdominal pattern is characteristic, form a convenient generic group, if some really definite character be found on which to base such a distinction.

The following are the characters common to all the members included here under *Cyrene*:—

♀. Anterior row of eyes slightly recurved; ocular quadrangle broader than long, wider in front. Carapace elongate-oval, slightly dilated at the sides beyond the middle, about once and a quarter longer than the ocular quadrangle, but very variable. Tibiae i. and ii. with 2—2—2 spines beneath and one apical spine, or 1—1 lateral spines on the inner side; protarsi i. and ii. with 2—2 spines beneath. Patellae i. and ii. with or without a small spine on the inner side. Tibiae iii. and iv. with or without a single small dorsal basal spine*; with 1—1—1 spines on each side. Protarsi iii. and iv. with a basal, median, and apical transverse group of spines. Sternum very variable in shape, but, as a rule, rather dilated posteriorly, where it narrows suddenly and concavely, forming a very broad blunt cone. Mandibles simple, not developed, nor with enlarged teeth or apophyses; with a short stout fang, two small teeth on the upper margin, and a single slightly larger one on the lower.

The characters drawn from minute differences in the position of the eyes and in the height and curvature of the carapace are so subtle, and so difficult of observation, as to be almost useless, to my mind.

<i>Males.</i>		
1	A. Abdomen bright orange-rust-red above, with central pale band. (not A.)	2 7
2	i. Tibiae iii. and iv. without a small dorsal basal spine. (not i.)	3 4
3	1. Tibia of palpus incrassate, bilobate, prominent on the outer side, viewed from above. Bulb not bilobate at the base; apical spine short, slightly curved, with a small inner marginal prominence.	<i>regia</i> , Peckh.

* This character separates the females into two groups—(1) including *C. delecta*, *C. aprica*, *C. interrupta*, *C. fusca*, and *C. bisignata*, which possess the spine; and (2) the remaining species, in which it is absent. Amongst several males of the latter, however, which are obviously congeneric with the females of that group, the spine is present.

3	2.	Tibia of palpus not incrassate, or bilobate, or prominent on the outer side, but with a long slender black spur deeply cleft at the apex. Bulb deeply bilobate at the base; apical spine long, slender, filiform, curved.	<i>pratensis</i> , Peckh.
4	ii.	Tibiae iii. and iv. with a small dorsal basal spine.	5
5	1.	Apical spur of bulb short, stout; bulb almost bisymmetrically bilobate at the base.	<i>niveoguttata</i> , sp. n.
	2.	Apical spur of bulb long and slender ; bulb bilobate, but outer lobe much more developed.	6
6	a'.	Legs i. and ii. brown, tarsi yellow; iii. and iv. spotted and annulate brown and yellow, protarsi yellow, except at the apex, tarsi yellow. Ground-colour of carapace and abdomen brown. Tibial spur of the palpus slightly though decidedly hooked at the apex; seen in profile the base of the bulb lies almost straight along beneath the tibial spur, not upcurved. Abdomen usually with distinct white central posterior herring-bone band, but this is sometimes absent. (Carapace brown, broadly margined with white, the band running up between the lateral eyes, with a central anterior cephalic white spot and a posterior spot, often isolated, usually coalescing with and followed by a pale central band running to the posterior margin. Clypeus white. Abdomen brown, more or less clothed with orange hairs, with two white shoulder-spots, often united to form a transverse band; with a central transverse pale band, sometimes resolved into three spots, followed by a pale herring-bone band, with two larger white spots on each side and two smaller ones close to the spinners; posterior margin white.)	<i>delecta</i> , Peckh.
	b'.	Legs i., ii., iii., iv. black, tarsi yellow. Ground-colour of carapace and abdomen black. Tibial spur of the palpus not hooked at the apex; seen in profile the base of the bulb curves upward. Abdomen without white herring-bone posterior band, but with four thin white ^-shaped lines. (Carapace black, margined and spotted as in <i>C. delecta</i> , but less distinctly. Clypeus white. Abdomen black, with white anterior and central transverse bands; in the absence of the herring-bone band the four white spots remain conspicuous.)	<i>aprica</i> , Peckh.*
7	B.	Abdomen not orange-rust-red above, but brown or grey, with or without central and marginal pale bands.	8
8	i.	Legs red-brown or dull yellow-brown; iii. and iv. sometimes annulate, but, like i. and ii., not conspicuously spotted with black. Femora i. and ii. not clothed with bright orange scales in front.	9
	(not i.)		20

* The palpi of *C. delecta* and *C. aprica* are very similar in form, and the coloration is extremely variable, at least in the former. I believe, however, that *C. aprica* is a good species. The size, too, is of no importance, as we have males of *C. delecta* varying from 3.5—6 millim.

9	*	Apical spine of the palpus not bifurcate or bifid, simple, aculeate.	10
	**	Apical spine of the palpus broad, more or less bifid or bifurcated, divided into a pair of longer or shorter branches.	16

10	1. Tibiae iii., or iii. and iv., with a single small dorsal basal spine (besides the usual laterals).	11
	2. Tibiae iii. and iv. without any dorsal basal spines.	14
11	1a. Tibiae iii. and iv. with dorsal basal spines. Tibial spur of palpus unibranchiate.	12
	1b. Tibia iii. only with dorsal basal spines. Tibial spur of palpus bibranchiate . (Apical spine modified to form a large flat curving plate. Bulb not bilobate.)	<i>bicuspidata</i> , sp. n.
12	a'. Tibial spur of the palpus very long, slightly curved, directed downward and forward, notched beneath at the apex. (Carapace as in <i>C. regia</i> , with a white patch behind the anterior eye. Bulb not bilobate at the base.)	<i>longispina</i> , sp. n.
	b'. Tibial spur of the palpus very short, short and broad, or quite inconspicuous, merely tuberculiform.	13
13	aa'. Tibial spur of the palpus very inconspicuous, tuberculiform, bent downward and inward at the base of the tarsus. Bulb not bilobate. Apical spine gently but decidedly curved. (No white patch behind anterior eyes.)	<i>curvispina</i> , sp. n.
	bb'. Tibial spur of the palpus very short, but sharp and sinuous. Apical spine very long and sinuously straight. Bulb very much enlarged and bilobate.	<i>bulbosa</i> , sp. n.
14	a'. Palpal bulb deeply bilobate at the base (but not enlarged). Apical spine very short and not very stout. (Tibial spur short and curved.)	<i>bilobata</i> , sp. n.
	b'. Palpal bulb simple, not bilobate, but distinctly attenuated d at the base. Apical spine very long, either straight or very strongly curved.	15
15	aa'. Tibial spur of the palpus short, broad, quadrate, bent inward, the angles not produced. Bulb suddenly attenuated d at the base. Apical spine straight, or only very slightly curved from the base.	<i>grisea</i> , sp. n.
	bb'. Tibial spur of the palpus short, broad, but its angles produced, the inner or upper one much more than the outer or lower. Bulb gradually attenuated d basally. Apical spine very strongly curved from the base, its apex being also itself strongly incurved.	<i>prominens</i> , sp. n.
16	a. Tibiae iii. and iv. with a single small dorsal basal spine.	17
	(not a.)	18
17	a'. Tibial spur of the palpus short and blunt. Apical spine less deeply bifid: inner branch short, broad, straight, concave; outer branch short, curved, and transparent, very inconspicuous.	<i>bifida</i> , sp. n.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

CYRENE.

225

17	b'. Tibial spur of the palpus long, straight, stout, slightly curving downwards, notched beneath at the apex. Apical spine deeply bifid, the two branches being very slender and subsimilar, the upper one slightly sinuous.	<i>bifurcata</i> , sp. n.
18	b. Tibiae iii. and iv. without any small dorsal basal spines.	19
19	aa. Palpal bulb simple at the base, rounded, globular. Tibial spur broad, short, its outer angle sharp. Apical spine deeply and broadly bifurcate, the upper branch longest and strongly curved, the lower short and not very conspicuous.	<i>rustica</i> , Peckh.
	bb. Palpal bulb rather suddenly attenuated d at the base. Tibial spur short, very broad, with a sharp angle in the middle. Apical spine very broad, slightly dilated d and bifid at apex.	<i>minuta</i> , sp. n.

20	ii. Legs yellow, conspicuously spotted with black. Tibiae i. and ii. jet-black beneath. Femora i. and ii. clothed in front with bright orange scales. (Cephalic area orange-red, without a white spot between and behind the anterior central eyes; otherwise as in <i>C. regia</i> . Abdomen olive-brown, with central and marginal grey bands. Tibial spur of the palpus short, broad, truncate at the apex, the inner angle of the oblique truncation bent down inwards at the base of the tarsus. Tibiae iii. and iv. with a small central basal dorsal spine.)	<i>maculatipes</i> , sp. n.
-----------	---	-----------------------------

Note.—I do not know the male of *C. sanguinea* (Peckh.) nor of *C. dybowskii* (Tacz.), and cannot therefore include them in the Table. The figure given of the palpus of the latter by Peckham is not sufficiently detailed for the purpose.

<i>Females.</i>		
1	A. Tibiae iii. and iv. without any small dorsal basal spines. (not A.)	2 21
2	AA. Carapace, abdomen, and legs orange-yellow, the former with pale bands or black bands and markings. BB. Carapace, abdomen, and legs brown, black, or red, mottled.	3 4
3	1. Carapace with a pale central and pale marginal bands; abdomen with a pale central band. Vulva transverse circular oval, posterior margin deeply indented in the middle, with a pair of widely separate transverse orifices. 2. Carapace with a dark brown central and marginal pale bands; abdomen with two pairs of black blotches, the anterior pair confluent in front, the posterior pair behind. Vulva slightly emarginate behind, not indented, with a small tubercle in the centre of the posterior margin, and a pair of widely separate long sinuous lines, anteriorly marking the position of the orifices.	<i>flavescens</i> , sp. n. <i>hieroglyphica</i> , sp. n.
4	i. Abdomen clothed with orange-rust-red or golden hairs on the dorsal surface, besides pale spots, with a pale central or pale transverse bars. (not i.)	5 9

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

2 G‡

226

ARANEIDEA.

5	aa. Patellae i. and ii. without short spines either on the inner or the outer side. bb. Patellae i. and ii. with a short spine on the inner side.	6 8
6	a'. Legs unicolorous red-brown. (Abdomen rust-red above, with an anterior marginal white band, dilated behind and directed upward; followed by an elongate transverse white spot; with two central longitudinal dorsal white spots, margined with black; posterior spinners black; sides of abdomen black, ventral area pale, or white. Legs and palpi entirely brown, except the coxae, trochanters, and patellae.) b'. Legs more or less annulated with yellow and brown.	<i>dybowskii</i> , Tacz. 7
7	* Carapace with a central posterior band of white hairs. Femora i. and ii. not dark at the base. Vulva short, broad, semicircular or rounded, quadrate, emarginate in the middle of the posterior margin, each side sloping upward to form a central ridge, with dark central blotches under the epidermis, and a dark orifice at each anterior angle. ** Carapace without a band of white hairs, but with a pale yellow central posterior band; a few obliquely curved lateral bars of white hairs only present. Femora i. and ii. dark at the base. Vulva very long, usually sinuously prominent on the posterior margin, with a central ridge or carina, and an anterior marginal convexity with a dark orifice on each side.	<i>emarginata</i> , sp. n. <i>regia</i> , Peckh.

8	1.	Abdomen rust-red, with a central black longitudinal band; on it lies a central white arrow-head, followed by a transverse oval white spot, centred with red, behind which to the spinners is a band of rust-red, with two or three small white spots on each side; sides white, speckled with brown; ventral area white. Legs entirely yellow.	<i>pratensis</i> , Peckh.
	2.	Abdomen clothed with golden hairs, with a white anterior marginal band, a transverse white band at the middle, followed by two indistinct pale curved transverse bars and three snowy-white spots in a transverse row.	<i>niveoguttata</i> .
	3.	Abdomen yellow, with a pale central band.	<i>flava</i> , sp. n.
9	ii.	Abdomen not clothed with orange-rust-red hairs on the dorsal surface, simply grey or mottled brown, usually without any pale anterior band, but with a pair of more or less distinct pale spots on each side in the apical half, and a more or less well-defined pale central dorsal scalloped band.	10
10	*	Carapace with a marginal or submarginal band of white hairs.	11
		(not *)	19
11	a.	Vulva without any large concavity on either the anterior or posterior margin.	12
		(not a.)	15

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

CYRENE.

227

12	1.	Posterior margin of vulva with a conspicuous rounded prominence in the middle.	13
	2.	Posterior margin of vulva without any rounded prominence in the middle.	14
13	a'.	Vulva with, anteriorly, a pair of deep semicircular channels connected behind, widely divergent in front.	<i>prominens</i> , sp. n.
	b'.	Vulva with, anteriorly, a pair of oval cavities, one diameter apart, situated transversely and obliquely, followed by a pair of brown spermathecal spots longitudinally situate.	<i>infuscata</i> , sp. n.
14	aa.	Vulva with, anteriorly, a pair of short, procurving, divergent, widely separate, semilunar, chitinous edges. Behind lie a pair of large oval spots, with a narrow piece on the inner side of each, beneath the epidermis; posterior margin with a broad, chitinous, transverse piece.	<i>pallida</i> , sp. n.
	bb.	Vulva with, anteriorly, a pair of long, slightly sinuous, chitinous edges, obliquely convergent forward. Behind lie a pair of small circular spots and the posterior margin is simple, not broadly chitinized.	<i>bicuspidata</i> , sp. n.
15	b.	Vulva with a large concavity on either the anterior or posterior portion of the epigynal area or in the middle.	16
16	aaa.	Vulval cavity situated in the middle of the epigynal area,	17
	bbb.	Vulval cavity situated on either the anterior or posterior portion.	18
17	†	Cavity horseshoe-form, with anteriorly a pair of deep oval cavities, and posteriorly a pair of more or less adjacent oval spermathecal spots.	<i>mediocava</i> , sp. n.
	††	Cavity circular-piriform, with no anterior pair of cavities, and posteriorly a pair of subadjacent circular-reniform spots.	<i>elegans</i> , sp. n.
18	a'.	Vulva with a broad transverse-oval cavity, posteriorly notched in the middle, with a rounded prominence in the middle of the anterior side of the cavity.	<i>laticava</i> , sp. n.
	b'.	Vulva with a broad transverse-oval cavity, sinuous on the posterior margin, but not so deeply notched, without any rounded prominence anteriorly.	<i>simplicicava</i> , sp. n.
19	**	Carapace without a marginal or submarginal band of white hairs.	20

20	a. Legs i. and ii. not, and iii. and iv. very indistinctly, annulated. Abdomen with a well-defined dark black-brown dorsal band, bordered on the outside with a slightly broken pale marginal band, and embracing a white central dorsal bar scalloped anteriorly and somewhat chevroned towards the spinners. Vulva with, anteriorly, a large transverse-oval cavity, behind	
-----------	---	--

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

2 G‡ 2

228

ARANEIDEA.

20	a. this a pair of blue-black sinuous spots, with a small concavity lying between them; posterior margin concave in the centre, without any prominence.	<i>albosignata</i> , sp. n.
	b. Legs i., ii., iii., and iv. annulate. Abdomen without any well-defined dark dorsal band; marginal pale band represented by a pair of pale spots only. Central dorsal pale band scalloped throughout, broader behind and not chevroned. Vulva with, anteriorly, a pair of large reniform cavities, convergent in front; posterior margin sinuous, with a conspicuous rounded conical prominence in the middle.	<i>bicavata</i> , sp. n.
21	B. Tibiae iii. and iv. with a small dorsal basal spine.	22
22	a. Abdomen either brown with a central dorsal pale band, or yellow with a central dark band, or often the whole dorsal area dark brown; no transverse pale bands.	23
	b. Abdomen with two transverse pale bands or cinctures, one on the anterior margin, the second just before the middle.	24
23	1. Abdomen brown, with a central dorsal pale band. Legs not annulated; no marginal band of white hairs on the carapace. Vulva very simple, transverse-oval, posterior margin emarginate in the middle, with a pair of small oval-oblique cavities, anteriorly convergent, in the middle.	<i>fusca</i> , sp. n.
	2. Abdomen yellow, with a central dark band, or the whole dorsal area dark. Legs annulated; a marginal band of white hairs and a pair of elongate pale spots on the carapace. Vulva more complex, consisting of a pair of circular dark spots, in contact on their inner margins, connected anteriorly with a circularly curved duct, geniculate where it joins the dark spot; posterior margin not emarginate.	<i>bisignata</i> , sp. n.
24	aa. Anterior band broken in the middle, followed by an elongate, central, longitudinal pale spot.	<i>interrupta</i> , sp. n.
	bb. Anterior band not broken in the middle nor followed by a longitudinal central pale spot.	25
25	1. Second transverse anterior abdominal band (between the two pale bands) very dark, with black and red hairs mixed. Posterior margin of vulva not concavely emarginate, but prominent in the middle and sinuous.	<i>aprica</i> , Peckh.
	2. Second transverse abdominal band orange-rust-red. Posterior margin of vulva concavely emarginate, with a pair of oval orifices, about their own diameter apart and the same distance from the posterior margin.	<i>delecta</i> , Peckh.

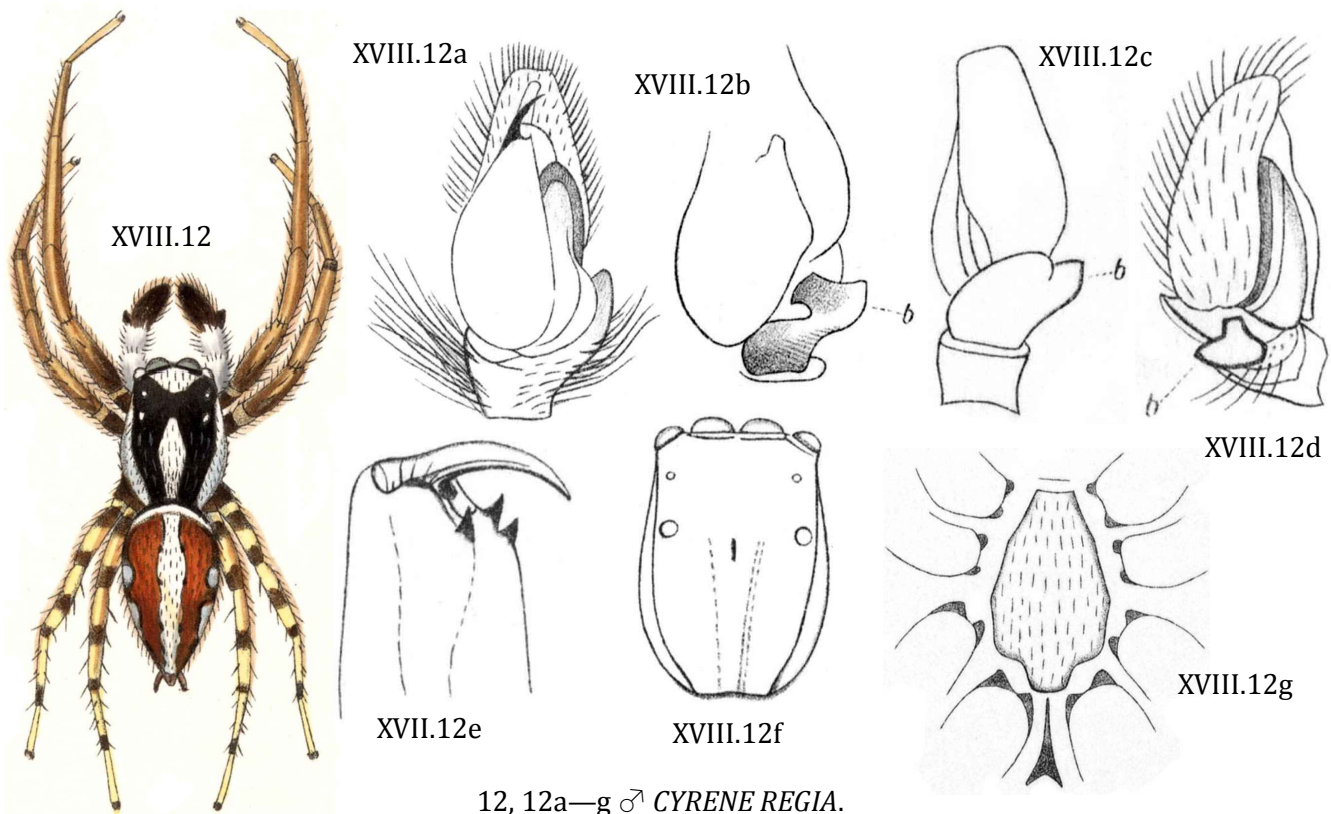
Note.—*C. geminata* has not been included in this Table, because the colours have faded in the single specimen seen; but the form of the vulva is very distinct. *C. rustica* and *C. flavescens* are not known to me in nature.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

<i>Females.</i>		
Separable by the spinulation of the legs.		
1	A. No basal dorsal spines on tibiae iii. and iv.	2
	B. A basal dorsal spine on tibiae iii. and iv.	4
2	a. Tibia i. with a single apical lateral spine on the inner side. (No spines on the inner side of patellae i. and ii.)	<i>regia, emarginata, prominens, bicuspidata, pallida, bicavata, elegans, albosignata, dybowskii, flavescens.</i>
	b. Tibia i. with 1—1 lateral spines, apical and basal.	3
3	1. No spine on patellae i. and ii. on the inner side.	<i>mediocava.</i>
	2. A spine on patellae i. and ii. on the inner side.	<i>laticava, pratensis, infuscata, niveoguttata, flava, hieroglyphica, simplicicava.</i>
4	a. Tibiae i. and ii. with 1—1 lateral spines on the inner side. No spines on patellae i. and ii. on the inner side. Protarsus ii. without lateral spines on the inner side.	<i>fusca, delecta, aprica, interrupta.</i>
	b. Tibiae i. and ii. with 1 apical lateral spine on the inner side. Spines on patellae i. and ii. on the inner side. Protarsus ii. with 1—1 lateral spines on the inner side.	<i>bisignata.</i>

Note.—The female of *C. rustica*, which is unknown to me, is not included in this Table.

1. *Cyrene regia*. (Tab. XVIII. figg. 12, 12a—g, ♂; 13, 13a—d, ♀.)



12, 12a—g ♂ *CYRENE REGIA*.

Plate XVIII. Fig. 12. *Cyrene regia*, ♂ (9.7 mm): 12a, palpus from beneath; 12b, ditto from the side, showing tibial spur at (b); 12c, ditto from above; 12d, ditto from above, another view; 12e, mandible from beneath; 12f, carapace and eyes from above; 12g, sternum.

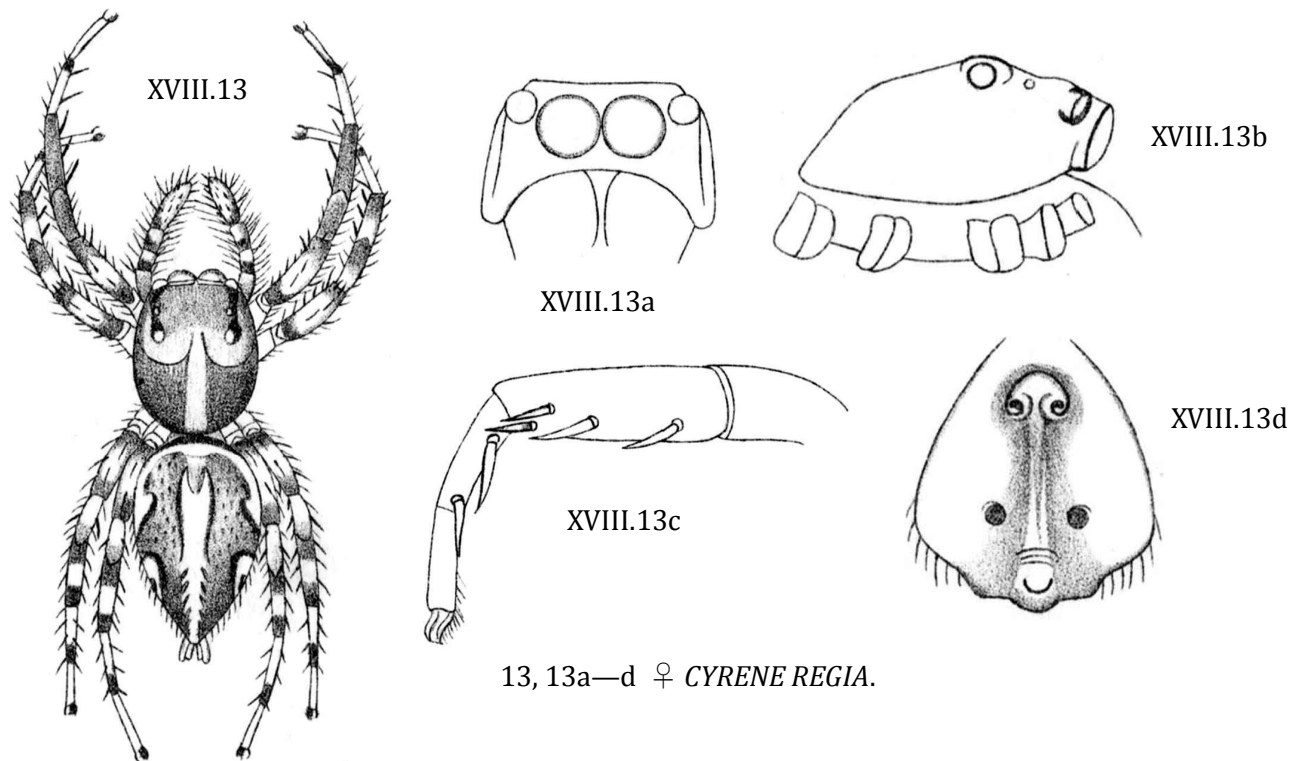


Plate XVIII. Fig. 13. *Cyrene regia*, ♀ (12.5 mm): 13a, eyes from in front; 13b, carapace and eyes, profile view; 13c, leg i. from the inner side; 13d, vulva.

Heraclea regia, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 77, t. 3. figg. 6, 6a—c (♀), t. 4. figg. 1, 1a, b (♂) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 10, ♀ 13 millim.

Dried example, ♂. Carapace black, entirely margined, except behind, with a broad white band. Cephalic area clothed in the centre with golden-grey hairs, with a triangular rounded patch of white hairs behind and between the anterior central eyes. Thoracic area with a broad, elongate, diamond-shaped patch down the centre, finely attenuate towards the posterior margin. Abdomen black in front, orange-rust-red dorsally, surrounded by a dull black ground-tint, margined in front by a broad white band, extending halfway along the side, followed by a single white spot in the apical third, whose anterior half is flanked by a brownish elongate spot on each side; a single broad, central, longitudinal, dorsal white band runs from the anterior third of the spinners, being usually scalloped slightly in the posterior half; spinners brown, posterior pair black, with white hairs above; ventral area grey, spotted with black, clothed with grey hairs. Legs i. and ii. uniform red-brown, more or less clothed with white hairs; iii. and iv. paler, the femora with a central white and basal and apical black patches; tibiae and protarsi of all four pairs more or less suffused with brown at the apex. Palpi brown; femur and patella thickly clothed with white hairs. The colour slightly varies, the lateral band often being broken to form a second spot. Femora i. and ii. are often clothed with white hairs on the apical half or third above. Sometimes the diamond-shaped band unites laterally with the lateral bands towards the posterior margin. The legs i. and ii. are also often black.

The female is coloured similarly to the male, but the lateral subapical spots on the abdomen are more isolated, the anterior marginal band being usually less pronounced. Legs i. and ii. deep purple-brown, the protarsi and tarsi paler, the femora with a broad pale annulation in the middle; iii. and iv. paler, annulated throughout with black. The white hairs tend to a yellowish tint, and the palpi are pale yellow with brown annulations. The femur, patella, and tibia tipped above with yellow-white hairs. The central abdominal band and lateral spots are more conspicuously cinctured with black than in the male; the carapace has not, however, the conspicuous white patches of that sex. The thoracic region has a

pale central band, with a procurved oblique dark line and another nearer the central line on each side, marking the position of the thoracic striae.

♂. Palpal bulb simple; apical spine short, dilated at the base, sharply pointed, often with a small prominence on the inner side; tibial spur large and conspicuous from above, somewhat involved from below, bilobate and not easy to see.

♀. Vulva consisting of a large elongate area, having a long, conspicuous, central carina starting anteriorly from a semicircular convexity. The posterior margin is often slightly trilobate, the central lobe being more conspicuous. The details, however, vary very much, the posterior margin being simply rounded in some cases, not lobate. The anterior convexity has a pair of small round orifices.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*), Eastern District¹.

2. *Cyrene sanguinea*.

Heraclea sanguinea, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 78 (April 1896)¹.

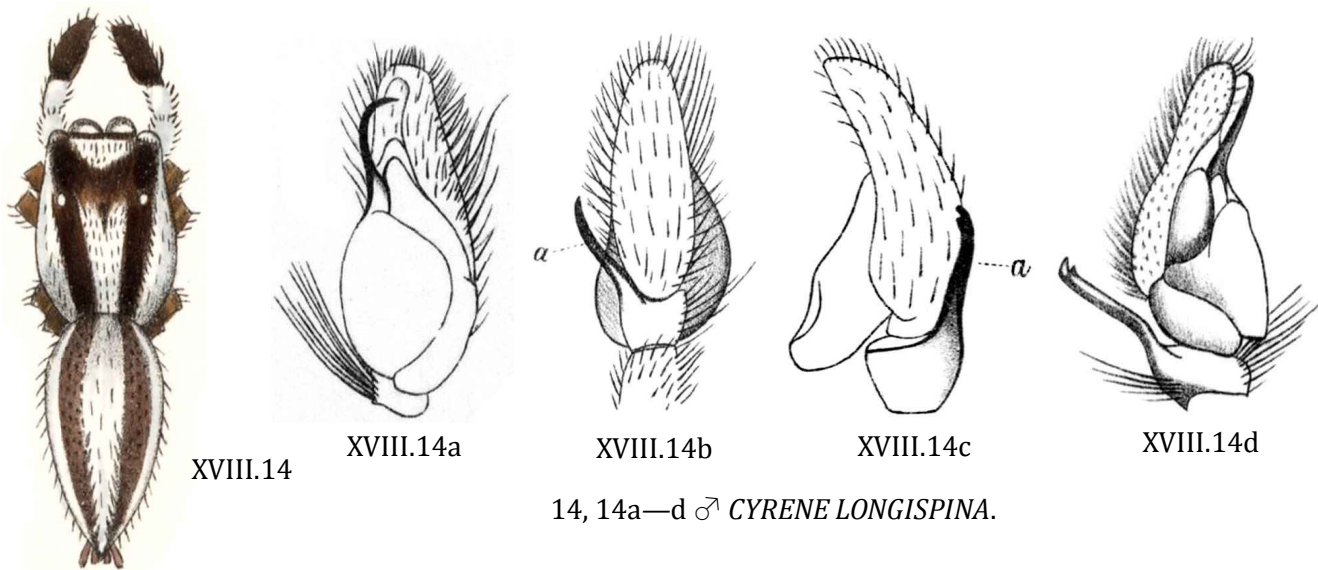
Var. *Heraclea paradoxa*, Peckh. loc. cit. p. 79².

Types, ♂, in coll. Peckham.

Hab. Guatemala, Eastern District^{1 2}.

No figures or description of the male palpus are given. The spider is said to be closely allied to *C. regia*, but the mere statement that "the palpus, however, is different" does not help the student, or tend to advance science. The species is probably identical with the male here described as *C. pratensis*, and another synonym might possibly have been avoided by the barest mention of the form of the tibial spur.

3. *Cyrene longispina*, sp. n. (Tab. XVIII. figg. 14, 14a—d, ♂.)



14, 14a—d ♂ *CYRENE LONGISPINA*.

Plate XVIII. Fig. 14. *Cyrene longispina*, ♂, dorsal view, legs removed (7.2 mm); 14a, palpus from beneath; 14b, ditto from above, showing tibial spur (a); 14c, ditto from the outer side, another view; 14d, ditto from the outer side and somewhat beneath.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Dried example, ♂. Colour similar in most respects to that of *C. regia*. Femora of legs, however, not banded. Abdomen dorsally deep purple-brown or black, with a marginal band of white hairs in front, this uniting with a broad lateral and marginal band of white hairs, reaching almost to the spinners; a broad central band of white hairs reaching from the anterior marginal band to the spinners. The posterior legs are, perhaps, more densely clothed with white hairs than in *C. regia*. Ventral area black, with greyish hairs.

Palpus very different from that of *C. regia*: bulb with a long, slender, sinuous, apical spine, its point directed outward; tibial spur long, slender, sinuous, slightly notched below at the apex.

Hab. Guatemala (*Sarg*).

This spider resembles *C. regia* in general coloration, except that the abdomen is not orange-red above, but brown; and the tibial spur of the palpus is of a totally different structure, being long and slender. This spur much resembles that of the variety of *C. pratensis* in which the apical fissure is very shallow; but the much more slender apical spine and the deeply bilobate basal portion of the bulb of the latter will prevent any confusion of the two forms.

4. *Cyrene bilobata*, sp. n. (Tab. XVIII. figg. 15, 15a—d, ♂.)

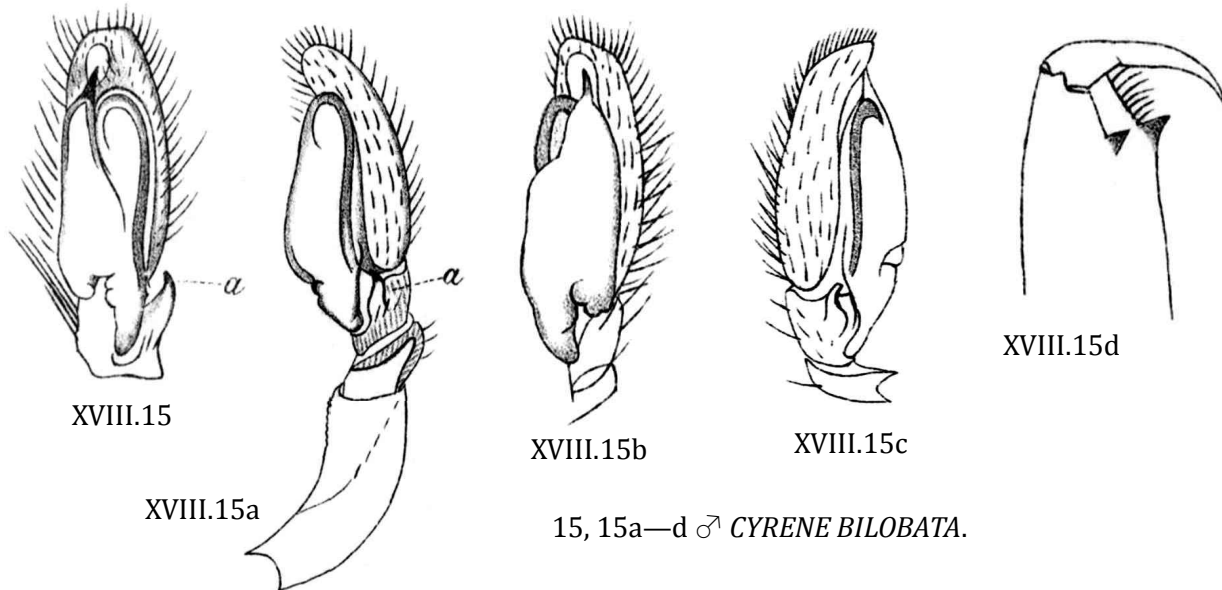


Plate XVIII. Fig. 15. *Cyrene bilobata*, ♂, palpus from beneath, showing tibial spur (a); 15a, ditto from the outer side; 15b, ditto, showing bilobate bulb; 15c, ditto from the outer side, another view; 15d, mandible from beneath.

Type, ♂, in coll. Godman & Savin. Total length 6 millim.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., April 1901.

This species can be recognized at once by the deeply bilobate base of the palpal bulb. The carapace has a white central thoracic spot, a spot between the lateral eyes and behind the posterior laterals, and also a thin marginal band of white hairs, including the clypeus. The abdomen is brown-yellow, with a complete marginal white band and a broken central dorsal pale band. Ventral area black, with a central pale band, the black area itself margined with a band of white; between this last and the dorsal marginal white band is another dark band. Legs uniform yellow-brown, the apex of the femora dusky.

5. *Cyrene bulbosa*, sp. n. (Tab. XVIII. figg. 16, 16a—d, ♂.)

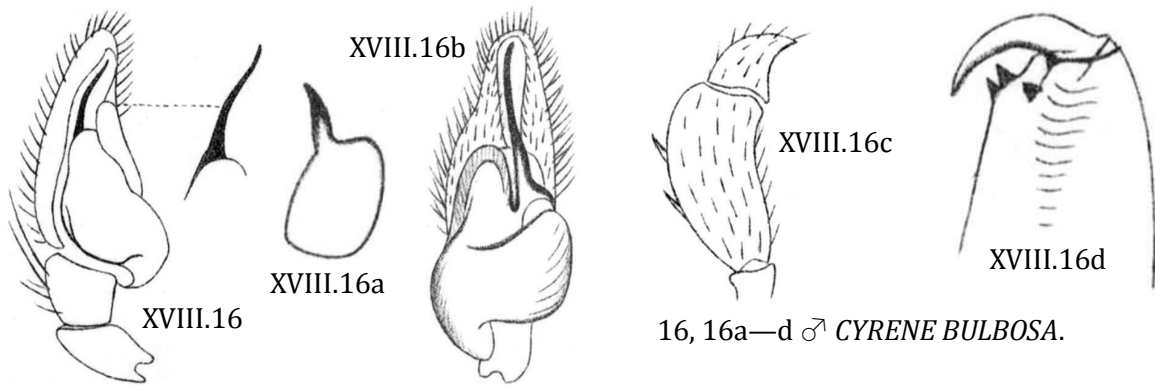


Plate XVIII. Fig. 16. *Cyrene bulbosa*, ♂, palpus from the inner side; 16a, tibia of ditto, showing the spur; 16b, ditto from beneath; 16c, femur and patella of ditto; 16d, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Hab. Panama, Bugaba (*Champion*).

The carapace of the single specimen received of this spider is much rubbed and the abdomen is destroyed, but the palpal organs are so very distinctly different from those of any other forms in our collection that I do not hesitate to describe it as new. The carapace probably had no white spot behind the anterior eyes, but a central thoracic white band and a marginal white band embracing the clypeus. The legs are all more or less clothed and annulated with white hairs, especially in front of tibiae and protarsi i. and ii. The mandibles have no clothing of white hairs in front.

6. *Cyrene prominens*, sp. n. (Tab. XIX. figg. 1, 1a—e, ♂; 2, 2a, ♀.)

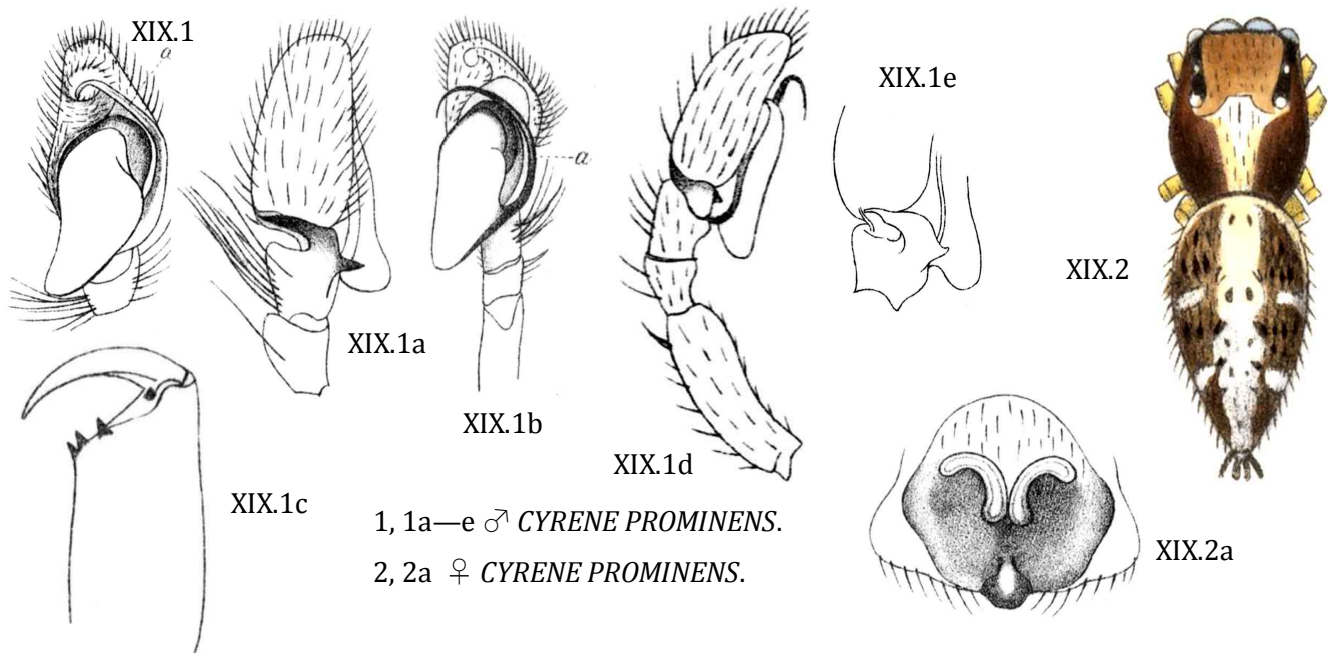


Plate XIX. Fig. 1. *Cyrene prominens*, ♂, palpus from beneath; 1a, ditto from above; 1b, ditto, variety, from beneath; 1c, ditto, variety, from above, showing the tibial spur; 1d, ditto from the outer side; 1e, mandible from beneath. Fig. 2. *Cyrene prominens*, ♀, dorsal view, legs removed (9.5 mm); 2a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 8, ♀ 10 millim.

The abdomen of the female is not very well preserved, but the form of the vulva is so characteristic that there can be no mistake in identification. Legs orange, banded with brown as in *C. regia*. The carapace is clothed with yellow-grey hairs and has a pale central posterior ground-line, but no band of white hairs. For a description of the vulva, palpus, and other available points of difference, see the Table of species.

Hab. Mexico, Teapa (*H. H. Smith*); Costa Rica (*Rogers*).

This species is closely allied to both *C. regia* and *C. emarginata*, but may be distinguished by the form of the vulva, and of that of the palpal organs, and by the absence of rust-red hairs on the abdomen.

7. *Cyrene curvispina*, sp. n. (Tab. XIX. figg. 3, 3a—c, ♂.)

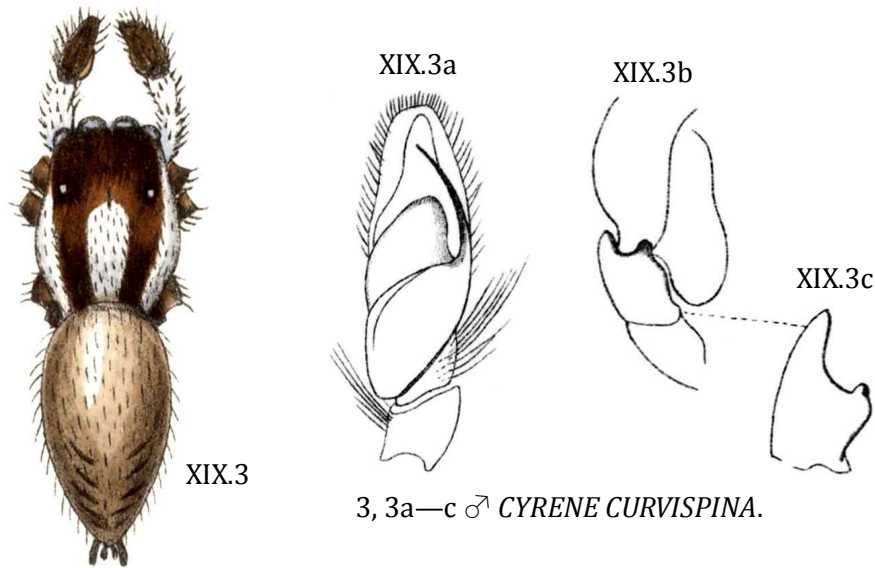


Plate XIX. Fig. 3. *Cyrene curvispina*, ♂, dorsal view, legs removed (5.9 mm); 3a, palpus from beneath; 3b, ditto from the outer side, showing the tibial spur; 3c, tibial spur enlarged.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Dried example, ♂. Colour similar to that of *C. pratensis*, except that the scales on the cephalic area are tinged with red, rather than green. Femur and patella of palpus clothed with white hairs. The abdomen has apparently no rust-red hairs above, but the colouring is obliterated. The species is, however, perfectly distinct from *C. pratensis* and all other described forms.

Palpus: apical spine of bulb long, slender, sharp, and gently curved; bulb not bilobate at the base; tibial spur very little developed, being very short and conical, its apex pressing inward (the tibia is, in reality, deeply emarginate on its outer anterior margin).

Hab. Guatemala (*Sarg*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., April 1901.

8. *Cyrene pratensis*. (Tab. XIX. figg. 4, 4a—e, ♂; 5, 5a—d, ♀.)

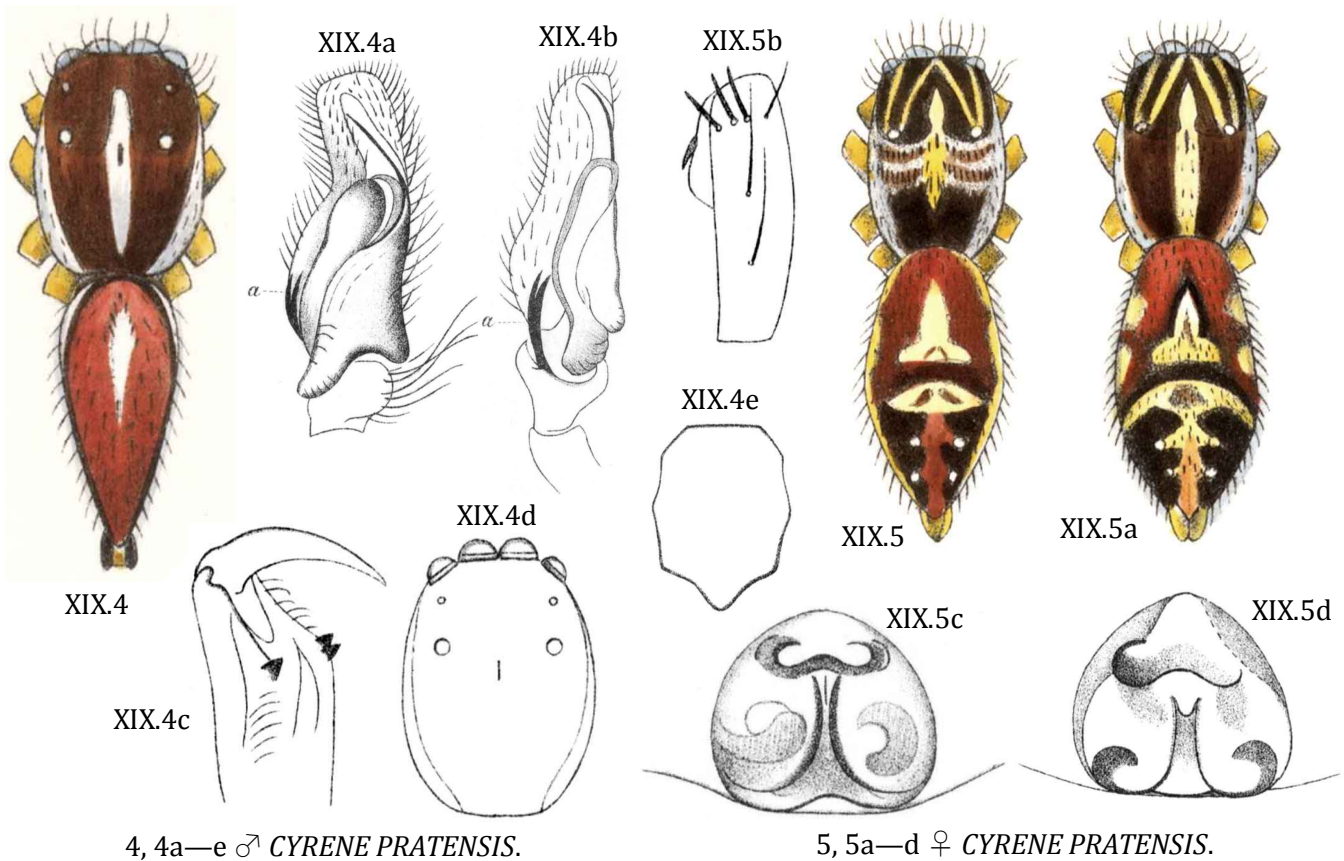


Plate XIX. Fig. 4. *Cyrene pratensis*, ♂, dorsal view, legs removed (7.9 mm); 4a, palpus from beneath; 4b, ditto from the outer side; 4c, mandible from beneath; 4d, carapace and eyes from above; 4e, sternum. Fig. 5. *Cyrene pratensis*, ♀, dorsal view, legs removed (7.6 mm); 5a, ditto, variety (7.6 mm); 5b, femur of leg i. from above; 5c, vulva; 5d, ditto, malformed variety.

Hyllus pratensis, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 70, t. 2. fig. 6 (♂) (Dec.)¹.

Cytaea (?) *concinna*, Peckh. loc. cit. p. 74, t. 2. figg. 8, 8 a (♀)².

Type, ♂, *H. pratensis*, and ♀, *C. concinna*, in coll. Peckham. Total length, ♂ 10, ♀ 8 millim.

Dried example, ♂. Carapace deep red-brown or black, having a central narrow band of white scales extending from between the posterior lateral eyes almost to the posterior margin; posterior two-thirds of the lateral margins with a narrow band of white scales; posterior margin devoid of scales. Cephalic area clothed with dull greyish-green scales; anterior central eyes set in yellowish-pink hairs. Abdomen bright rust-red dorsally, with a broad dark brown or black margin, and a broad central longitudinal band of white scales, pure white anteriorly, tinged with yellow and somewhat narrowed in the centre, becoming dilated again at the spinners; sides broadly clothed with grey or white hairs, which are not continued, however, in front; ventral area brown.

Mandibles deep red-brown, transversely rugulose. Palpi red-brown, the femora above clothed with white scales. Legs i. and ii. red-brown, iii. and iv. paler; tarsi pale yellow, clothed with brown hairs; the segments of iii. and iv. suffused with dusky brown at their apex.

Inner upper angle of mandible, which bears the usual two teeth, prominent. Palpal bulb deeply bilobate at its base, the outer lobe narrowed and prolonged; the apical spine slender, elongate, and slightly curving, its point directed outward; tibial spur slender (often stouter), elongate, and deeply bifid at its apex, forming a little fork, sometimes deeply cleft like the tongue of a snake.

♀. Carapace yellow; cephalic area brown or black, with brown hairs interspersed with rich red-brown ones, especially just above the anterior central eyes; all the eyes are encircled with yellow hairs; a conspicuous \wedge -shaped yellow mark, its branches converging in front but not actually meeting, lies on the anterior part of the cephalic area; and a yellow band, pointed in front, terminating behind in the middle of the thoracic area, starts from between the dorsal eyes. The carapace is also bordered with a band of whitish hairs on the sides, and besides numerous whitish hairs there are inconspicuous obliquely curving bands of these hairs on the sides just behind the cephalic area. Abdomen black in the centre, rich red-brown in front and at the sides of the dorsal area; with a central yellow arrow-head directed forwards, followed by a transverse-oval yellow spot centred with red-brown, behind which to the spinners is a band of rich red-brown, flanked on each side, touching it, by three small pure white spots; the front and lateral margins are yellow, the latter with a long sinuous dark line, more or less broken up, running towards the spinners; ventral area clothed with grey-white hairs. Mandibles, clypeus, palpi, and legs uniform yellow, clothed with grey-white hairs. In some examples the ventral area is dusky black, and the transverse-oval dorsal spot has oblique lateral branches.

Vulva consisting of a transverse sinuous rim in front, its centre projecting forwards and curving forwards at the sides, with a central longitudinal furrow, having a raised central carina; the posterior margin is sinuously emarginate and the sides are convex, with the oviducts showing dark beneath the surface.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala^{1 2} (*Sarg.*).

Since the above was written, Mr. Peckham's paper¹ has come to hand, and it enables me to identify the male and female described as his *Hyllus pratensis* and *Cytaea concinna* respectively. The coloration of the male, as is often the case, appears, at first sight, to be quite different from that of the female, and one would not suppose that they belonged to the same species. We have, however, luckily, an immature male which represents a conclusive transitional stage between the two sexes; it has the whole of the dorsal area of the abdomen red, and the spots, so conspicuous in the female, quite distinct, but very faint (in the adult male only the slightest traces of them remain). In the immature male also the \wedge -shaped or oblique pale lines on the cephalic area are quite distinct.

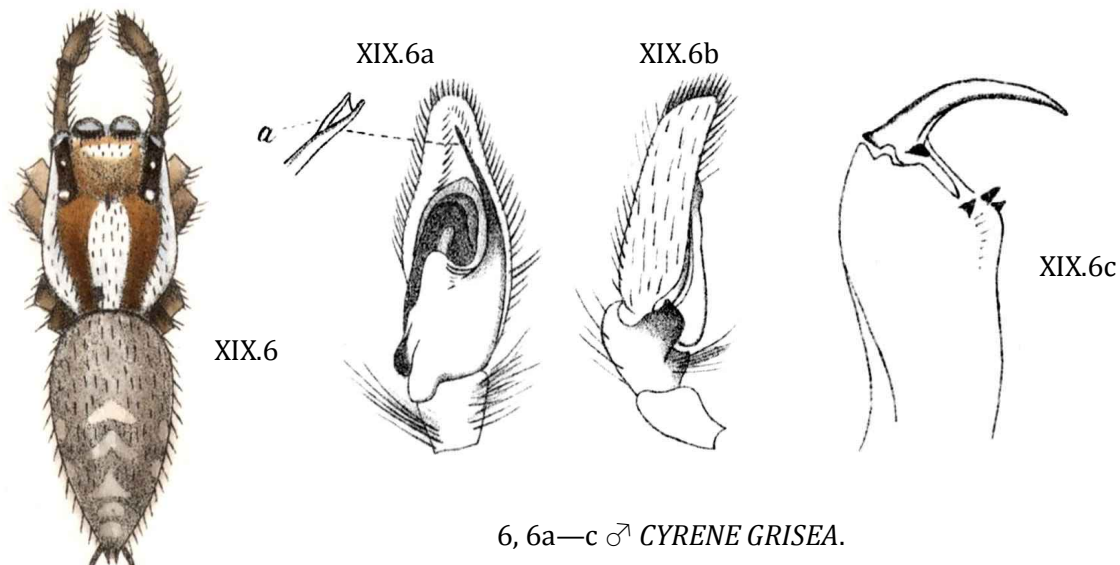
BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., April 1901.

CYRENE.

233

I cannot at present separate this species generically from *Cyrene delecta*, and therefore leave it in the same genus.

9. *Cyrene grisea*, sp. n. (Tab. XIX. figg. 6, 6a—c, ♂.)



6, 6a—c ♂ CYRENE GRISEA.

Plate XIX. Fig. 6. *Cyrene grisea*, ♂, dorsal view, legs removed (6.7 mm); 6a, palpus from beneath; 6b, ditto from the outer side; 6c, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Carapace red-brown, with a broad marginal band, a patch behind the eyes, and a central posterior band, white. The base of the mandibles is densely clothed with white hairs, but the clypeus is devoid of them. The femur and patella of the palpus are also devoid of white hairs. Abdomen mouse-grey above, with a very indistinct central pale band, resolving itself into three triangular spots just above the spinners; ventral area grey, with three dusky brown longitudinal speckled bars; sides speckled with sooty-brown. Legs i. and ii. brown, tarsi yellow; iii. and iv. annulated with yellow and brown.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

This species may, amongst those known to us, be recognized at once by the white hairs on the mandibles in front.

10. *Cyrene bifida*, sp. n. (Tab. XIX. figg. 7, 7a—d, ♂.)

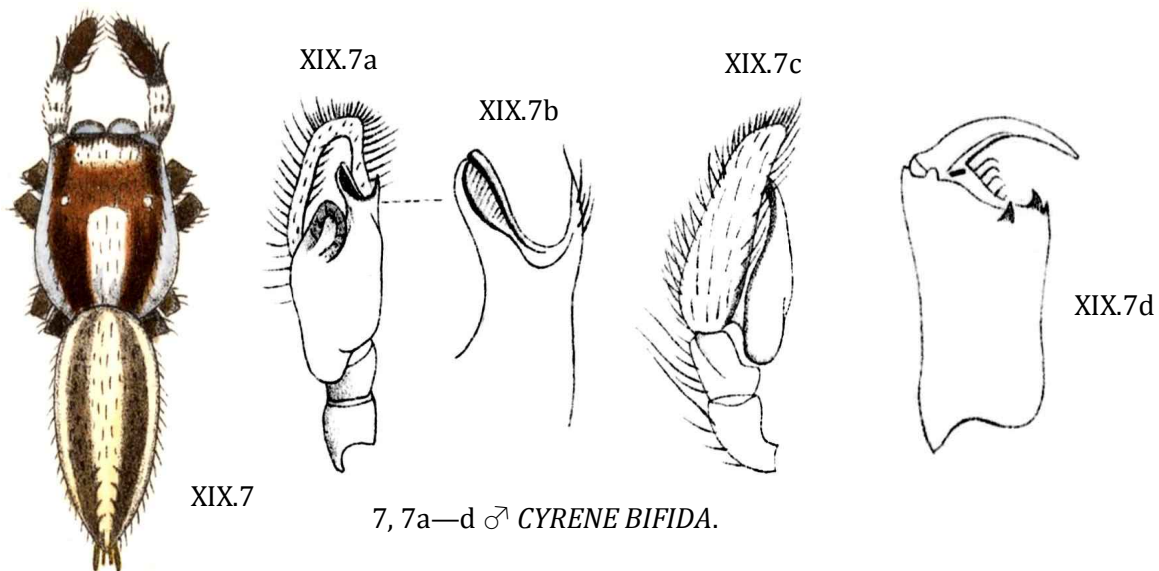


Plate XIX. Fig. 7. *Cyrene bifida*, ♂, dorsal view, legs removed (6.9 mm); 7a, palpus from beneath; 7b, ditto, showing apex of bulb enlarged; 7c, ditto from the outer side; 7d, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Carapace red-brown, with a broad white marginal band including the clypeus, a central white band extending from between the posterior eyes to the hind margin, and a broad white band behind the anterior central eyes. Mandibles at the base, apex of femur, and patella of palpus clothed with white hairs. Abdomen brown or black above, with a narrow central longitudinal dorsal pale band, becoming somewhat herring-boned towards the spinners; sides pale, speckled with brown; ventral area brown. Legs i. and ii. yellow-brown; iii. and iv. yellow, unicolorous.

Hab. Panama, Bugaba (*Champion*).

11. *Cyrene rustica*. (Tab. XIX. figg. 8, 8a—d, ♂; 9, ♀.)

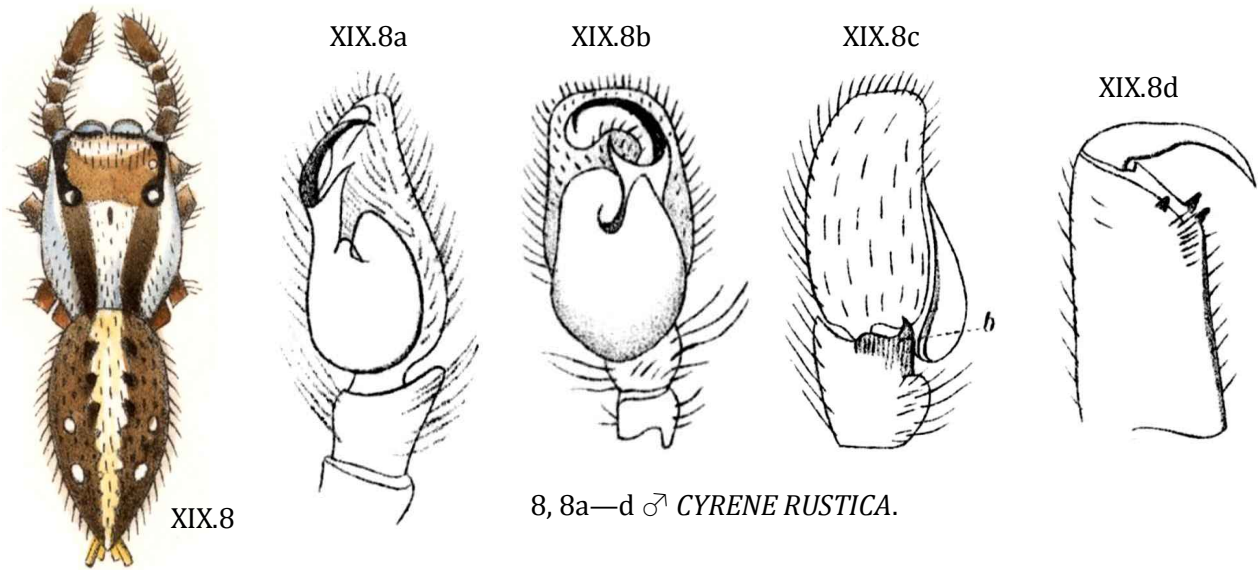


Plate XIX. Fig. 8. *Cyrene rustica*, ♂, dorsal view, legs removed (9.2 mm); 8a, palpus from beneath; 8b, ditto, another view; 8c, ditto from above, showing the tibial spur at (b); 8d, mandible from beneath. Fig. 9. *Cyrene rustica*, ♀, vulva (after Peckham).

Heraclea rustica, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p, 79, t. 4. figg. 2, 2b (♂), 2a, c (♀) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 9, ♀ 8 millim.

Hab. Guatemala¹ (Sarg).

The excellent drawing of the male palpus and the description quoted enable me to include the differential characters in the Table of species.

Our figures of the male are drawn from an adult male taken by Mr. Sarg.

12. *Cyrene minuta*, sp. n. (Tab. XIX. figg. 10, 10a—c, ♂.)

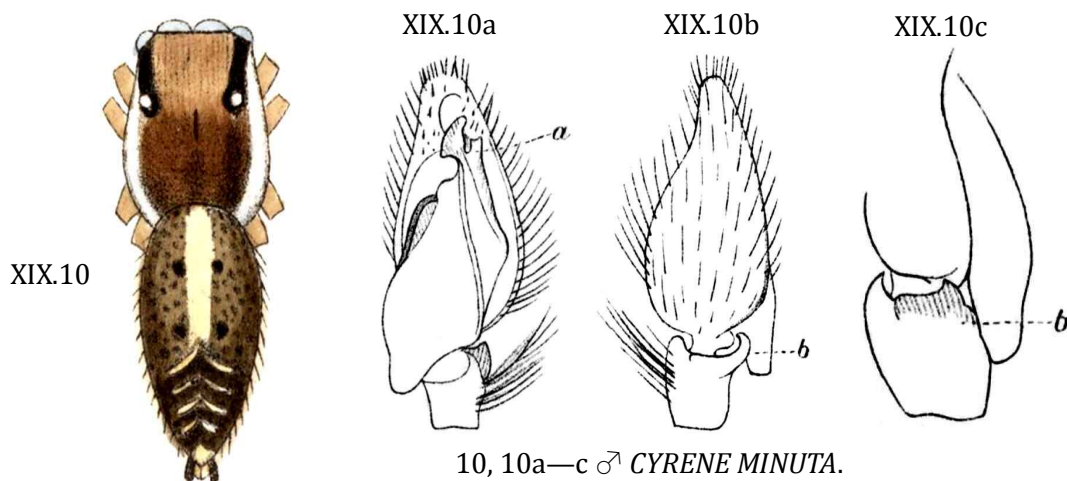


Plate XIX. Fig. 10. *Cyrene minuta*, ♂, dorsal view, legs removed (6.0 mm); 10a, palpus from beneath, showing apical formation at (a); 10b, ditto from above, showing the tibial spur at (b); 10c, ditto from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Hab. Panama, Bugaba (*Champion*).

In this small species the legs i. and ii. are unicolorous, and iii. and iv. annulated. The carapace has a submarginal band of white hairs, including the clypeus. The abdomen is brown and speckled, with a very indistinct pale central band and a few very narrow chevrons towards the spinners. The tibiae iii. and iv. are without small

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

2 H‡

234

ARANEIDEA.

dorsal basal spines. The tibial spur of the palpus is short and broad, with a central cusp much curved inwards. There is no apical palpal spine proper, but a broad chitinous process: see figure.

13. *Cyrene bifurcata*, sp. n. (Tab. XIX. figg. 11, 11a, b, ♂.)

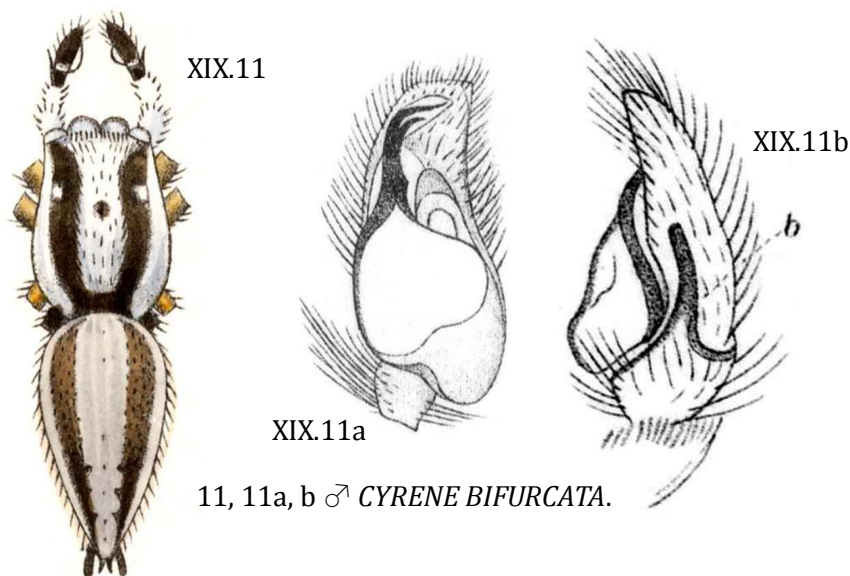


Plate XIX. Fig. 11. *Cyrene bifurcata*, ♂, dorsal view, legs removed (6.0 mm); 11a, palpus from beneath; 11b, ditto from the outer side, showing the tibial spur at (b).

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

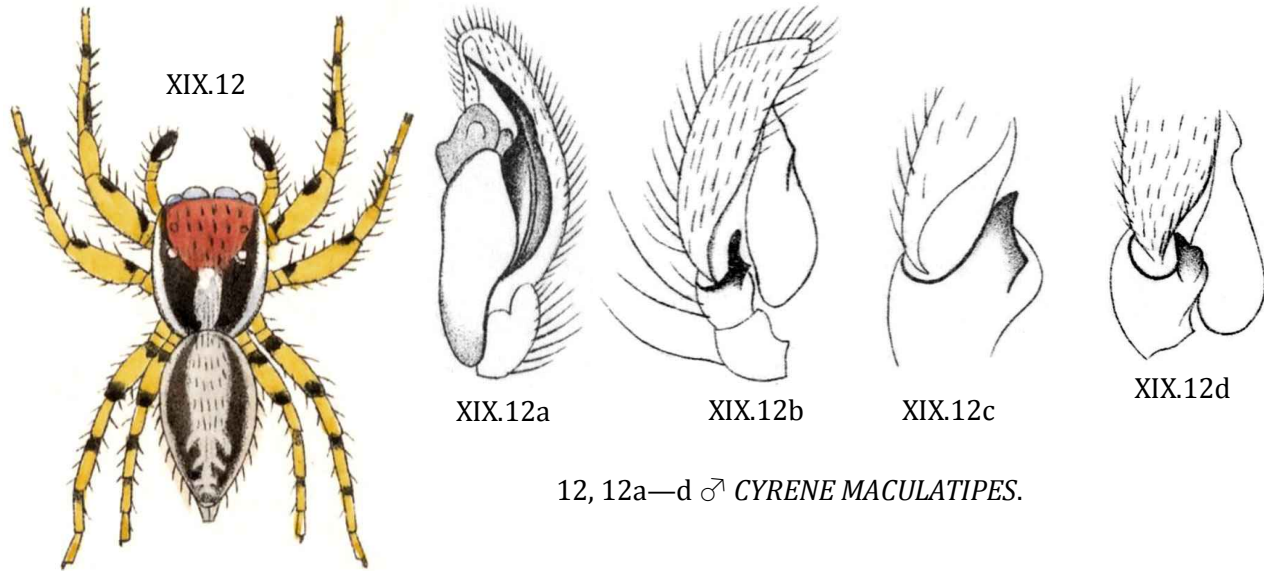
Dried example, ♂. Carapace deep brown, broadly and entirely surrounded, except behind, with white hairs. Cephalic area with a broad transverse band of white hairs behind the anterior row of eyes, sometimes uniting with the central pale band. Thoracic area with a central band of white hairs extending from between the posterior lateral eyes to more than halfway to the posterior margin. Abdomen brown, with a longitudinal central greyish band reaching from the anterior margin to the spinners, and a broad lateral grey band on each side; ventral area grey, speckled with brown. Femur and patella of palpus and the base of the mandible with white hairs. Legs i. and ii. yellow-brown; iii. and iv. yellow, clothed with white scales and brown hairs. The eyes of the anterior row are set in a narrow fringe of orange scales, besides those of the white band.

Palpus. Tibial spur long, straight, stout, simple, and blunt at the apex, viewed from the side; slightly curved at the apex and notched below, viewed from beneath; bulb slightly bilobate at the base, but not as in *C. pratensis*; apical spur very stout at the base, elongate, sinuously curved, its apex divided into two long slender spines, the upper outer one being the longest.

Hab. Panama, Bugaba (*Champion*).

This species is closely allied to *C. rustica* (Peckh.), but differs from it in having a long tibial spur and the prongs of the apical fork of the palpal spine less widely separate.

14. *Cyrene maculatipes*, sp. n. (Tab. XIX. figg. 12, 12a—d, ♂.)



12, 12a—d ♂ *CYRENE MACULATIPES*.

Plate XIX. Fig. 12. *Cyrene maculatipes*, ♂ (6.0 mm): 12a, palpus from beneath; 12b, ditto from the outer side; 12c, ditto, showing the tibial spur enlarged; 12d, ditto, another view.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Dried example, ♂. Carapace black, entirely encircled, except behind, with a broad marginal band of white scales; clypeus with thick white hairs. Cephalic area clothed with orange-red scales above and on the sides; thoracic area with a band of white hairs from between the posterior lateral eyes meeting the marginal band behind. Anterior eyes set in bright orange scales. Palpi clothed with grey hairs, but without pure white hairs. Legs orange-yellow; femora i. and ii. with an inner apical, anterior apical, and basal black spot, clothed in front with a dense covering of orange scales; tibiae and protarsi i. and ii. brown, the former jet-black beneath, the latter at the apex, with whitish hairs above, dorsally. Legs iii. and iv. more or less annulated and spotted with brown. Abdomen rich olive-brown or black above, with a broad central grey-white band reaching from the anterior margin to the spinners; anterior margin and sides slightly clothed with whitish hairs; ventral area grey.

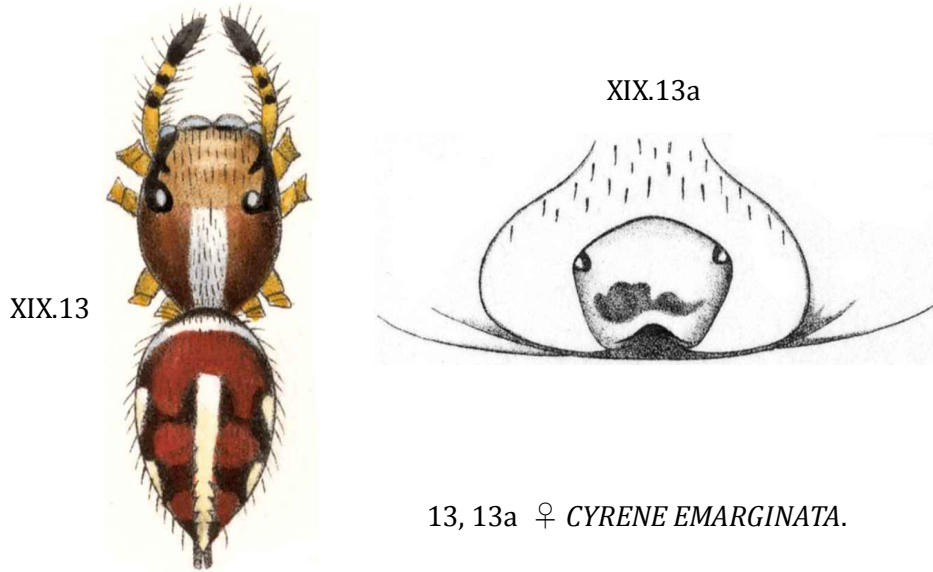
Palpi. Very similar to those of *C. curvispina*. Tibia enlarged and very convex on the outer side, with a rather sharp point bent inwards to the base of the tarsus, between the margin of the tarsus and the bulb; apical spine practically the same as in *C. curvispina*, but the bulb is not so broad and more sinuous on the outer side, and the upper lobe has a distinct prominence on the inner side.

Hab. Mexico, Teapa (*H. H. Smith*).

Recognizable by its orange, black-spotted legs and the dense orange covering of the anterior side of femora i. and ii.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

15. *Cyrene emarginata*, sp. n. (Tab. XIX. figg. 13, 13a, ♀.)



13, 13a ♀ *CYRENE EMARGINATA*.

Plate XIX. Fig. 13. *Cyrene emarginata*, ♀, dorsal view, legs removed (9.2 mm); 13a, vulva.

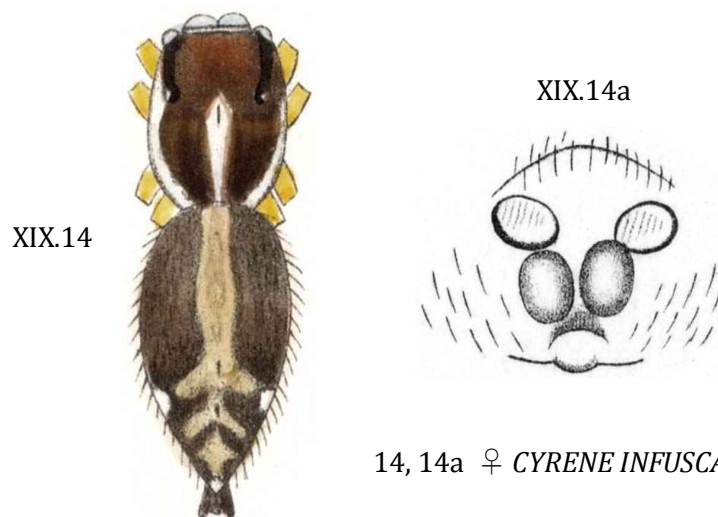
Type, ♀, in coll. Godman & Salvin. Total length 10 millim.

Colour the same as in *C. regia*, but the femora of legs i. and ii. are not dark at the base, though this slight difference may not be constant. The carapace with a distinct central band of white hairs behind. Vulva short, broad, semicircular or rounded-quadrangle, emarginate in the middle of the posterior margin, each side sloping upward to form a central ridge, with a dark spot at each anterior angle, and an irregular dark blotch towards the posterior margin.

Hab. Guatemala (*Sarg*).

This species differs from *C. regia* in the form of the vulva, and in the two less important details mentioned.

16. *Cyrene infuscata*, sp. n. (Tab. XIX. figg. 14, 14a, ♀.)



14, 14a ♀ *CYRENE INFUSCATA*.

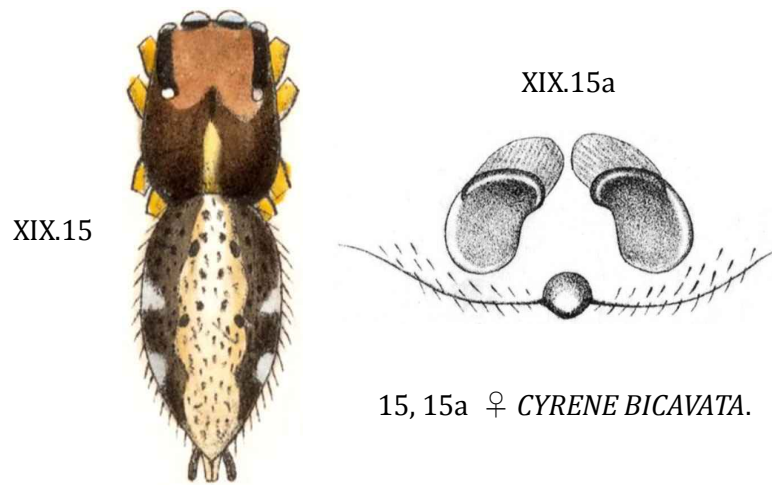
Plate XIX. Fig. 14. *Cyrene infuscata*, ♀, dorsal view, legs removed (9.4 mm); 14a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 8.5 millim.

Hab. Panama, Bugaba (*Champion*).

Very similar to others of the group. The abdominal pattern is inconspicuous, though this would probably vary very much with individuals. The legs are distinctly annulated with black, and the two white spots towards the apex of the abdomen, on the dorsal margins, are conspicuous; beneath, the ventral area is much speckled with brown.

17. *Cyrene bicavata*, sp. n. (Tab. XIX. figg. 15, 15a, ♀.)



15, 15a ♀ *CYRENE BICAVATA*.

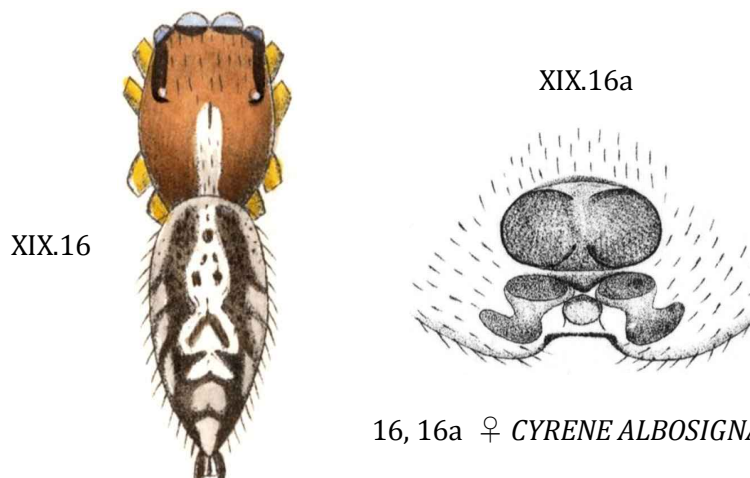
Plate XIX. Fig. 15. *Cyrene bicavata*, ♀, dorsal view, legs removed (5.9 mm); 15a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Hab. Panama, Bugaba (*Champion*).

Though smaller in size, this species presents precisely the same general appearance as do *C. prominens* and *C. bicuspidata*. The vulva, however, is very different in form, presenting two large concavities, divergent posteriorly; while the posterior margin presents a rounded prominence in the middle, just as in *C. prominens*.

18. *Cyrene albosignata*, sp. n. (Tab. XIX. figg. 16, 16a, ♀.)



16, 16a ♀ *CYRENE ALBOSIGNATA*.

Plate XIX. Fig. 16. *Cyrene albosignata*, ♀, dorsal view, legs removed (7.2 mm); 16a, vulva.

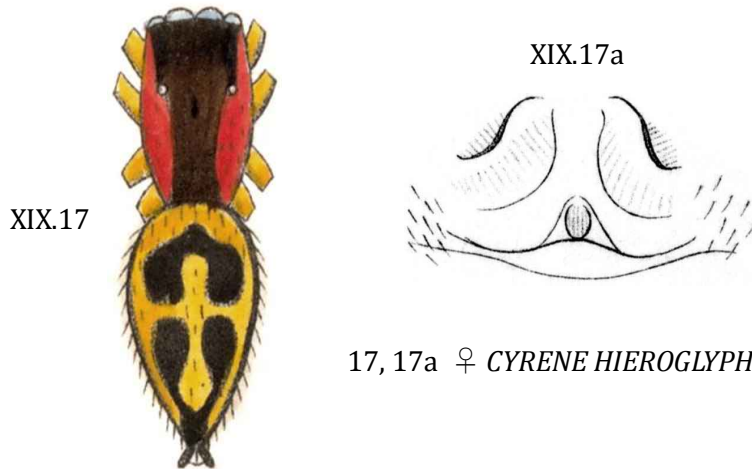
Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Hab. Guatemala (*Sarg*).

The contrast between the white central dorsal abdominal band and the brown-speckled ground-work is more marked in this species than in others of the group known to me. Legs i. and ii. are unicolorous, those

of the first pair being dark brown; iii. and iv. are very slightly and indistinctly annulate. The vulva is quite distinct in form: the posterior margin is deeply emarginate, with a pair of blue-black sinuous spots, marking convolutions of the oviduct, with a small concavity lying between them; the anterior half of the area is occupied by a broad transverse cavity.

19. *Cyrene hieroglyphica*, sp. n. (Tab. XIX. figg.17, 17a, ♀.)



17, 17a ♀ CYRENE HIEROGLYPHICA.

Plate XIX. Fig. 17. *Cyrene hieroglyphica*, ♀, dorsal view, legs removed (5.6 mm); 17a, vulva.

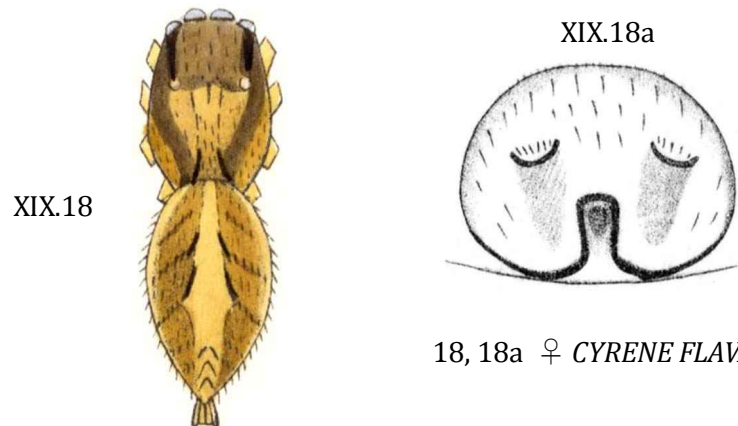
Type, ♀, in coll. Godraan & Salvin. Total length 6 millim.

Carapace orange, cephalic area and thoracic central band brown. Abdomen yellow, both dorsally and ventrally, encircled to the spinners by a narrow marginal black band, with two large black dorsal spots, the first horseshoe-shaped, the second consisting of a pair of elongate black blotches uniting with a square black spot immediately above the spinners. Ventral area yellow, with a long black spot on each side, in the apical half.

Legs entirely yellow; tibia iii. and iv. without any basal dorsal spine; patellae i. and ii. with a small spine on the inner side.

Hab. Mexico, Teapa (*H. H. Smith*).

20. *Cyrene flava*, sp. n. (Tab. XIX. figg. 18, 18a, ♀.)



18, 18a ♀ CYRENE FLAVA.

Plate XIX. Fig. 18. *Cyrene flava*, ♀, dorsal view, legs removed (7.6 mm); 18a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Hab. Guatemala (*Sarg*).

This species may be distinguished amongst others described here by the presence in the female sex of a small stout spine on the inner side of patellae i. and ii. The tibiae iii. and iv. have no small dorsal basal spine. The general colour is yellow, with brown cephalic arc and brown lateral bands on the carapace, while the abdomen has a central pale band margined with brown accent-like spots. The vulva is very distinct in form, being very deeply emarginate posteriorly, with a pair of orifices, about two diameters apart, anteriorly.

21. *Cyrene bisignata*, sp. n. (Tab. XX. figg. 1, 1a, ♀.)

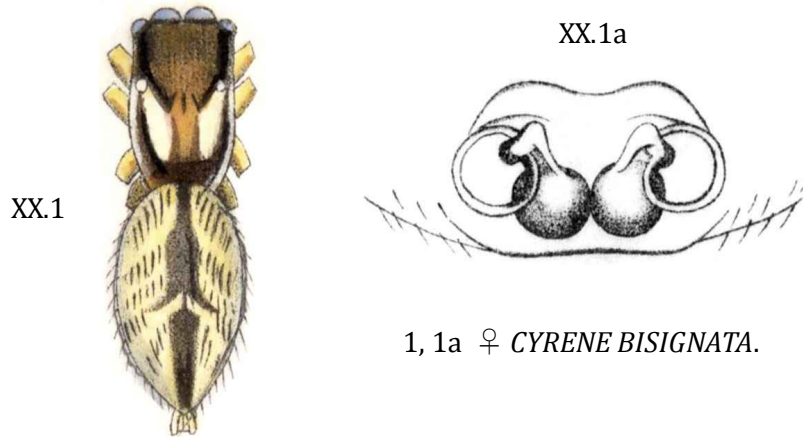


Plate XX. Fig. 1. *Cyrene bisignata*, ♀, dorsal view, legs removed (5.7 mm); 1a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 5 millim.

Hab. Mexico (*H. H. Smith*); Guatemala (*Sarg*).

A very small species, recognizable generally by the presence of a small dorsal basal spine on tibiae iii. and iv. and of a small spine on the inner side of patellae i. and ii., characters distinguishing it from *C. fusca*, *C. delecta*, and *C. aprica*, though with the last two it has nothing in common, so far as the coloration is concerned. The vulva is very distinct and characteristic, see Plate. *C. bisignata* differs from all the other species of the genus in having a central dark thoracic band flanked on each side by a pale band, and a submarginal brown and a marginal pale band.

22. *Cyrene mediocava*, sp. n. (Tab. XX. figg. 2, 2a, ♀.)

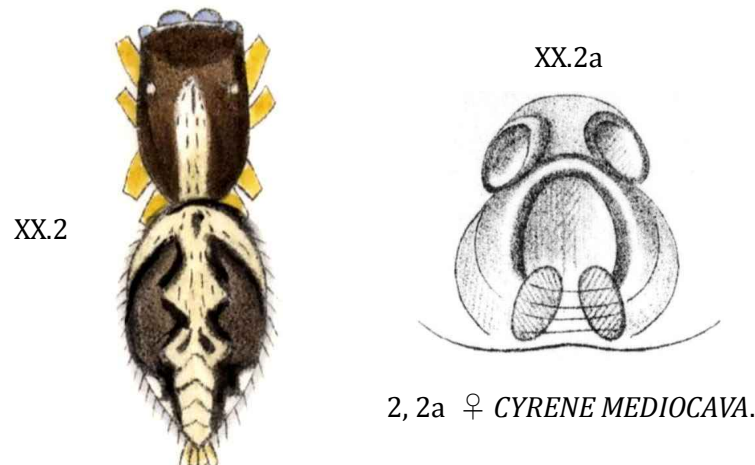


Plate XX. Fig. 2. *Cyrene mediocava*, ♀, dorsal view, legs removed (7.4 mm); 2a, vulva.

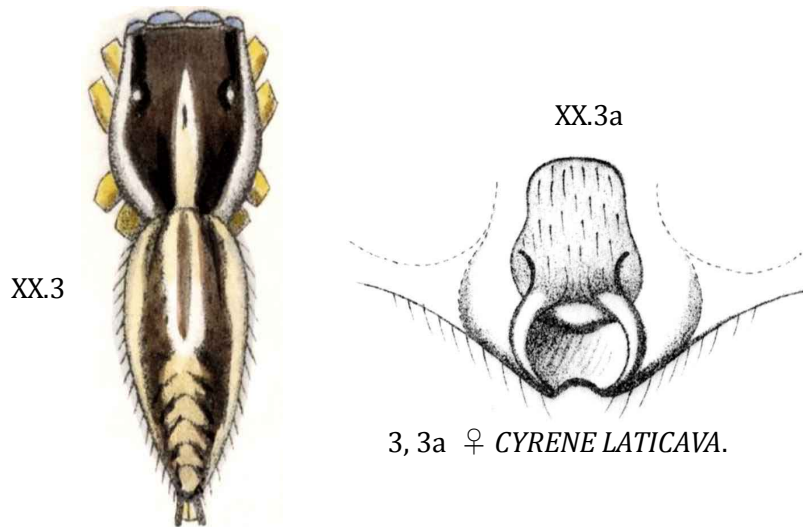
Type, ♀, in coll. Godman & Salvin. Total length 8.5 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg.*).

In general appearance similar to others of the group which have no rust-red pattern on the abdomen. The carapace is margined with a band of white hairs, and has a central posterior pale band. The legs are only very slightly annulated, but there is much variation in this respect.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

23. *Cyrene laticava*, sp. n. (Tab. XX. figg. 3, 3a, ♀.)



3, 3a ♀ CYRENE LATICAVA.

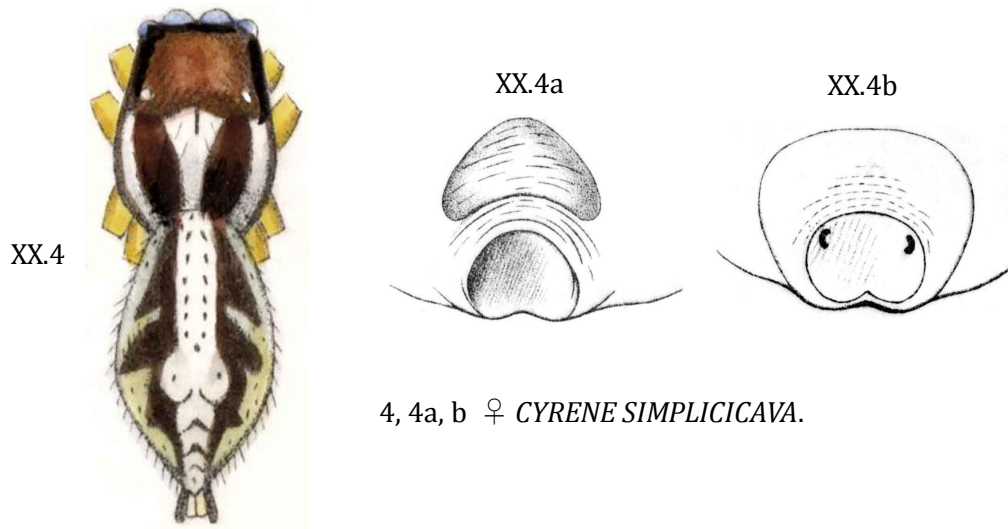
Plate XX. Fig. 3. *Cyrene laticava*, ♀, dorsal view, legs removed (7.2 mm); 3a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7.5 millim.

Hab. Guatemala (*Sarg.*).

Very similar to others of the group including *C. prominens*, *C. bicuspidata*, &c., differing from all, except *C. bicuspidata* and *C. bicavata*, in having a black patch on the inner anterior basal part of femora i. and ii., and a black spot on the inner side of patellae i. and ii. Too great reliance, however, must not be placed on these slight differences in coloration, for much more material for comparison is required before one can judge of their real value for purposes of identification. The vulva is quite distinct in form: the posterior margin is deeply notched in the middle, the whole posterior half forming a broad transverse oval concavity, with a rounded protuberance in the middle of its anterior margin; in front of this lies an oval-oblong chitinous area clothed with hairs.

24. *Cyrene simplicicava*, sp. n. (Tab. XX. figg. 4, 4a, b, ♀.)



4, 4a, b ♀ *CYRENE SIMPLICICAVA*.

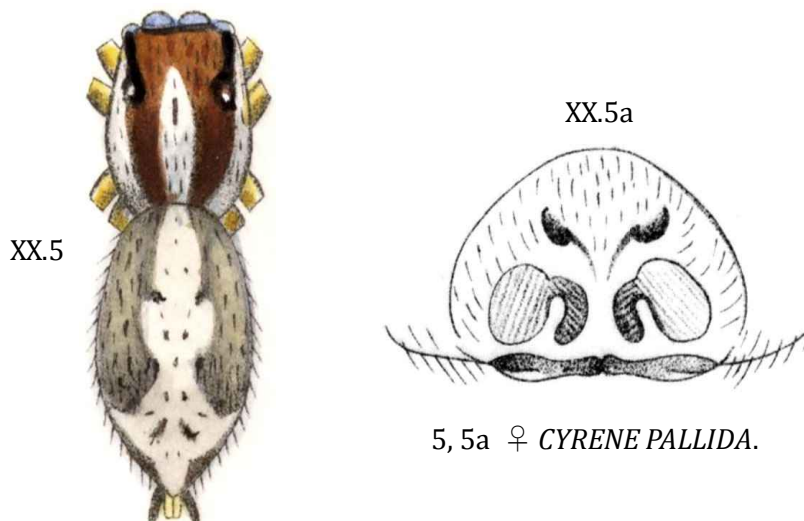
Plate XX. Fig. 4. *Cyrene simplicicava*, ♀, dorsal view, legs removed (8.3 mm); 4a, vulva; 4b, ditto, variety.

Type, ♀, in coll. Godman & Salvin. Total length 8.5 millim.

Hab. Mexico, Acapulco (*H. H. Smith*).

This species is very like *C. laticava* in general appearance, including the black patch on the inner anterior basal portion of femora i. and ii. The abdominal pattern, however, is much more clearly defined, the central pale dorsal band being broader, more conspicuous, and suddenly enlarged just behind the middle, and then again contracted, forming four or five chevrons. The vulva is quite distinct in form, having no anterior prominence and not being so deeply incised or emarginate behind.

25. *Cyrene pallida*, sp. n. (Tab. XX. figg. 5, 5a, ♀.)



5, 5a ♀ *CYRENE PALLIDA*.

Plate XX. Fig. 5. *Cyrene pallida*, ♀, dorsal view, legs removed (9.0 mm); 5a, vulva.

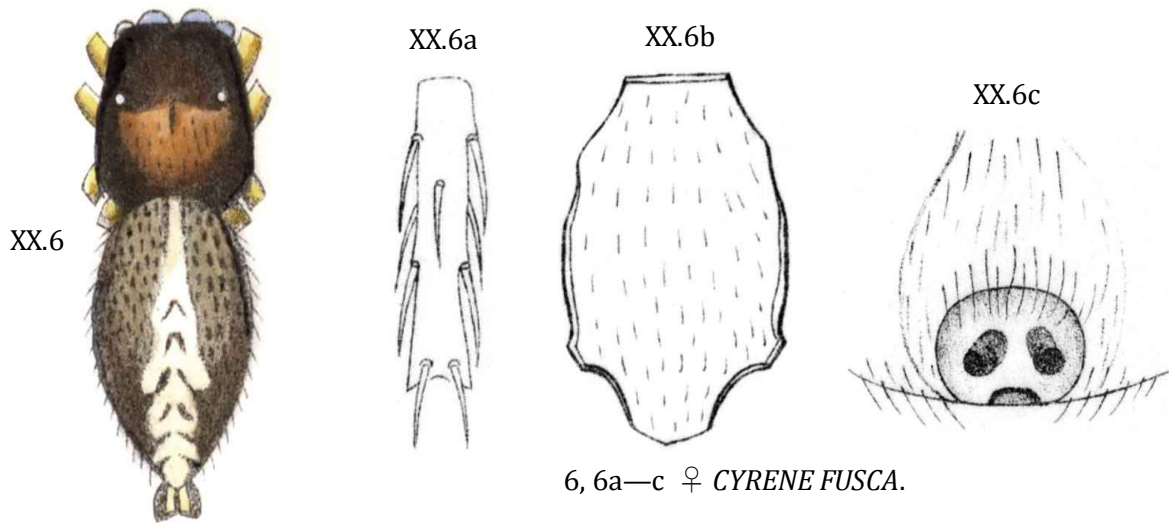
Type, ♀, in coll. Godman & Salvin. Total length 10 millim.

Hab. Guatemala (*Sarg*).

This large species belongs to the *C. prominens*-group, but the dorsal pale band is much broader and dilated behind, forming a large pale triangular spot. The abdomen is, however, denuded of hairs, so that it is difficult to say whether the pale markings would not be obscured in its normal condition. The carapace has a marginal band of white hairs and a central posterior white band, and the cephalic area is sparsely clothed with white hairs. The vulva is formed on the same plan as that of *C. albosignata* and *C. elegans*, consisting of a slightly emarginate sinuous posterior margin, with a pair of dark blotches in front marking the convolutions of the oviduct, while in front of these lie, instead of a large concavity, a pair of widely separated chitinous semilunar edges marking the entrances to a pair of orifices.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

26. *Cyrene fusca*, sp. n. (Tab. XX. figg. 6, 6a—c, ♀.)



6, 6a—c ♀ CYRENE FUSCA.

Plate XX. Fig. 6. *Cyrene fusca*, ♀, dorsal view, legs removed (7.6 mm); 6a, tibia iv. from beneath; 6b, sternum; 6c, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 8 millim.

Hab. Costa Rica (*Sarg.*).

This spider differs considerably in general appearance from others of the group. It bears a small dorsal spine on the base of tibiae iii. and iv., and there are no spines on patellae i. and ii. The abdomen is deep olive-brown, speckled with white, with an anterior marginal pale band and a postero-dorsal central pale band, the latter dilated on each side at its middle and also at its apex; sides and ventral area speckled with olive-brown. Cephalic area black, thoracic area broadly margined with black; no bands of pale hairs. The vulva is very inconspicuous, consisting of a broad oval chitinous area, more or less emarginate behind, with a pair of small concave orifices close to the posterior margin.

27. *Cyrene elegans*, sp. n. (Tab. XX. figg. 7, 7a, ♀.)

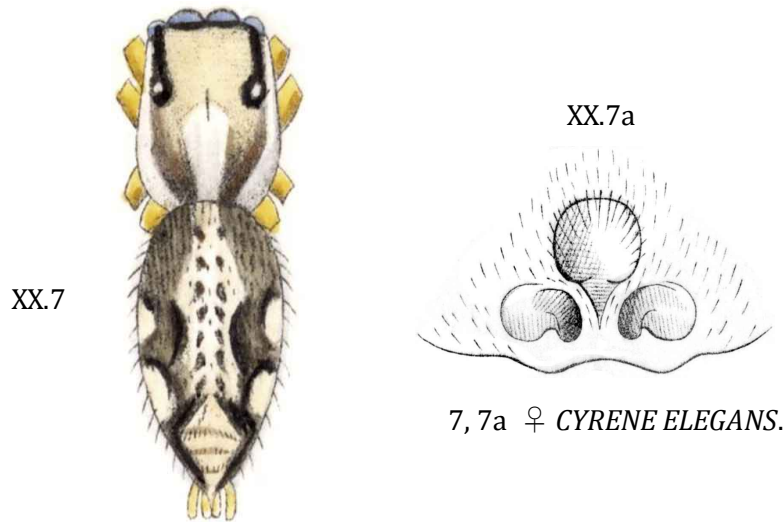


Plate XX. Fig. 7. *Cyrene elegans*, ♀, dorsal view, legs removed (8.8 mm); 7a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 9 millim.

Hab. Panama, Bugaba (*Champion*).

Very similar to *C. prominens* in general appearance, and with all the legs spotted and annulated with brown. The vulva is quite distinct, however, from that of those species most resembling it in general aspect, though formed on the same plan as the vulva of *C. albosignata*: the posterior margin is emarginate in the middle, sinuous on each side; in front of this margin lie a pair of dark spots, marking convolutions of the oviduct, and in front of this again lies a large shallow piriform cavity, partially concealed by long hairs.

28. *Cyrene bicuspidata*, sp. n. (Tab. XX. figg. 8, 8a, b, ♂; 9, 9a, ♀.)

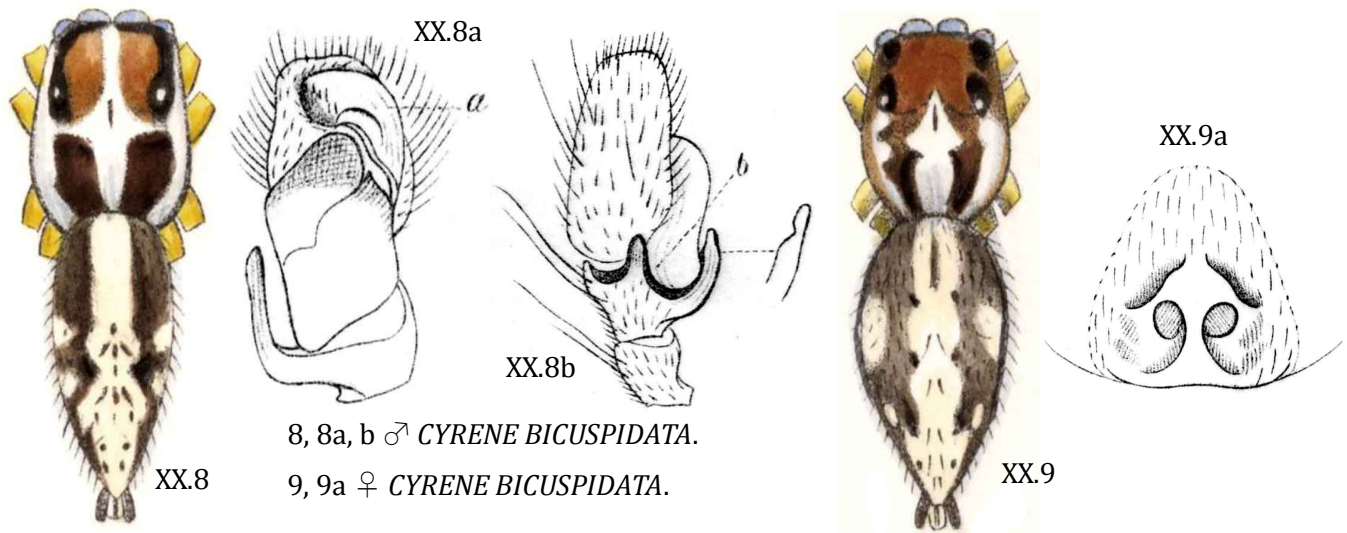


Plate XX. Fig. 8. *Cyrene bicuspidata*, ♂, dorsal view, legs removed (6.7 mm); 8a, palpus from beneath; 8b, ditto from above, showing tibial spur. Fig. 9. *Cyrene bicuspidata*, ♀, dorsal view, legs removed (7.6 mm); 9a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂7, ♀ 8 millim.

Hab. Panama, Bugaba (*Champion*).

It is almost impossible to believe that the female of this species, or the male either, is different from *C. prominens*. The coloration of the abdomen is precisely the same; the legs are annulated in both species, i., ii., iii., and iv. in the female, iii. and iv. in the male. The only differences lie in the greater length of the carapace in *C. prominens*, the absence of the dusky spot beneath the abdomen at the apex (but it is doubtful if this is constant), and, of course, in the vulva and palpal organs, which are quite distinct in structure.

29. *Cyrene delecta*. (Tab. XX. figg. 10, 10a—c, ♂; 11, 11a, b, ♀.)

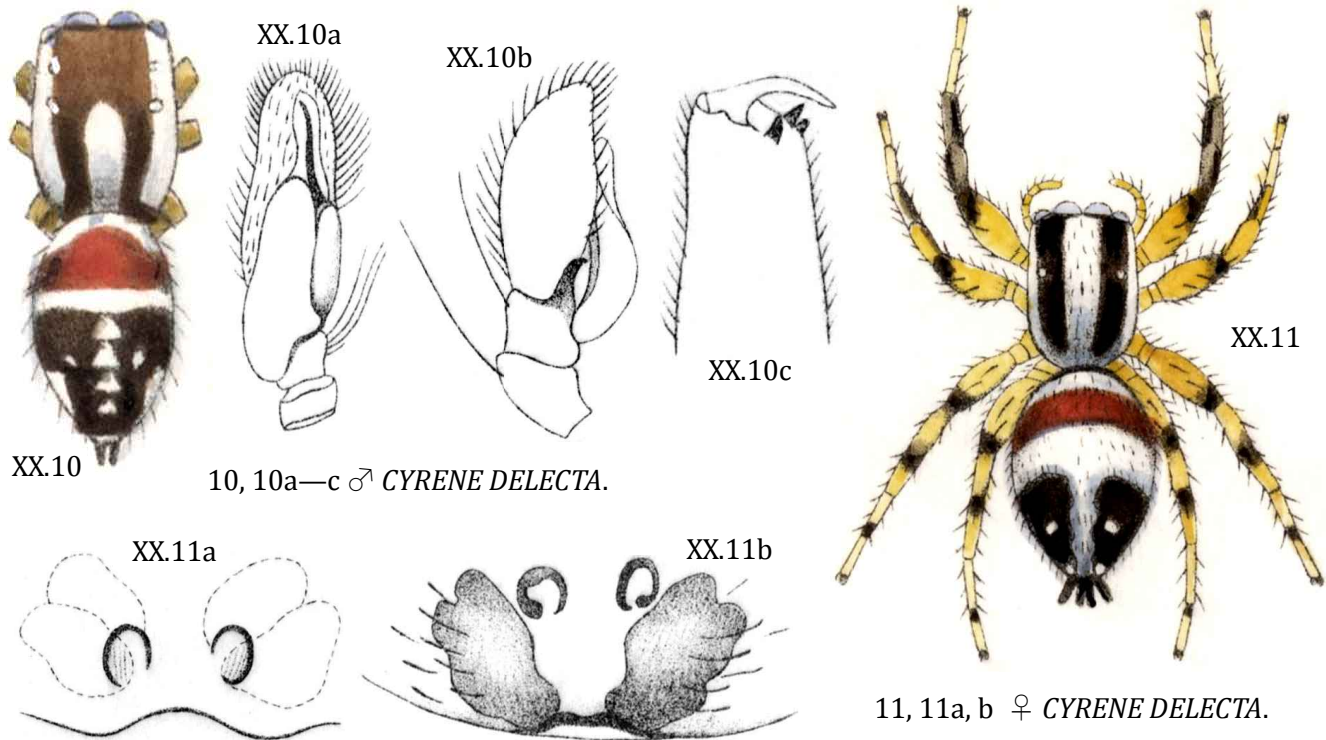


Plate XX. Fig. 10. *Cyrene delecta*, ♂, dorsal view, legs removed (6.4 mm); 10a, palpus from beneath; 10b, ditto from the outer side; 10c, mandible from beneath. Fig. 11. *Cyrene delecta*, ♀, dorsal view (6.9 mm); 11a, vulva; 11b, ditto, variety.

Cyrene delecta, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 68, t. 6. figg. 2a, b (♂), 2, 2c (♀) (April 1896)¹; Banks, Proc. Calif. Acad. Sci. (3) i. p. 285².

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

CYRENE.

239

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 6.8, ♀ 7 millim.

Hab. Mexico, Tepic (*fide* Banks²), Acapulco, Vera Cruz, Teapa (*H. H. Smith*); Guatemala (*Sarg*), Eastern district¹; Panama, Bugaba (*Champion*).

Several adult and young males and young females occur in our collection, but no adult females.

30. *Cyrene aprica*. (Tab. XX. figg. 12, 12a, b, ♂; 13, 13a, ♀.)

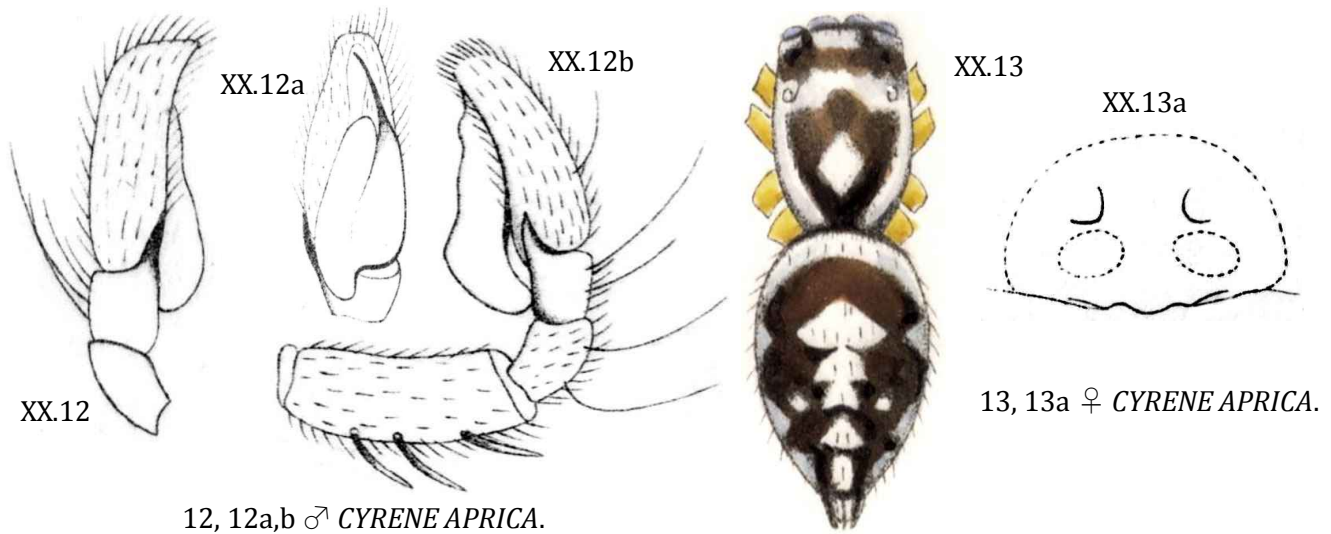


Plate XX. Fig. 12. *Cyrene aprica*, ♂, palpus from the outer side; 12a, ditto from beneath; 12b, ditto from the outer side, another view. Fig. 13. *Cyrene aprica*, ♀, dorsal view, legs removed (7.1 mm); 13a, vulva (after Emerton).

Cyrene aprica, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 66, t. 6. figg. 1, 1a (♀) (April 1896)¹.

Type ♀, androtype ♂, in coll. Peckham. Total length, ♀ 7, ♂ 6 millim.

Hab. Guatemala¹ (*Sarg.*).—Amazons, Santarem¹; Brazil Chapada¹.

Peckham gives no figure of the palpus of the male, so that it is difficult to compare *C. aprica* with the same sex of *C. delecta*. We have a single adult male, however, which I somewhat doubtfully refer to this species.

31. *Cyrene interrupta*, sp. n. (Tab. XX. figg. 14, 14a—d, ♀.)

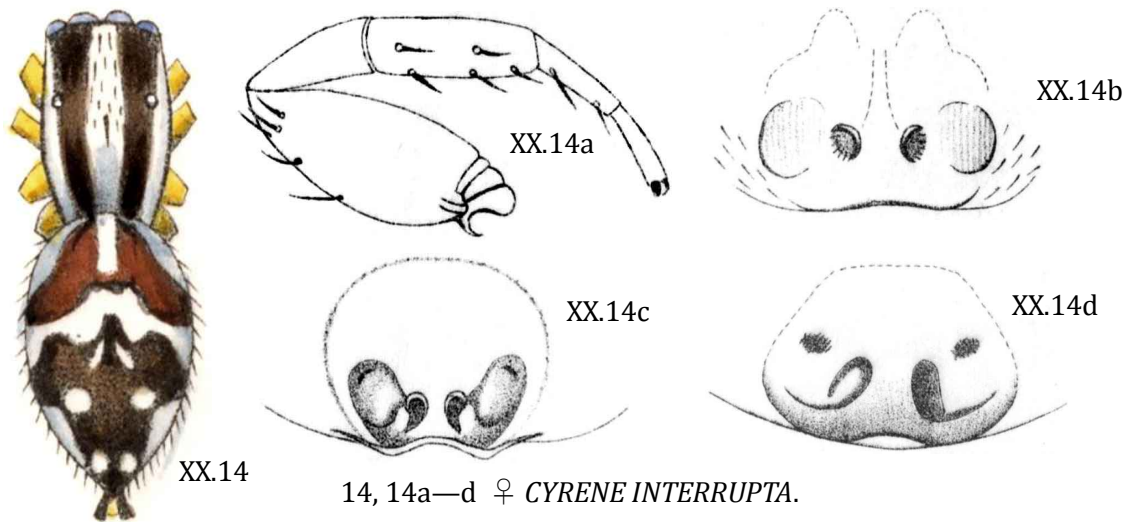


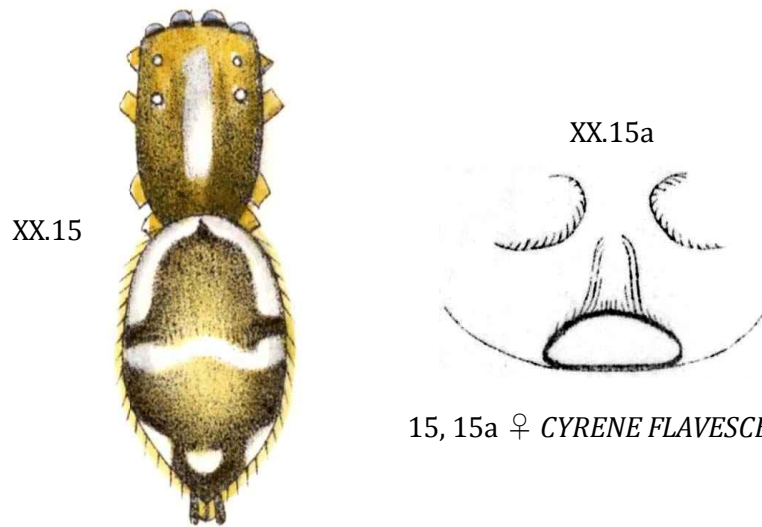
Plate XX. Fig. 14. *Cyrene interrupta*, ♀, dorsal view, legs removed (6.9 mm); 14a, leg i. from the inner side; 14b, vulva; 14c, ditto, variety; 14d, ditto, another variety.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Carapace with a central white band reaching from behind the central anterior eyes nearly to the posterior margin, and a very broad marginal white band, including also the clypeus. Abdomen with an anterior dorsal triangular rust-red patch, the rest of the dorsal area black-brown, spotted and banded with white; a short longitudinal central anterior white spot, with a much longer oblique marginal white band on each side of the rust-red area; a central triangular horse-shoe white spot at the commencement of the black area, connected by a fine white line with a large white spot on each side; a pair of white commas follow the central spot, and then a pair of larger and a pair of smaller white spots, the latter just above the spinners; on each side of the apical third lies a long white marginal band; sides dusky black; ventral area dusky-spotted, with a paler central band, itself also slightly spotted. Legs yellow, i. and iv. more or less distinctly annulated and spotted with black (the contrast is very marked in one example, in another scarcely noticeable); tibia i. is especially dark on each side. Sternum yellow, margined with black.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*).

32. *Cyrene flavescens*. (Tab. XX. figg. 15, 15a, ♀.)



15, 15a ♀ *CYRENE FLAVESCENS*.

Plate XX. Fig. 15. *Cyrene flavescens*, ♀, dorsal view, legs removed (6.5 mm); 15a, vulva.

Pachomius flavescens, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 82, t. 6. figg. 11, 11a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 6.4 millim.

Hab. Panama¹.

33. *Cyrene dybowskii*. (Tab. XX. figg. 16, ♂; 17, 17a, ♀.)

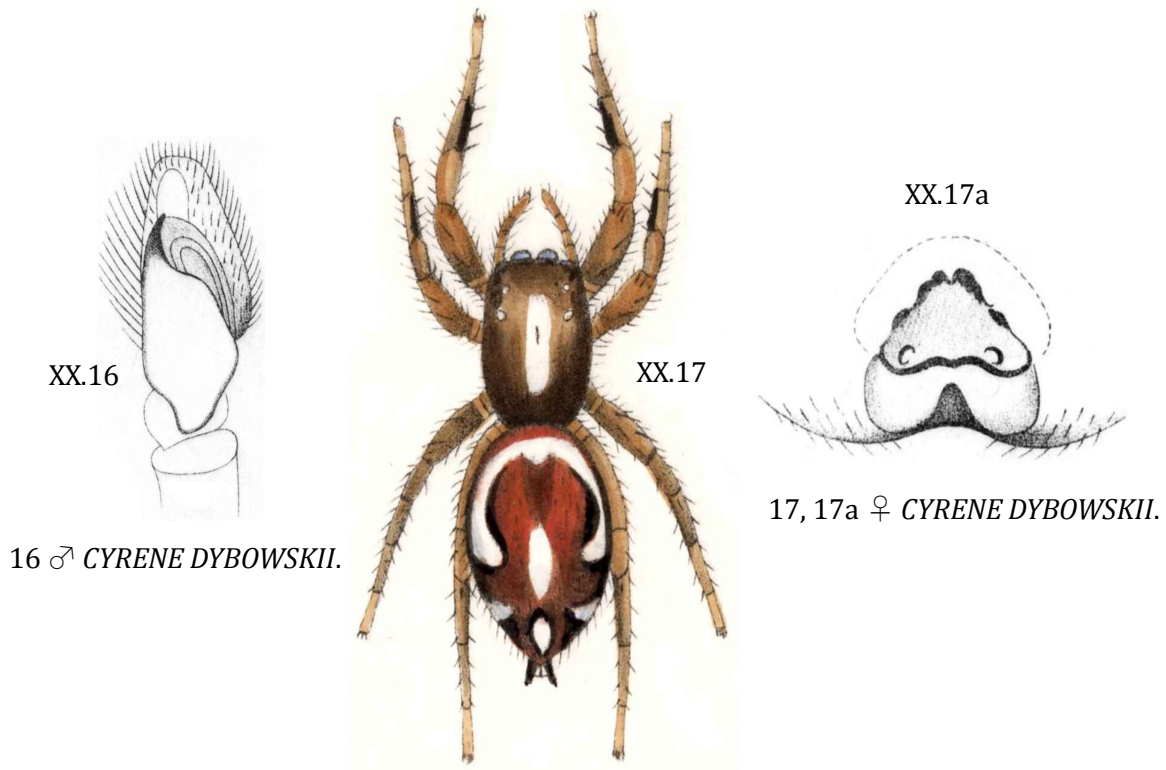


Plate XX. Fig. 16. *Cyrene dybowskii*, ♂, palpus from beneath. Fig. 17. *Cyrene dybowskii*, ♀, dorsal view (8.6 mm); 17a, vulva.

Attus dybowskii, Tacz. Horae Soc. Ent. Ross. viii. p. 96 (1871)¹.

Pachomius dybowski (Tacz.), Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 81, t. 6. figg. 7, 7a—c (♀), 7d (♂) (April 1896)².

Type ♂, gynetype ♀, in coll. Taczanowski. Total length of Peckham's examples, ♂ 6, ♀ 8.5 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

Hab. Mexico, Atoyac in Vera Cruz (*H. H. Smith*); Guatemala².—South America, Colombia², Cayenne¹.

34. *Cyrene niveoguttata*, sp. n. (Tab. XX. figg. 18, 18a, b, ♂; 19, 19a, ♀.)

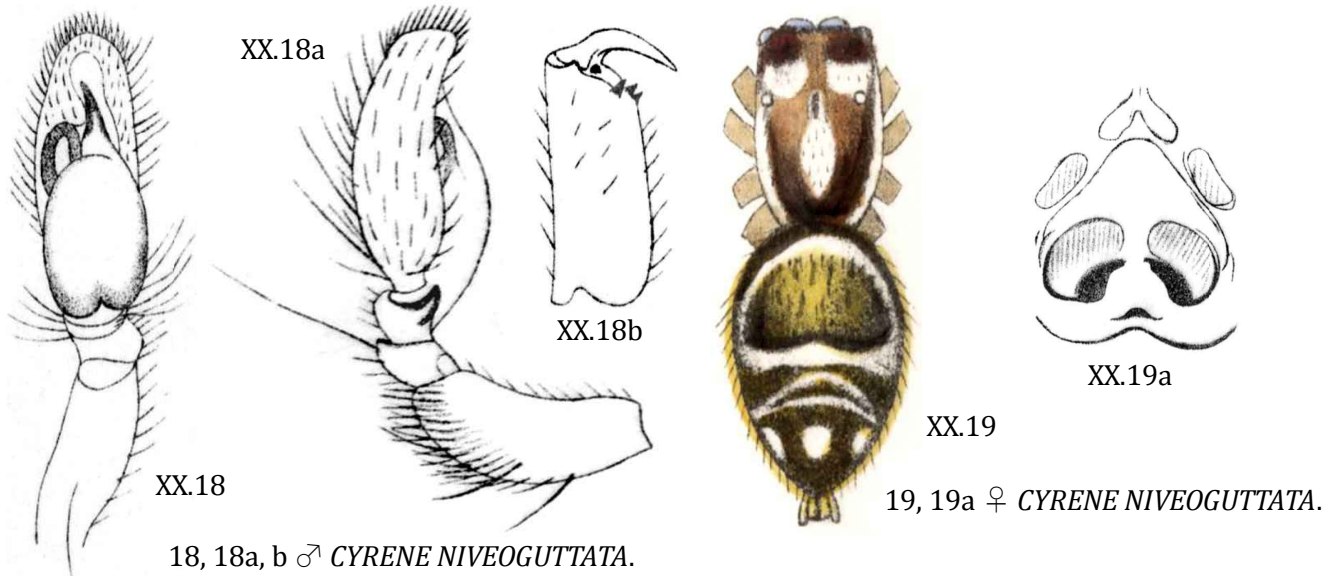


Plate XX. Fig. 18. *Cyrene niveoguttata*, ♂, palpus from beneath; 18a, ditto from the outer side; 18b, mandible from beneath. Fig. 19. *Cyrene niveoguttata*, ♀, dorsal view, legs removed (6.9 mm); 19a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 6, ♀ 7 millim.

Colour the same in both sexes. Carapace dark mahogany, with a central thoracic white band, and a white transverse spot between the dorsal and lateral spots, and a white marginal line. Abdomen with a black anterior submarginal band, followed by a narrow white band extending also along the sides, with a median transverse narrow white band, each end dilated, and three small snow-white spots towards the apex, in a transverse row, one central, the others lateral; the anterior dorsal area is clothed with golden hairs and the central transverse band is preceded by a deep black transverse band; sides with a longitudinal wedge-shaped white band, low down about the middle towards the ventral area. Legs red-brown, or dull yellow more or less suffused with brown; coxae orange, of i. and ii. spotted with black. The abdomen has also behind the transverse white band a pair of indistinct transverse curved pale bands, and the ventral area is black. Bulb of palpus bilobate at the base; apical spur short, stout, almost straight; tibia very short, as long as the patella, with a short, stout, curved spur.

For the vulva, see Plate.

Hab. Panama, Bugaba (*Champion*).

35. *Cyrene geminata*, sp. n. (Tab. XX. fig. 20, ♀.)

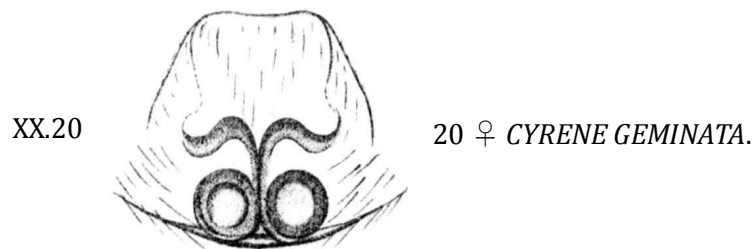


Plate XX. Fig. 20. *Cyrene geminata*, ♀, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7.5 millim.

Hab. Panama, Bugaba (*Champion*).

The abdomen of this spider, in the single example received, is rather shrunken, and the markings and colour are difficult to make out; but the form of the vulva is characteristic and not obscure, so that there will be little difficulty in identifying the species.

THOTMES, gen. nov.

Type *T. paykulli* (Audouin, Savigny). Egypt.

The species selected as the type of this genus resembles *Cyrene* of Peckham very much in general appearance and structure; but the carapace is longer and more parallel-sided, the cephalic quadrangle is broader in proportion, and the sternum is more parallel-sided, not dilated behind. The palpus of the male is, however, totally different in form, though it is short and broad, very much as in *Habronattus*. For the same reason, it differs from *Hasarius* (type *H. adansonii*).

1. *Thotmes paykulli*. (Tab. XX. figg. 21, 21a—e, ♂.)

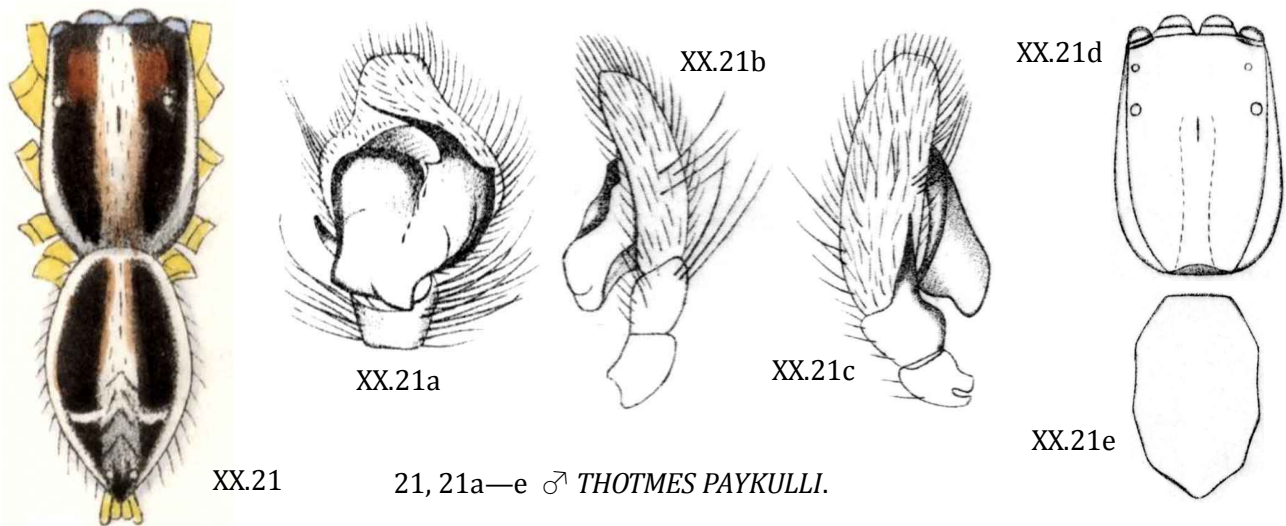


Plate XX. Fig. 21. *Thotmes paykulli*, ♂, dorsal view, legs removed (7.8 mm); 21a, palpus from beneath; 21b, ditto from the inner side; 21c, ditto from the outer side; 21d, carapace from above; 21e, sternum.

Attus paykulli, Aud. in Savigny's Descr. Egypte, éd. 2, xxii. p. 172 (1825-27)¹.

Hasarius paykulli, Simon, Arach. Fr. iii. p. 81 (1876)².

Menemerus paykullii, Peckh. Trans. Wisc. Acad. Sci. vii. p. 84, t. 1. fig. 63 (♀), t. 6. figg. 63, 63a (♂ ♀) (Sept. 1888)³.

Salticus vaillanti, Lucas, Expl. de l'Algérie, Zool. i. p. 136 (1849)⁴.

Total length, ♂ 10, ♀ 12 millim.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., May 1901.

THOTMES.—HABRONATTUS.

Hab. Guatemala³ (*Sarg.*).—Europe, Mediterranean region^{1 2 4}; Malay Archipelago; Australia.

A cosmopolitan species. One cannot believe that it is congeneric with *M. semilimbatus*, the type of *Menemerus*, Simon.

2. *Thotmes fannae*. (Tab. XX. figg. 22, 22a, ♂.)

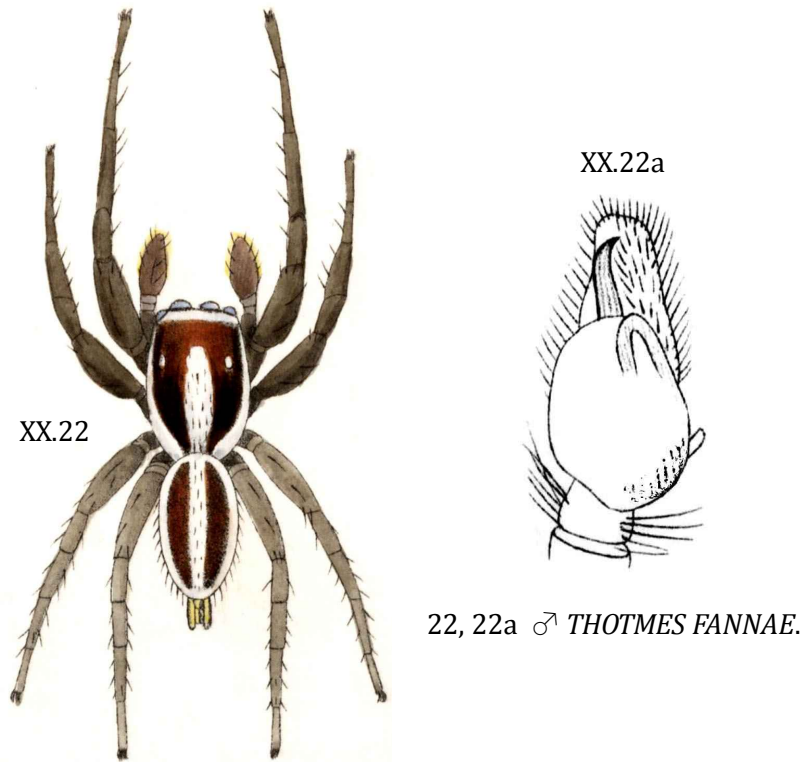


Plate XX. Fig. 22. *Thotmes fannae*, ♂, dorsal view (7.7 mm); 22a, palpus from beneath.

Menemerus fannae, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 74, t. 6. figg. 6, 6a–c (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 6.8 millim.

Hab. Guatemala¹.—South America, Colombia¹.

Judging from Emerton's figure of the palpus¹, this species appears to me to belong to *Heraclea*, Peckh., which I cannot at present separate structurally from *Cyrene*. If, however, Peckham is correct in supposing it to be congeneric with *Attus paykulli*, Aud., then *M. fannae* will fall under *Thotmes*.

3. *Thotmes bicolor*.

Menemerus bicolor, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 175 (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 5.8 millim.

Hab. Guatemala, Eastern district¹.

No figures are given of this species, nor any mention made of the structure of the palpus, nor as to the specimen being adult or otherwise. Whether it belongs to the genus *Hasarius*, which has *H. adansoni* for the type, I cannot say, for Peckham holds that this type-species appertains to the same group as *Phidippus*, a classification I cannot understand, since he supposes it to be congeneric with *Attus paykulli*. For the present, *M. bicolor* can be left under *Thotmes*.

HABRONATTUS, gen. nov.

Type *Habronattus mexicanus* (Peckham). Mexico.

♂. Cephalic quadrangle of eyes much broader than long, slightly wider behind; small eyes nearer the posterior laterals. Anterior row straight by the posterior margin; laterals one-half the diameter of the centrals. Mandibles normal, not developed, with one tooth on the lower margin, three on the upper; very close together. Patella iii. usually produced into one or more differently shaped spurs. Legs 3, 4, 1, 2 in both sexes. Tibia i. with 2—2—2 spines beneath, the inner spines of the basal two pairs being in the type-species (*H. mexicanus*) long and clavate. Protarsus i. with 2—2 spines beneath, no laterals. Legs iii. and iv. very spinose; protarsi with three rings of spines, a basal, median, and apical group; tibiae iii. and iv. with a small dorsal basal spine.

♀. General characters similar to those of the male. Vulva with always a smaller or larger central transverse chitinous rim, marking the upper margin of a central orifice.


BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

2 1‡

242

ARANEIDEA.


<i>Males.</i>			
1	A.	Tibia i. with the two inner spines towards the base elongated and clavate. Femur iii. much incrassate at the apex; patella iii. prolonged and attenuated at the apex above. [Palpal bulb with two spines starting close together from its posterior margin, and encircling the inner margin of the bulb, terminating at its apex (the two spines appearing as one); tibial spur long, stout, sinuous, and bluntly pointed and incurved at the apex. Femur i. not white on the inner side and with a thick fringe of clavate hairs on the outer side.]	<i>mexicanus</i> , Peckh.
	B.	Tibia i. without elongate clavate inner spines. Femur iii. not incrassate at the apex; patella iii. not produced at the apex.	2
2	a.	Palpal bulb with two spines starting from points widely separate—the inner one geniculate, starting from near the centre, with a short basal straight piece, and a rather short curving spine set at right angles to it; the outer one starting from near the anterior part of the external margin, not geniculate, but very long, and encircling the whole bulb, its filiform apex lying in a very fine groove on the end of the tarsal sheath. Tibial spur of the palpus long, broad, obliquely truncated at the apex. Femur i. with no fringe of clavate hairs on the outside, but a thin fringe of long white hairs above, and like femur ii. entirely clothed on the inner side with cobalt-white scales.	<i>viridipes</i> , Hentz.
	b.	Palpal bulb with two stout spines—the inner one the stoutest, not geniculate, springing from the outer posterior part of the margin, curving round, and the outer one terminating in a long filiform point, which lies in a groove beneath the apex of the tarsal sheath. Tibial spur of the palpus long, stout, slightly sinuous, bluntly pointed at the apex, not squarely truncate. Femur i. without a fringe either of clavate or white hairs.	<i>perfidus</i> , sp. n.
	c.	Palpal bulb with two spines—the inner one stout, the outer slender; the former not geniculate, springing from the inner side of the bulb, curving round; the inner spine terminating just beyond the apex of the bulb, the outer spine filiform and lying in a groove beneath the apex of the tarsal sheath. Tibial spur of the palpus very broad. Femur, patella, and tibia i. fringed with hairs.	<i>paratus</i> , Peckh.

<i>Females.</i>		
1	A. Posterior lobes of vulva converging behind. (not A.)	2 3
2	1. Abdomen with an indistinct pale marginal band, sometimes broken into two more or less distinct oblique pale lines on each side; and a central posterior  -shaped pale spot (or a series of 2 or 3 disconnected chevrons), followed by an elongate pale dash on each side; sometimes all these coalesce to form a single elongate pale blotch. Vulva consisting of a short transverse rim, with an elongate semicircular	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

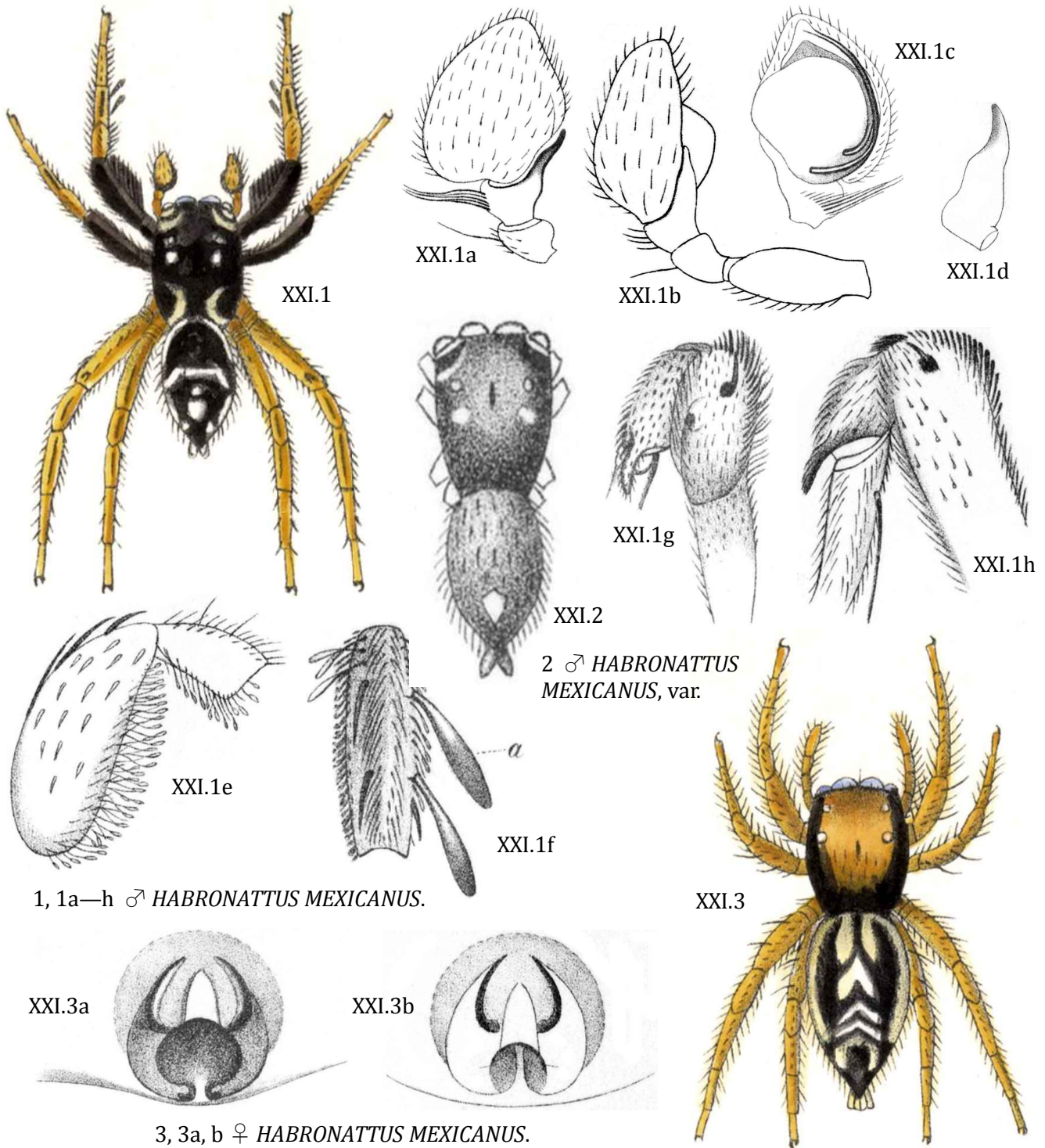
HABRONATTUS.

243

2	1. chitinous ridge on each side, not meeting on the anterior margin; the posterior lobes on each side converging at the hind margin, where a pair of orifices are sometimes evident. Epigynal area much larger in proportion than in <i>H. viridipes</i> .	<i>mexicanus</i> , Peckh.
	2. Abdomen with three or four pale chevrons only on the central dorsal apical half. For the vulva, see Plate.	<i>latens</i> , Peckh.
	3. Abdomen with an anterior marginal pale band broken in the centre, an oblique pale band on each side about the middle, a central apical elongate diamond-shaped white spot, and a pair of white spots on each side close to the apex. For the vulva, see Plate.	<i>zebraneus</i> , sp. n.
3	B. Posterior lobes of vulva widely separate behind. (Abdomen variable in pattern, which consists either of a continuous lateral irregular pale band, or of four oblique spots, with an indistinct central anterior dorsal pale band, followed by a very distinct central pale spot, this followed to the spinners by two or three very slender  -shaped bars, but without the elongate pale dash on each side above the spinners. Vulva with the usual short transverse rim, and a transverse oval, continuous, encircling chitinous rim anteriorly; the posterior lobes on each side being widely separate at the hind margin. Epigynal area much smaller in proportion.)	<i>viridipes</i> , Hentz.

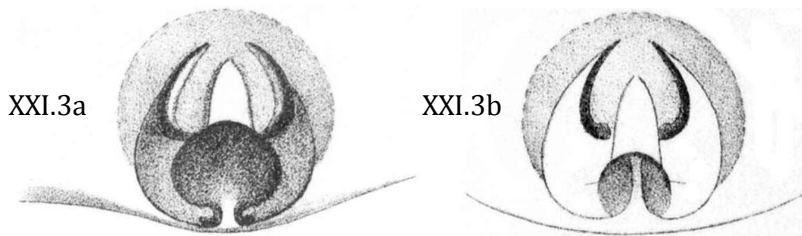
Note.—I cannot include *H. belligerus* (Peckh.) in this Table, because it seems to me that the full figure given by Peckham represents *H. mexicanus*. The figure given as the female of *H. mexicanus* somewhat resembles that described here as *H. zebraneus*. *H. coecatus* and *H. aztecus* are unknown to me.

1. *Habronattus mexicanus*, (Tab. XXI. figg. 1, 1a—h, 2, ♂; 3, 3a, b, ♀.)



1, 1a—h ♂ *HABRONATTUS MEXICANUS*.

XXI.3



3, 3a, b ♀ *HABRONATTUS MEXICANUS*.

Plate XXI. Fig. 1. *Habronattus mexicanus*, ♂ (5.1 mm): 1a, palpus from above; 1b, ditto from the outer side; 1c, ditto from beneath; 1d, tibia of ditto; 1e, femur and patella of leg i.; 1f, tibia of left leg from beneath; 1g, femur and patella of leg iii. from in front; 1h, ditto from behind. Fig. 2. *Habronattus mexicanus*, ♂, variety, dorsal view, legs removed (4.9 mm). Fig. 3. *Habronattus mexicanus*, ♀ (6.0 mm): 3a, vulva; 3b, ditto, variety.

Habrocestum mexicanum, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 61, t. 5. figg. 7, 7b, c, d (♂), 7e (nee 7a) (♀) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 5, ♀ 6 millim.

♂. Carapace black, with a narrow band of rosy-white scales encircling the clypeus and lateral margins. Cephalic area thickly clothed with fawn-coloured scales (possibly, in examples not rubbed, continued further over the central thoracic stria); a pair of rosy-fawn-coloured bands run from the posterior lateral eyes to the posterior margin, these being slightly coalescent in the centre. The legs are orange, speckled with brown; femur i. black, clothed with a thick fringe of more or less speckled clavate hairs; patella and tibia, and the base of protarsus i., with a black band on the inner side; patella iv. with a pure white spot of scales at the base in front, much less distinct in some examples. Abdomen black, with a broken, or unbroken, narrow pale encircling marginal line, and a central dorsal anterior band of pale scales, often obliterated, followed by three small white \sim -shaped bars or chevrons, sometimes coalescent, and on each side at the apex, just before the spinners, a single elongate white dash-like spot.

♀. The characteristic markings are given in the Table of species.

Hab. Mexico, Reynosa and Refugio (Townsend¹), Petapa, Amula, Omilteme, Chilpancingo, Teapa (*H. H. Smith*); Guatemala (*Sarg*).

Numerous males and some females of this species were taken by Mr. Sarg in Guatemala, others of both sexes by Mr. H. H. Smith in Mexico. There is no reasonable doubt that the males received by us are identical with Peckham's

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

2 1‡ 2

244

ARANEIDEA.

specimens, admirably figured by Mr. Emerton¹. The clavate hairs on tibia i., evident in fig. 7b, are quite characteristic, though Peckham does not mention them in his description. As to the females in our collection, they almost certainly belong to *H. mexicanus*, for it is very unlikely that with so many males taken there should be no corresponding females; and yet these closely resemble the figure given by Emerton of *H. belligerus*. His figure of the female of *H. mexicanus* does not agree with the specimens of that sex which I myself regard as belonging to *H. mexicanus*.

2. *Habronattus viridipes*. (Tab. XXI. figg. 4, 4a, b, ♂; 5, 5a, b, ♀.)

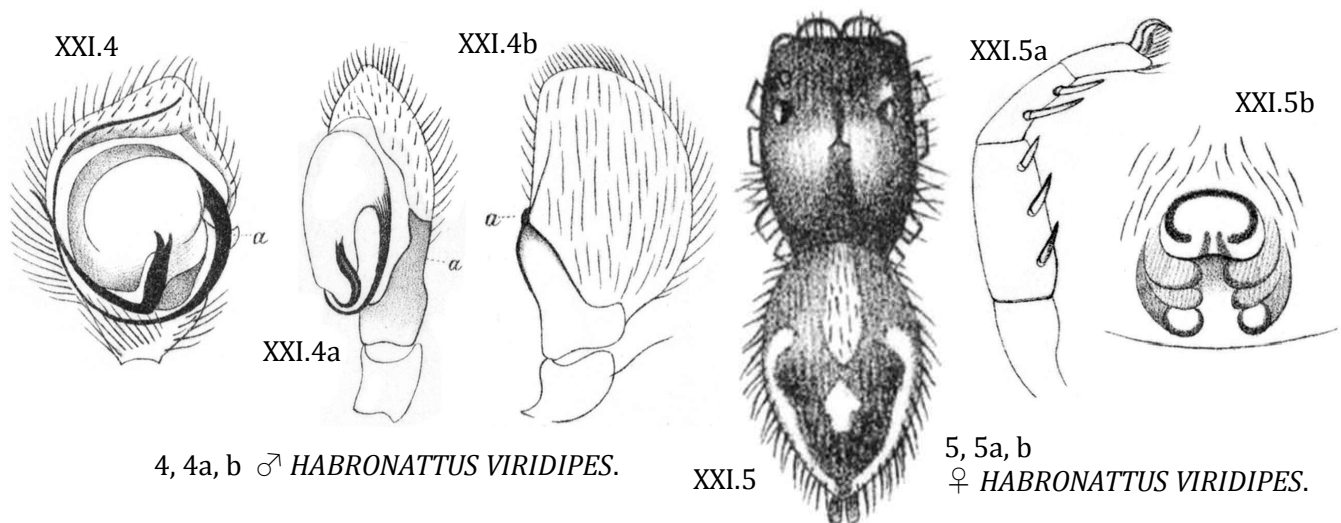


Plate XXI. Fig. 4. *Habronattus viridipes*, ♂, tarsus of palpus from beneath; 4a, ditto from the outer side; 4b, tibia and tarsus of ditto from above. Fig. 5 *Habronattus viridipes*, ♀, dorsal view, legs removed (5.6 mm); 5a, tibia of leg i. from the inner side; 5b, vulva.

Attus viridipes, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 362, t. 22. fig. 5 (♀) (1845)¹; Burgess, Spid. U.S.A. p. 66, t. 9. fig. 5 (♀) (1875)².

Habrocestum viridipes, Peckh. Trans. Wisc. Acad. Sci. vii. p. 60, t. 1. fig. 43, t. 4. fig. 43a (♀), t. 4. fig. 43 (♂) (1888)³.

Total length, ♂ 4.8, ♀ 5.8 millim.

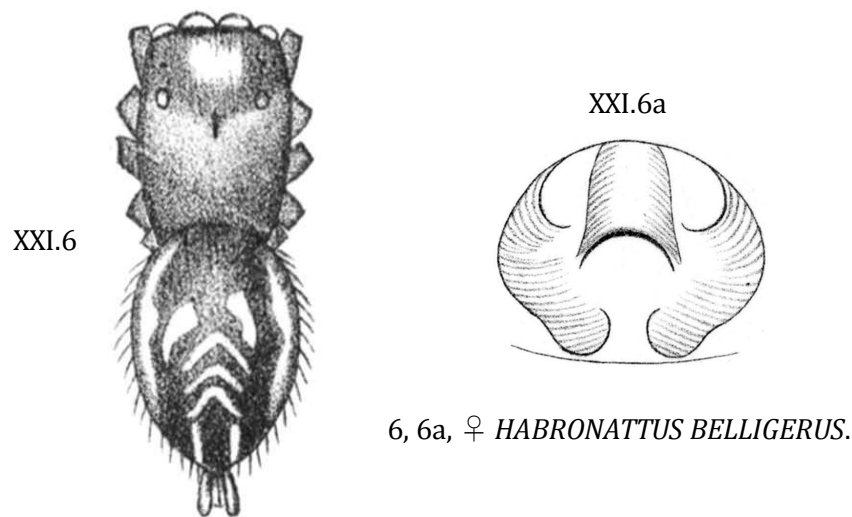
♂. Carapace with a transverse band of white scales behind the anterior eyes, followed by a broad patch of fawn-coloured hairs covering the whole cephalic area; a bar of white scales runs from behind the posterior eyes to the hinder margin, meeting a postero-lateral marginal band of the same. Clypeus fringed and clothed with pink and green iridescent hairs and scales. Tarsus of palpus brown; apex of femur and patella clothed with pure white scales, the latter segment tipped with umber-red scales. Femora i. and ii. black, clothed on the anterior (or inner) side with cobalt-white scales and fringed above with hairs of the same colour; the rest of the legs black, clothed dorsally with rust-red and brown scales. Legs iii. and iv. black, clothed with brown, red, and white scales, especially with white scales on the femora, whose apices are conspicuously marked with a pale spot. Abdomen black, clothed with rust-brown hairs, with an anterior and central dorsal band of ochre-white scales and some lateral marginal spots of the same colour; the central band resolves itself behind into two or three ~-shaped marks. Underside black, clothed with rosy-ochre-white scales.

The characters of the female and the other important points of structure of the male are given in the Table. The clypeus is clothed with white hairs.

Hab. North America, Texas, Carolina¹.—Mexico, Chilpancingo, Cuernavaca, Teapa (*H. H. Smith*); Guatemala (*Sarg*).

Judging by the, apparently, excellent figure of the male palpus given by Peckham³ (t. 4. fig. 43), and of the female abdomen (t. 1. fig. 43), one would not hesitate to refer our examples to the species identified by him as *Attus viridipes*, Hentz. On the latter point, the question must for the present be left to Peckham's judgment; but it is a pity that he has given no description of the coloration of the male, which might confirm one's conclusions, based on the figure of the palpus.

3. *Habronattus belligerus*. (Tab. XXI. figg. 6, 6a, ♀.)



6, 6a, ♀ *HABRONATTUS BELLIGERUS*.

Plate XXI. Fig. 6. *Habronattus belligerus*, ♀, dorsal view, legs removed (5.9 mm); 6a, vulva. (After Emerton.)

Habrocestum belligerum, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 60, t. 5, fig. 5a (? nec fig. 5) (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 6.5 millim.

Hab. Guatemala¹.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

HABRONATTUS.

245

I strongly suspect that *H. belligerus* is the female of *H. mexicanus*, for I have before me males and females from Guatemala with exactly the coloration described by Peckham; I doubt, however, if his fig. 5a represents the vulva of fig. 5, but rather that of 7a (*H. mexicanus*), 7e being more likely to be the vulva of 5.

4. *Habronattus latens*. (Tab. XXI. fig. 7, ♀.)

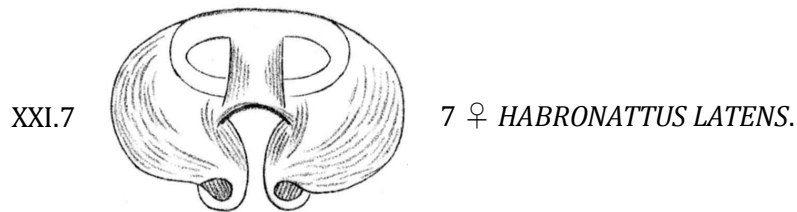


Plate XXI. Fig. 7. *Habronattus latens*, ♀, vulva. (After Emerton.)

Habrocestum latens, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 60, t. 5. figg. 6, 6a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 5 millim.

Hab. British Honduras¹.

According to Peckham this species is closely allied to *H. belligerus*, which I believe to be the female of *H. mexicanus*.

5. *Habronattus paratus*. (Tab. XXI. figg. 8, 8a, ♂.)

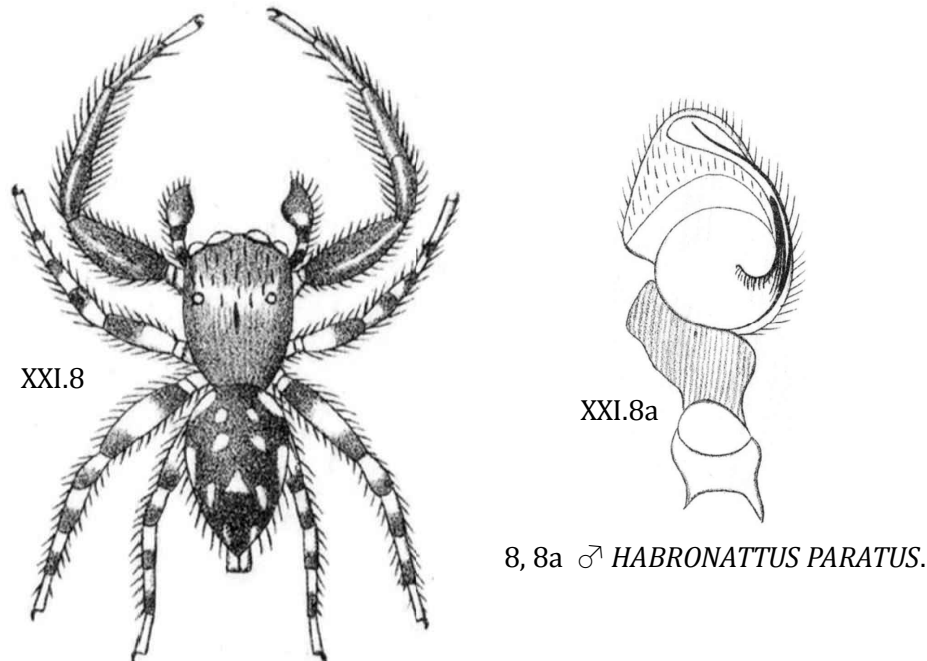


Plate XXI. Fig. 8. *Habronattus paratus*, ♂ (4.6 mm): 8a, palpus from beneath. (After Emerton.)

Habrocestum paratum, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 63, t. 5. figg. 8, 8a, b (σ^7) (April 1896)¹.

Type, σ^7 , in coll. Peckham. Total length 5 millim.

Hab. Guatemala, Eastern district¹.

According to Peckham, the femur, patella, and tibia of the first pair of legs are enlarged. In the figure of the palpus the spines are two in number, starting from the centre of the inner margin of the bulb, the inner spine being short and stout, the outer one long and filiform; the tibial spur is represented as being very broad and, apparently, squarely truncate at its apex.

6. *Habronattus zebraneus*, sp. n. (Tab. XXI. figg. 9, 9a, φ .)

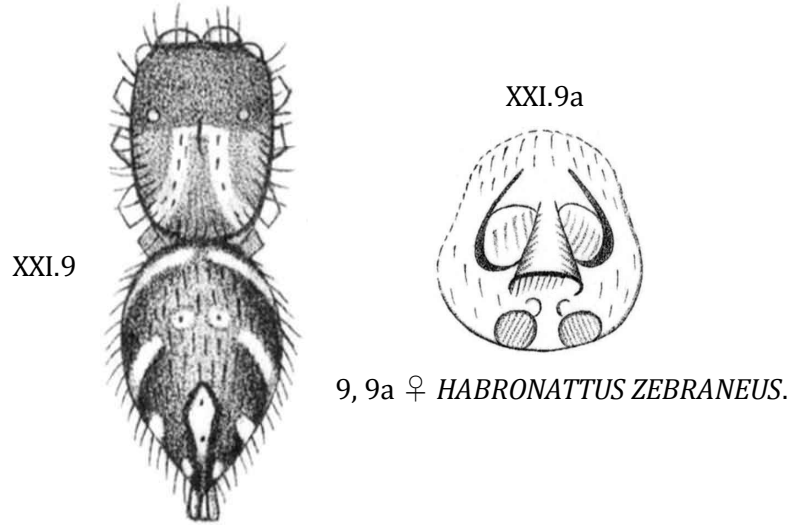


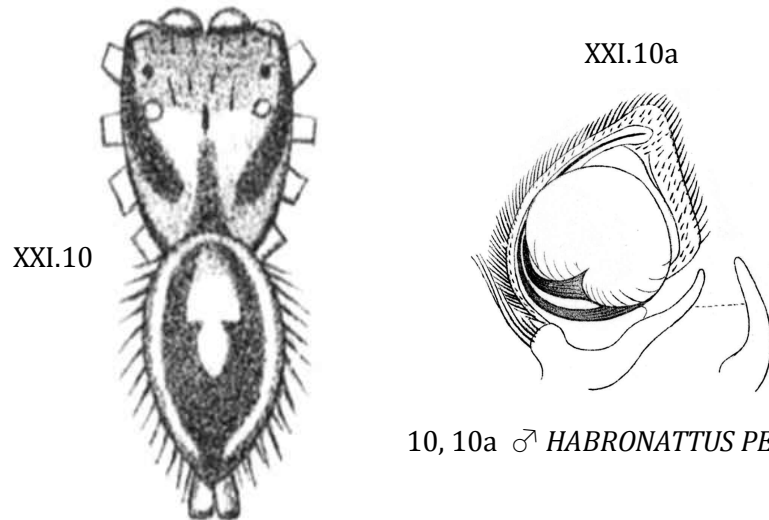
Plate XXI. Fig. 9. *Habronattus zebraneus*, φ , dorsal view, legs removed (7.2 mm); 9a, vulva.

Type, φ , in coll. Godman & Salvin. Total length 7 millim.

Carapace brown, mottled with white and red-brown hairs. Coxae and trochanters, and the bases of the posterior femora and tarsi, yellow; the rest of the legs mottled brown. Abdomen mottled brown, with a submarginal anterior pale band, broken in the centre, a lateral oblique pale bar on each side about the middle, with a pair of indistinct pale spots between them in the centre of the dorsal area; a median elongate diamond-shaped pale bar towards the apex, a small lateral spot on each side of it, and a very small pure white spot on each side just above and close to the spinners; ventral area laterally mottled brown, in the centre pale, with three longitudinal brown bars.

Hab. Mexico, Tierra Colorada in Guerrero (*H. H. Smith*).

7. *Habronattus perfidus*, sp. n. (Tab. XXI. figg. 10, 10a, ♂.)



10, 10a ♂ *HABRONATTUS PERFIDUS*.

Plate XXI. Fig. 10. *Habronattus perfidus*, ♂, dorsal view, legs removed (3.4 mm); 10a, tibia and tarsus of palpus from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 3 millim.

Carapace clothed with brown and white hairs, with a broad, brown, submarginal and a central posterior, longitudinal, brown band; cephalic area brown, but thickly clothed with white hairs. Legs yellow, mottled with brown, and clothed with white scales and brown hairs. Abdomen: dorsal area black or dark brown with minute pale spots, with a broad white marginal band entirely encircling it, and a

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

246

ARANEIDEA.

central short anterior wedge-shaped pale band, its apex extending just beyond the middle; lower lateral area brown; ventral area pale, with three longitudinal brown bars. Clypeus clothed with white hairs. Leg i. without the tibial clavate spines noticeable in *H. mexicanus*. Palpus similar in general character to that of others of the genus; the bulb is bilobate, and two stout spines (the inner one being the stoutest) spring from the outer lower part, curving round, the outer one terminating in a filiform point, which lies in the usual groove beneath the apex of the tarsal sheath; the tibial spur is stout, slightly sinuous, bluntly pointed at the apex.

Hab. Guatemala (*Sarg*).

A single male only of this very small species was sent by Mr. Sarg.

8. *Habronattus coecatus*.

Attus coecatus, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 361, t. 32. fig. 2 (♀) (1845)¹; Burgess, Spiders U.S. p. 65, t. 9. fig. 2 (♂) (1875)².

Habrocestum coecatium, Banks, Proc. Calif. Acad. Sci. (3) i. p. 286³; Peckh. Trans. Wisc. Acad. Sci. vii. p. 60, t. 1. fig. 42, t. 4. figg. 42a (♀), 42, 42b (♂) (1888)⁴.

Hab. North America, New York⁴, Pennsylvania⁴, Alabama^{1 2}.—Mexico, Tepic³.

Recorded very doubtfully from Mexico by Mr. Banks.

9. *Habronattus aztecanus*.

Habrocestum aztecum, Banks, Proc. Calif. Acad. Sci. (3) i. p. 287, t. 17. fig. 9 (♂)¹.

Hab. Mexico, Tepic¹.

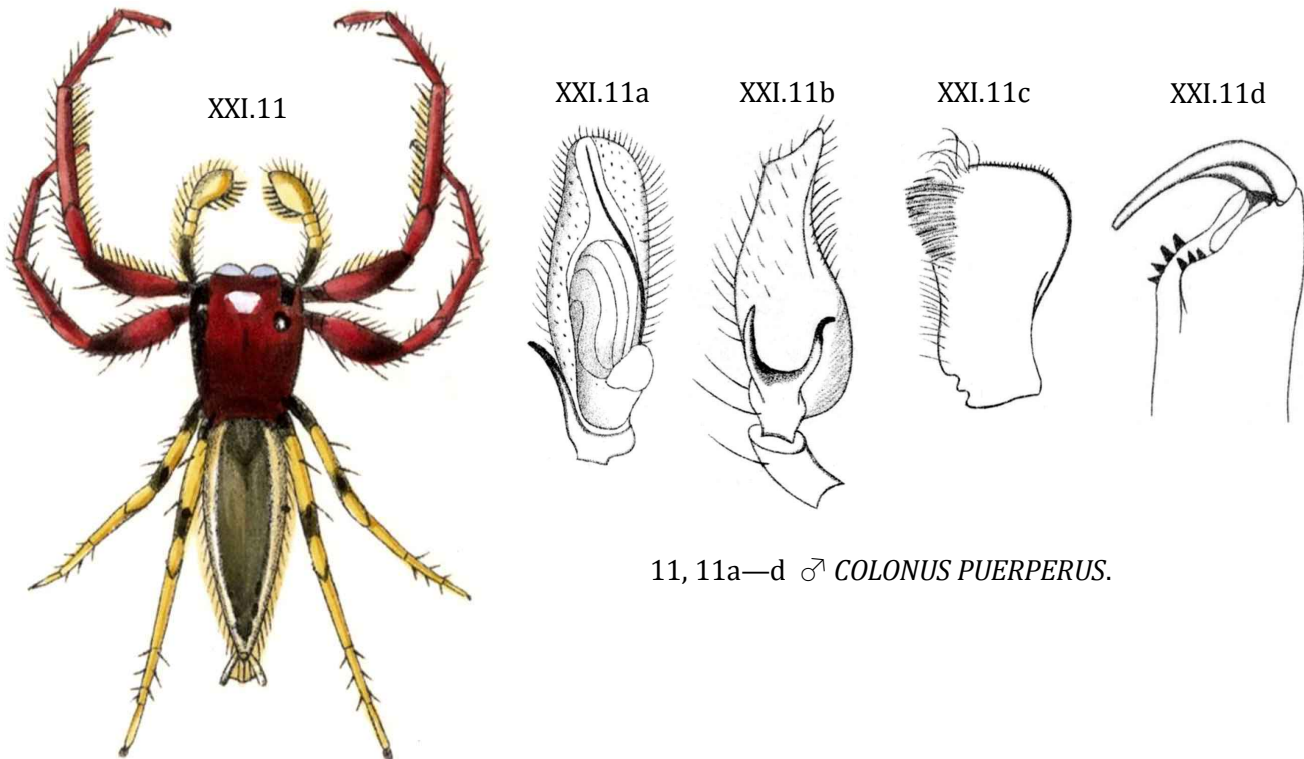
The figures of the palpal bulb and of the dorsal spur are not sufficiently detailed to enable one to compare the characters of *H. aztecum* with those of the species in our collection. The two large black spots on the shoulders of the abdomen, and the apical half being black with a central triangular white spot, should, however, prove a good clue towards its identity.

COLONUS, gen. nov.

Type *C. puerperus* (Hentz). North, Central, and South America.

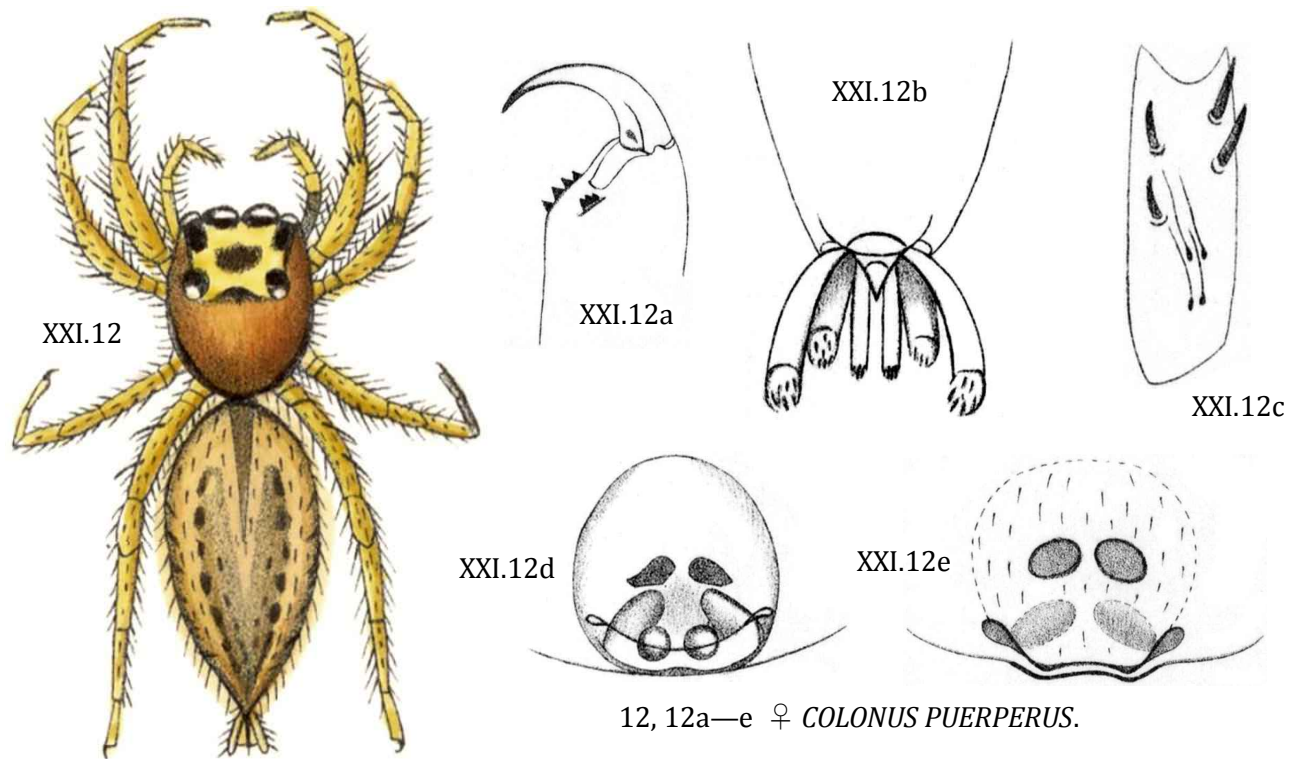
♂ Anterior row of eyes slightly recurved by the posterior margin; cephalic quadrangle broader than long, small eyes much nearer the anterior laterals. Clypeus about half the height of the anterior central eyes. Tibia i with 2—2 spines beneath in the apical half, and two pairs of fine sensory hairs towards the base; tibia ii with 2—2—2 spines beneath and some laterals. Protarsi i. and ii. with 2-2 spines beneath, iv. armed with three distinct groups of spines. Tibiae iii. and iv. with a small dorsal basal spine. Sternum about twice longer than broad, rather dilated behind. Mandibles flattened above, transversely rugulose, with four small teeth on the upper and three small teeth on the lower margin. Posterior spinners the longest; centrals nearly as long, but much more slender; inferiors as long as the medians, but stouter.

1. *Colonus puerperus*. (Tab. XXI. figg. 11, 11a—d, ♂; 12, 12a—e, ♀.)



11, 11a—d ♂ *COLONUS PUERPERUS*.

Plate XXI. Fig. 11. *Colonus puerperus*, ♂ (10.7 mm): 11a, tibia and tarsus of palpus from beneath; 11b, ditto from the outer side; 11c, maxilla; 11d, mandible from beneath.



12, 12a—e ♀ *COLONUS PUERPERUS*.

Plate XXI. Fig. 12. *Colonus puerperus*, ♀ (13.1 mm): 12a, mandible from beneath; 12b, spinners from above; 12c, tibia of leg i. from beneath; 12d, vulva; 12e, ditto, variety.

Attus puerperus, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 360, t. 21. fig. 22 (♀) (1845)¹; Burgess, Spiders U. S. p. 64, t. 8. fig. 22, t. 18. fig. 28 (1875)².

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

COLONUS.

247

Plexippus puerperus, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 68³; Trans. Wisc. Acad. Sci. vii. p. 33, t. 1. fig. 23, t. 2. figg. 23, 23a (♂), t. 3. fig. 23b (♀) (1888)⁴; Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 15 (♀) (1896)⁵.

Attus sylvanus, Hentz, loc. cit. p. 364, t. 22. fig. 10 (♂)⁶.

Attus branickii, Tacz. Horae Soc. Ent. Ross. viii. p. 94 (1874)⁷.

Attus agrestis, Peckh. New and little-known Attidae U. S. A. p. 12 (1883)⁸.

Total length, ♂ 11, ♀ 13 millim.

Hab. North America, Georgia, Florida, Texas, California^{4 5}.—Mexico⁵, Chilpancingo, Atoyac, Teapa (*H. H. Smith*); Guatemala⁴ (*Sarg*), Guatemala city (*Stoll*); Panama, Bugaba (*Champion*).—South America, Colombia⁵, Brazil.

This species is very widely distributed, extending through the Southern States of North America, California, Central America, and Brazil. Whether it is, as Peckham supposes, identical with *Alcmena pallida*, C. L. Koch, I cannot say; and rather than restore the genus *Alcmena*, with a type-species which may never be identified, a new generic name is given to include *Attus puerperus*, Hentz, and an allied form.

2. *Colonus crucifer*, sp. n. (Tab. XXI. fig. 13, ♀.)

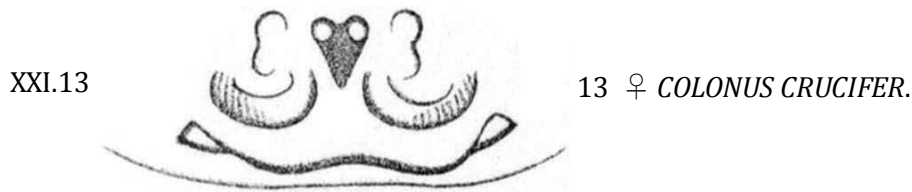


Plate XXI. Fig. 13. *Colonus crucifer*, ♀, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 5 millim.

Carapace dilated behind the posterior eyes, orange-yellow, suffused with brown, the cephalic area divided into four square black spots by a yellow cross, with a tuft of white hairs between and behind the anterior central eyes and one on the inner side of the anterior laterals. Abdomen white, mottled with brown, with five or six dark central dorsal chevrons in the apical two-thirds; ventral area speckled with black. Legs unicolorous yellow.

Hab. Panama, Bugaba (*Champion*).

A very much smaller species than *C. puerperus*, but with the characteristic pairs setigerous spines beneath tibia i.

Group **MARPISSEAE** *.

The genera into which the spiders belonging to this group fall may be distinguished as follows:

1	A. Carapace broadest in the middle, narrowed both in front and behind.	2
	(not A.)	5
2	aa. Tibia i. with 2—2—2—2 spines beneath, or 1—1—1—1 on the inside at least.	3
	bb. Tibia i. with 2—2—2 spines on each side beneath, or spines more or less obsolete.	4
3	a ¹ . Tibia i. with 1—1—1—1 spines on both sides, and 1—1 laterals on the inner side in addition.	<i>Epinga</i> , Peckh.
	a ² . Tibia i. with 1—1—1—1 spines on both sides, or on the inner side only, but no laterals.	<i>Marpissa</i> , C. L. Koch.

* The term "Marpisseae" is substituted for "Marptuseae," used by me for this group, *antedà*, p. 178, the generic name *Marpissa* antedating *Marptusa* by more than thirty years.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., June 1901.

248

ARANEIDEA.

4	1. Tibia i. with 2—2—2 spines on each side beneath.	<i>Phanias</i> , gen. nov.
	2. Tibia i. with one or two short spines, or none at all beneath.	<i>Metacyrba</i> , gen. nov.
5	B. Carapace distinctly narrowed towards the anterior margin, being broadest behind.	<i>Paramarpissa</i> , gen. nov.

Note.—This division is, of course, purely tentative; but the characters will be some guide as to the spiders which are referred to under the group Marpisseae.

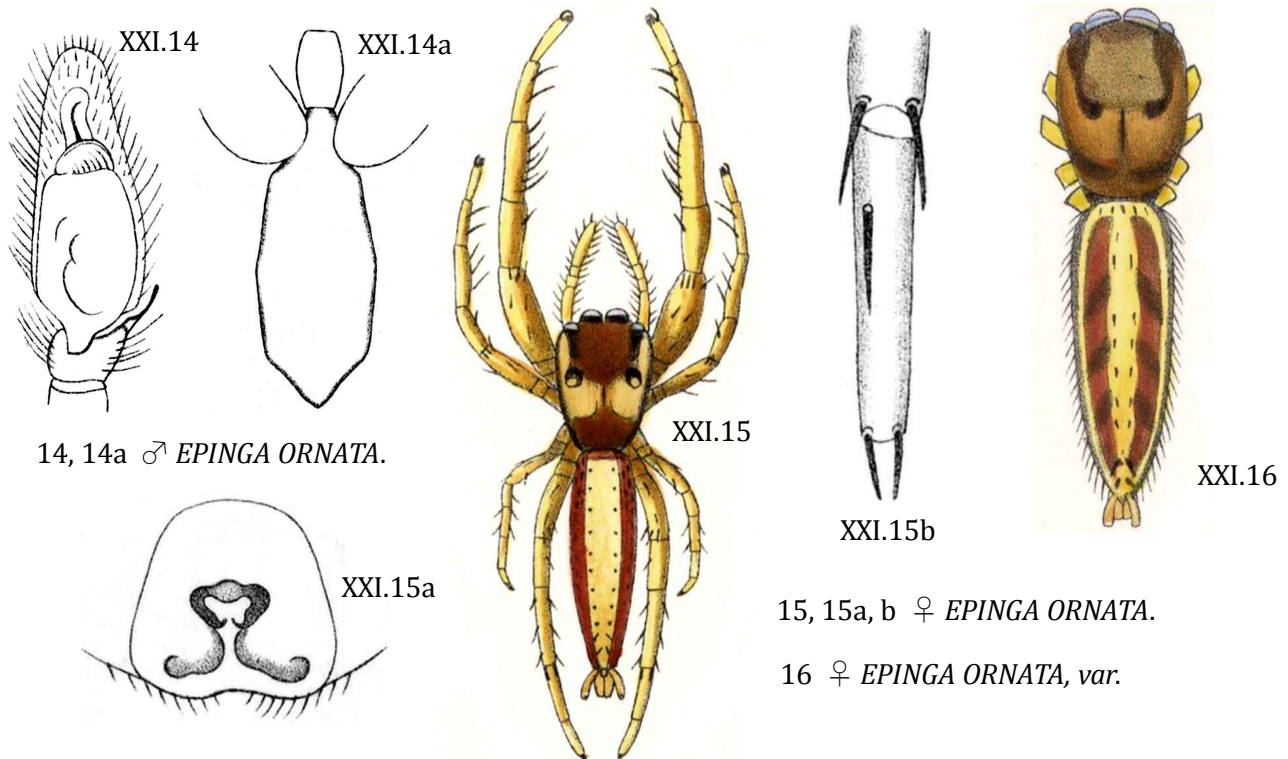
EPINGA.

Epinga, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 94 (Nov. 1894).

Type *E. chapoda*, Peckham. Brazil.

Small eyes nearer the anterior laterals. Tibia i. with 2—2—2—2 spines beneath and 1—1 laterals on the inner side. Protarsus i. with 2—2 spines beneath; protarsi iii. and iv. with two spines at the apex and one only on the outer side towards the base. Tarsi of legs i. and ii. fusiform. Femora i. and ii. with the usual group of three spines at their apex in front. Sternum twice longer than broad, very narrow between the anterior coxae, which are almost in contact. Coxa i. shorter than iv. Mandibles with one tooth above, two below. Posterior spinners more slender than the anteriors and distinctly longer; centrals slightly shorter than the anteriors.

1. *Epinga ornata*. (Tab. XXI. figg. 14, 14a, ♂; 15, 15a, b, ♀; 16, var., ♀.)



14, 14a ♂ *EPINGA ORNATA*.

XXI.15

15, 15a, b ♀ *EPINGA ORNATA*.

16 ♀ *EPINGA ORNATA*, var.

XXI.16

Plate XXI. Fig. 14. *Epinga ornata*, ♂, tibia and tarsus of palpus from beneath; 14a, sternum. Fig. 15. *Epinga ornata*, ♀ (12.4 mm): 15a, vulva; 15b, protarsus from beneath. Fig. 16. *Epinga ornata*, ♀, variety, dorsal view, legs removed (12.8 mm).

Bavia ornata, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 80, t. 2. figg. 11b (♂), 11, 11a (♀)¹.

Epinga ornata, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 95 (Nov. 1894)²; op. cit. iii. 1, p. 9 (April 1896)³.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 8, ♀ 11 millim.

Hab. Central America¹; Guatemala^{2 3} (*Sarg*), Panzos (*Champion*).

Females only of this large and beautiful species occur in our collection.

MARPISSA.

Marpissa, C. L. Koch, Die Arachn. xiii. p. 57 (1846).

Marptusa, Thorell, Ann. Mus. Civ. Stor. Nat. Genova, x. p. 561 (1877).

Type *M. muscosa* (Clerck). Europe.

♀. Tibia i. with 2—2—2 spines, the first pair sub-basal, and one lateral on each side (in some species on the inner side only); protarsi i. and ii. with 2—2 spines beneath. Femora with two long spines above and three shorter ones near the apex, but not closely grouped. Patellae without spines. Tibia iii. without any spines above, two at the apex beneath, and 1—1 laterals; tibia iv. with 1—1 beneath; protarsi iii. and iv. with 1—1 beneath and four at the apex. Coxa i. slightly shorter than coxa iv. Sternum twice longer than broad, dilated behind and very narrow between coxae i. Small eyes midway between the laterals. Ocular quadrangle broader than long, as wide in front as behind. Carapace with a depression behind the cephalic area, where the central stria is situated, elongate, more or less compressed. Abdomen very elongate, more or less parallel-sided, and compressed.

The species here referred to this genus differ somewhat from the typical form (*M. muscosa*), chiefly in having more slender anterior legs and only three (instead of four) spines on the outer side of tibia i. It is quite possible that *M. melanognatha* will eventually be referred to another genus. I take *M. muscosa* as the type, because

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., June 1901.

MARPISSA.

249

it was selected by Thorell in 1870 for *Marpissa*, C. L. Koch. The structural characters are shown on our Plate [Tab. XXI. figg. 17, 17a—c, ♀].

The Central-American species known to me may be recognized as follows:—

<i>Males.</i>			
1	I.	Abdomen grey-white, with a narrow longitudinal dorsal central brown band, resolving into three or four brown chevrons above the spinners. (Bulb simple, without any prominent tooth or spur in the centre. Apical spine stout, straight, slightly curved at the apex. Tibial spur of palpus very slight, scarcely noticeable.)	<i>melanognatha</i> , Lucas.
	II.	Abdomen black, with a broad more or less dentated or scalloped longitudinal dorsal central white or pale band.	2
2	A.	Apical spine of palpal bulb bifurcated.	<i>familiaris</i> , Hentz.
	B.	Apical spine of palpal bulb simple.	3
3	a.	Tibial spur of palpus very conspicuous, stout, curved, pointed at the apex, with a stout conical spur near its base beneath the segment. Bulb enlarged, with a stout anterior central spur, best seen in profile. Apical spine much larger, stout at the base, strongly curved, aculeate at the apex.	<i>magna</i> , Peckh.
	b.	Tibial spur of palpus long, slender, slightly curving downwards. Bulb not so greatly enlarged, without a central spur, but with a slight inner basal cusp. Apical spine much smaller, stout, and curved.	<i>minor</i> , sp. n.

<i>Females.</i>		
1	I. Abdomen grey-white, with a narrow longitudinal central brown band, resolving into three or four brown chevrons above the spinners. (Vulva consisting of a large triangular-oval area having two elongate cavities on each side of a central carina, narrow in front, broadly dilated behind, where on each side is situated a dark orifice.)	<i>melanognatha.</i>
	II. Abdomen black, with a broad more or less dentated or scalloped longitudinal dorsal central white or pale band.	2
2	1. Vulva consisting of a large triangular-oval area, having near its anterior margin a transverse oval concavity, whose posterior inner margin is deeply indented in the middle; and a pair of circular adjacent dark spots near the posterior margin of the vulval area, which is itself scalloped in the middle.	<i>magna.</i>
	2. Vulva without anterior transverse oval concavity.	3
3	a. For vulva see Plate.	<i>familiaris.</i>
	b. For vulva see Plate.	<i>melanura, sp. n.</i>

Note.—I do not know *M. familiaris*, and cannot therefore describe the vulva in comparative diagnosis with that of *M. melanura*. The species are, however, obviously quite distinct and will not be confused, with Peckham's figure of the vulva of the former as a guide.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

2 K‡

250

ARANEIDEA.

1. *Marpissa melanognatha*. (Tab. XXI. figg. 18, 18a—e, ♂; 19, 19a—c, ♀.)

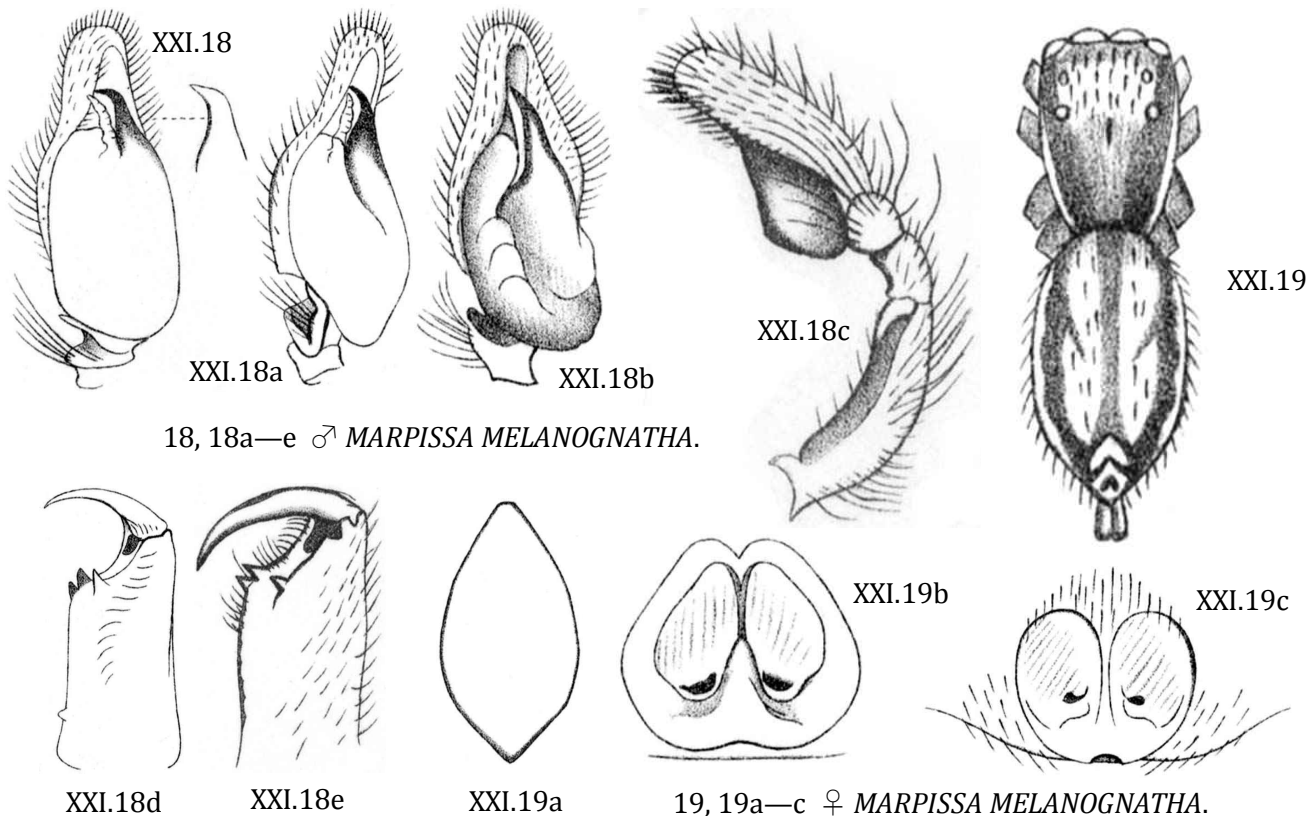


Plate XXI. Fig. 18. *Marpissa melanognatha*, ♂, tibia and tarsus of palpus from beneath; 18a, ditto from the outer side; 18b, ditto, variety; 18c, ditto from the inner side; 18d, mandible; 18e, ditto, variety. Fig. 19. *Marpissa melanognatha*, ♀, dorsal view, legs removed (7.8 mm); 19a, sternum; 19b, vulva; 19c, ditto, from an example not fully mature.

Salticus melanognathus, Lucas, Hist. Nat. Canaries, Arachn. p. 29, t. 7. fig. 4 (♀)¹.

Menemerus melanognathus (Lucas), Peckh. Trans. Wisc. Acad. Sci. vii. p. 82, t. 1. figg. 62 (♂), 62a(♀), t. 6. figg. 62 (♂), 62a (♀) (1888)².

Marptusa melanognatha, Banks, Proc. Calif. Acad. Sci. (3) i. p. 285³.

Hab. North America.—Mexico, Sonoran region, Hermosillo, and Minatitlan³ (*fide* Banks), Teapa (*H. H. Smith*); Guatemala² (*Sarg*); Costa Rica (*Rogers*); Panama, Bugaba (*Champion*).—South America.

If this species be really identical with *Salticus nigrolimbatus*, O. P.-Cambr., and the others quoted by Peckham, then it is (as he remarks) truly cosmopolitan, for he quotes *M. melanognatha* as occurring also in Europe, Africa, the Canary Is., and the Malay Archipelago.

2. *Marpissa familiaris*. (Tab. XXII. figg. 1, ♂; 2, 2a, ♀.)

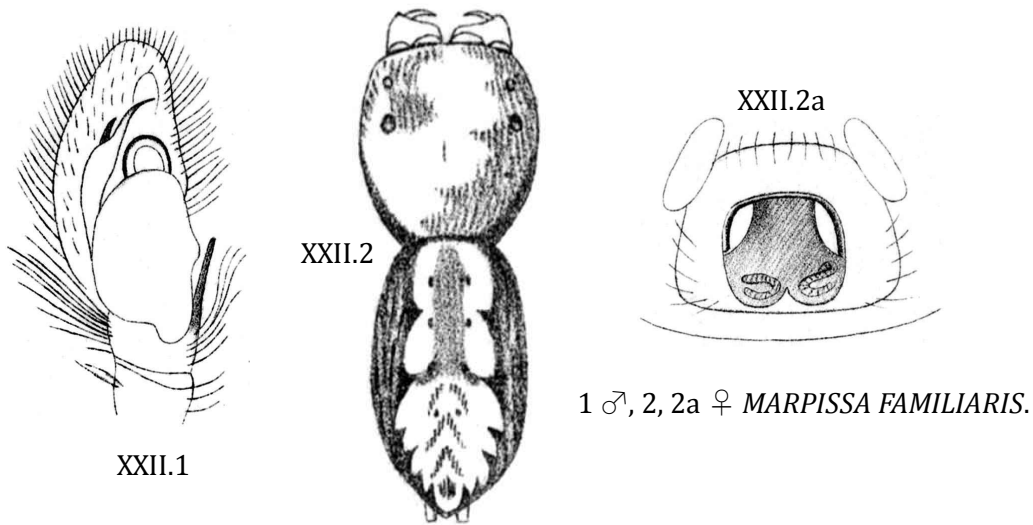


Plate XXII. Fig. 1. *Marpissa familiaris*, ♂, palpus from beneath. (After Peckham.) Fig. 2. *Marpissa familiaris*, ♀, dorsal view, legs removed (10.2 mm); 2a, vulva. (After Peckham.)

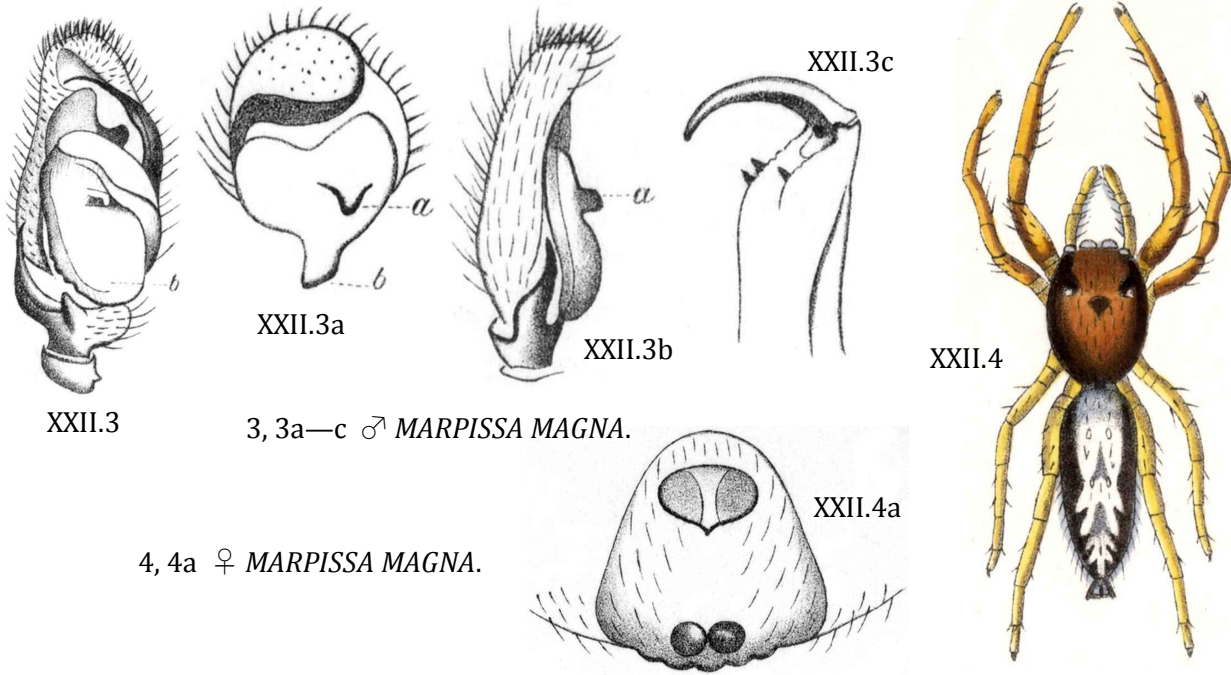
Attus familiaris, Hentz, Spid. U. S., ed. by Burgess, p. 56, t. 8. fig. 7 (♀), and t. 18. figg. 74, 99 (♀)¹.

Marptusa familiaris, Peckh. Trans. Wisc. Acad. Sci. vii. p. 80, t. 1. fig. 60 (♀), t. 5. fig. 60 (♂) (1888)²; Banks, Proc. Calif. Acad. Sci. (3) i. p. 284³.

Hab. North America^{1 2}.—Mexico, Minatitlan³.

Our figures of this species are taken from Peckham's work.

3. *Marpissa magna*. (Tab. XXII. figg. 3, 3a—c, ♂; 4, 4a, ♀.)



XXII.3

3, 3a—c ♂ *MARPISSA MAGNA*.

4, 4a ♀ *MARPISSA MAGNA*.

XXII.3c

XXII.3a

XXII.3b

XXII.4

XXII.4a

Plate XXII. Fig. 3. *Marpissa magna*, ♂, palpus from beneath; 3a, bulb of palpus, another view; 3b, palpus from the outer side; 3c, mandible from beneath. Fig. 4. *Marpissa magna*, ♀ (11.6 mm): 4a, vulva.

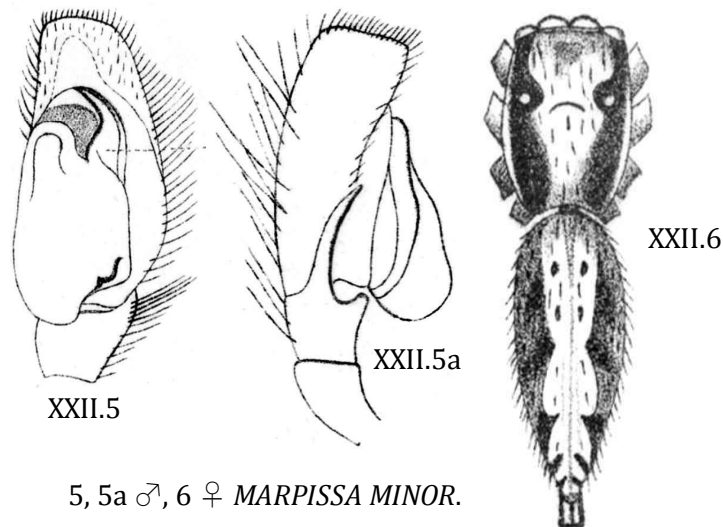
Marpissa magna, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 87, t. 8. figg. 3, 3a (♀) (Nov. 1894)¹.

Type, ♀, in coll. Peckham: total length 12 millim. Deuterotype, ♂, in coll. Godman & Salvin: total length 10 millim.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg.*).—Amazons, Santarem¹.

The male, which is here described and figured for the first time, resembles the female in coloration. An immature specimen of the former has a jet-black band down the ventral area, but it is almost obliterated in the adult male and female, perhaps owing to the action of the alcohol.

4. *Marpissa minor*, sp. n. (Tab. XXII. figg. 5, 5a, ♂; 6, ♀.)



XXII.5

XXII.5a

XXII.6

5, 5a ♂, 6 ♀ *MARPISSA MINOR*.

Plate XXII. Fig. 5. *Marpissa minor*, ♂, palpus from beneath; 5a, ditto from the outer side. Fig. 6. *Marpissa minor*, ♀, dorsal view, legs removed (9.2 mm).

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 7, ♀ 10 millim.

Colour very similar in the two sexes. Carapace black or red-brown, with a fine white marginal line, and a broad central band of white hairs extending from the anterior eyes to the posterior margin, where it becomes gradually narrower. Abdomen with a broad lateral dorsal brown band extending from the anterior margin to the spinners, leaving a broad central pale band, more or less scalloped or indentate, on the sides of the apical half, the indentations being of a deeper black, as also are the outer margins of the lateral brown bands; lower lateral and ventral areas white.

Legs yellow, i. and ii. darker and more or less blotched with brown; iii. and iv. with a dusky spot at the apex

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

of the protarsi. Basal half of the femur of the palpus of female brown, the rest yellow. (Vulva not fully developed.)

Hab. Mexico, Teapa (H. H. Smith).

Very similar to *M. melanura*, but without the pale lateral abdominal bar and not suffused below with black. The central cephalic pale blotch also begins behind the anterior eyes.

5. *Marpissa melanura*, sp. n. (Tab. XXII. figg. 7, 7a—c, ♀.)

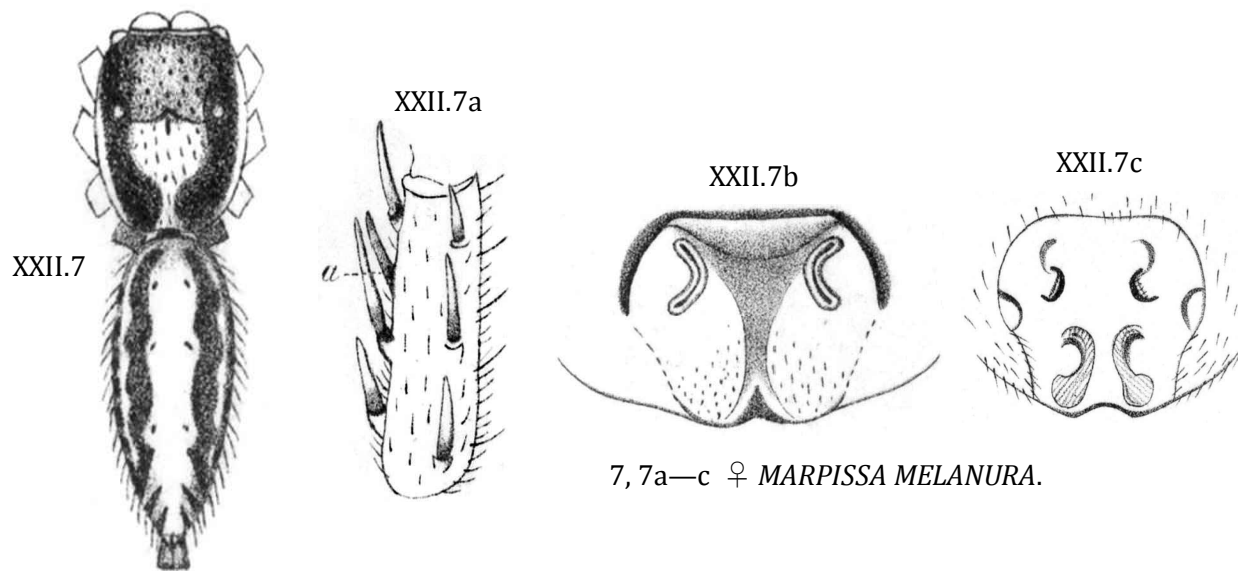


Plate XXII. Fig. 7. *Marpissa melanura*, ♀, dorsal view, legs removed (7.8 mm); 7a, tibia i. from beneath, inner side at (a); 7b, vulva; 7c, ditto, variety.

Type, ♀, in coll. Godman & Salvin. Total length 8 millim.

Carapace almost black, with white scattered hairs, a white marginal band and a central white blotch behind the central stria abruptly attenuated and extending to the posterior margin. Abdomen white, with a pair of irregular black bands on each side of the dorsal area, leaving a broad central white band and a narrow lateral pale band, which is bounded on the sides below by another dark lateral band, the pale one being broken by dark spots and blotches; lower lateral area pale; ventral area black. Legs and palpi yellow, legs i. and ii. and the palpi spotted and blotched with brown; femur i. brown on both sides.

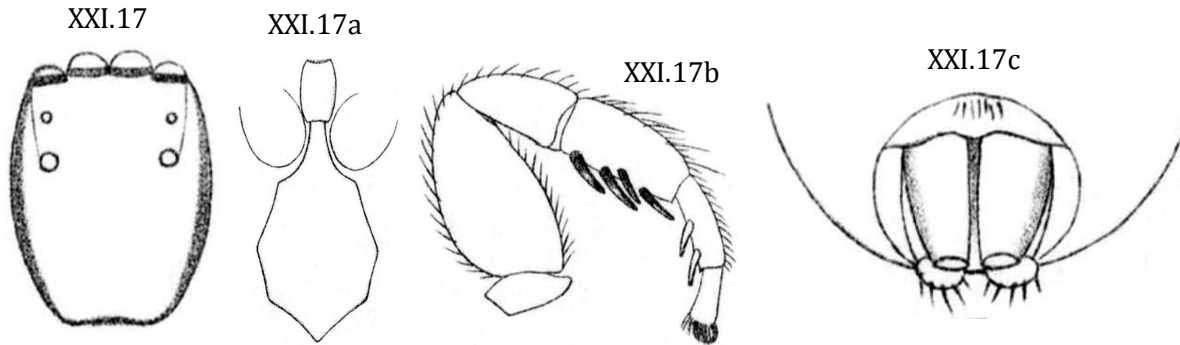
Vulva varying individually; consisting of a large rounded triangular area, narrower behind, slightly notched in the centre of the posterior margin, with a central longitudinal depression broader in front, attenuated

behind, having a pair of widely separate crescentic marks, one and half times the length of one of them apart, anteriorly on each side of the central depression.

Hab. Guatemala, Guatemala city (*Stoll*).

6. *Marpissa muscosa*, (Clerck 1758) (Tab. XXI. figg. 17, 17a—c, ♀.)

This Palearctic species was not described here with the other *Marpissa* species, but four figures were presented on Plate XXI, with the note shown after the caption, below, at the bottom of that plate.



17, 17a—c ♀ *MARPISSA MUSCOSA*.

Plate XXI. Fig. 17. **Marpissa muscosa*, ♀, carapace and eyes from above; 17a, sternum ; 17b, leg i. from the outer side; 17c, spinners from beneath. *At bottom of caption page:* *Note.— The species marked with an asterisk is not a Central-American form. Figures of its essential characters are inserted for the purposes of comparison.

PHANIAS. gen. nov.*

Type *Phanias flavostriatus*, sp. n. Mexico.

The type-species of this genus differs from that of *Marpissa* in possessing only three pairs of spines beneath tibia i. and from the Central-American members of the same genus by the same character, save that in the latter there are four spines on the inner side only. From *Metacyrba* it may be known by the latter having usually only one or two spines beneath tibia i., and from *Paramarpissa* by the almost parallel-sided carapace. The sternum, moreover, is not dilated behind as in the true *Marpissa*.

1. *Phanias flavostriatus*, sp. n. (Tab. XXII. figg. 8, 8a, b, ♀.)

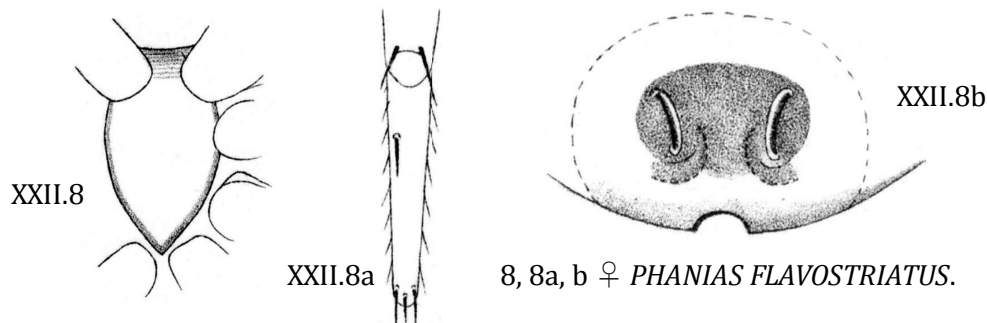


Plate XXII. Fig. 8. *Phanias flavostriatus*, ♀, sternum; 8a, protarsus iv. from beneath; 8b, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 8 millim.

Carapace red-brown, clothed with white hairs; cephalic area with white (yellow in alcohol) cretaceous cells below the epidermis. Clypeus clothed with white hairs; a group of stiff curved bristles is situated below the

small eyes on each side. Abdomen red-brown above, speckled and streaked with yellow; with five transverse, variously formed, yellow bars, the first on the anterior margin forming two small central spots, the second being divided in the middle, the third united in the centre to form a square spot, the fourth united and forming a short longitudinal bar, the fifth lying just above the spinners; lateral and ventral areas dusky white, thinly speckled with brown, the ventral area with a broad central brown longitudinal band extending from the genital rima to the spinners. Leg i. red-brown, the coxae and tarsi paler yellow, clothed with short white hairs. Legs ii., iii., iv. clear yellow, with a single brown spot on each side of the femora at the apex.

Patellae without spines; tibiae i. and ii. with 2—2—2 spines beneath (no lateral spine); iii. and iv. with a single spine beneath, and with two apical spines. Protarsi i. and ii. with 2—2 spines beneath; iii. and iv.

*Added with 1905 corrections (x.).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

2 K‡ 2

252

ARANEIDEA.

usually with a single spine beneath, and iii- with four, iv. with three, apical spines beneath. Sternum elongate-oval, narrowed between the anterior coxae, but not dilated behind.

Vulva with a deep, short, semicircular notch in the centre of the posterior margin, with two chitinous grooves situated about their own length from the posterior margin, a little over their own length apart, slightly convergent posteriorly, both being embraced in a broad, transverse oval, brown area.

Hab. Mexico, Omilteme in Guerrero (*H. H. Smith*).

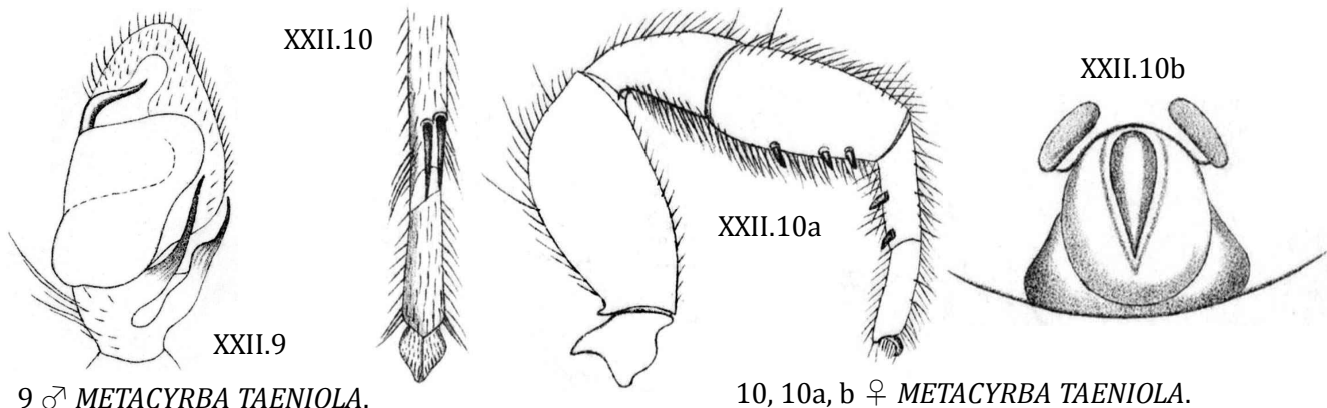
This species differs from the typical *Marpissa muscosa* in the absence of the lateral inner spine on tibia i. and the non-dilated sternum.

METACYRBA, gen. nov.

Type *Metacyrba taeniola* (Hentz). North America.

♀. Leg i. much incrassate; femur i. much compressed, without spines, or with only a very minute one besides the two long dorsal spines; tibia i. without any spines, or at most with three on the outer side only; protarsus i. with 2—2 spines beneath; tibiae iii. and iv. with 1 or 1—1 spines beneath; patellae of all four pairs without spines. Sternum much attenuated in front between the anterior coxae, dilated behind. Cephalic quadrangle much broader than long; carapace rugulose, without any decided central depression behind the posterior eyes.

1. *Metacyrba taeniola*. (Tab. XXII. figg. 9, ♂; 10, 10a, b, ♀.)



9 ♂ METACYRBA TAENIOLA.

10, 10a, b ♀ METACYRBA TAENIOLA.

Plate XXII. Fig. 9. *Metacyrba taeniola*, ♂, palpus from beneath. Fig. 10. *Metacyrba taeniola*, ♀, leg i. from the outer side; 10a, protarsus iv. from beneath; 10b, vulva.

Attus taeniola, Hentz, Journ. Bost. Soc. Nat. Hist. v. p.353 (1845)¹; Spid. U. S. ed. by Burgess, p. 56, t. 8. fig. 5².

Cyrba taeniola, Peckh. Trans. Wisc. Acad. Sci. vii. p. 75, t. 5. figg. 56, 56b (♂), t. 6. fig. 56a (♀)³.

Total length, ♂ 4 millim. (sec. Peckham), ♀ 9 millim. (Mexican examples).

This fine species may be recognized at once by its black carapace and abdomen, the latter with a pair of thin white dorsal longitudinal lines, sometimes more or less interrupted, enclosing a paler brown band, extending from the anterior margin to the spinners. Legs i. and ii. mahogany-black; protarsus and tarsus i. orange; tibia, protarsus, and tarsus ii. dull orange; patella, tibia, and tarsi iii. and iv. orange, the vent black-brown. Sternum, coxae of legs, and ventral area dark mahogany-black. The vulva presents a conspicuous wedge-shaped groove, its apex directed backward, with a central convex wedge-shaped piece.

Hab. North America^{1 2 3}.—Mexico, Amula in Guerrero (*H. H. Smith*).

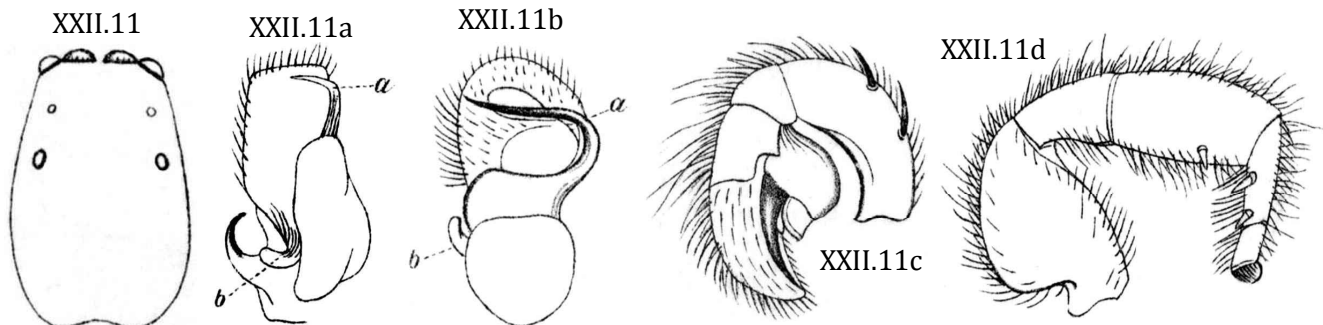
I cannot find that this species is congeneric with Simon's type of *Cyrba*, and therefore a new genus is required for it. One may not, however, have correctly identified Peckham's *C. taeniola* (Hentz).

PARAMARPISSA, gen. nov.

Type *Paramarpissa tibialis*, sp. n. Mexico.

Similar in general characters to *Marpissa*, but with only one or two, or sometimes without any, spines beneath tibia i. Carapace very distinctly narrower in front, thus differing from that of *Marpissa* and *Metacyrba*.

1. *Paramarpissa tibialis*, sp. n. (Tab. XXII. figg. 11, 11a—d, ♂.)



11, 11a—d ♂ PARAMARPISSA TIBIALIS.

Plate XXII. Fig. 11. *Paramarpissa tibialis*, ♂, carapace from above; 11a, palpus from the outer side and beneath; 11b, ditto from beneath; 11c, ditto from the inner side; 11d, leg i. from the inner side.

Type, ♂, in coll. Godman & Salvin. Total length 7 millim.

Carapace black, with a broad central band of white hairs and a narrow white marginal band. Abdomen with

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.


a pale central longitudinal dorsal band, with a lateral submarginal black band extending from the anterior margin to the spinners. Legs unicolorous red-brown, those of the first pair the darkest.

General structure very similar to that of *Marpissa*, but the carapace is distinctly narrowed in front. Leg i. incrassate, and having beneath a single cusp on the inner side. Patella i. with 2—2 short stout cusps beneath. Coxae i. almost in contact over the sternum.

Palpus very short and stout, the bulb much enlarged and the tarsus bent downwards towards the inner side of the femur; tibia and patella short, the patella half as long as its diameter, the tibia a little longer than the diameter. Tibial spur stout, strongly curved downward at its apex, forming a sharp black spine. The base of the tarsus on the outer side is produced into a stout blunt curved spur, lying between the bulb and the tibial spur. The bulb itself is divided into an anterior and a posterior lobe, the former developed on the inner side into a very stout long spine, widely curved, directed quite across the broad tarsal sheath, its aculeate apex curving forward.

Hab. Mexico, Teapa (*H. H. Smith*).

Group PHIDIPPEAE.

First pair of legs with the three pairs of spines beneath the tibiae situated in the apical half of the segment at any rate, often in the apical third or even fourth (this is the case in both sexes, but the spines on the inner side of tibia i. are those which should be taken into consideration, those on the outer side being, as a rule, slightly wider apart). The females are distinguishable, with very few exceptions, by a deep rounded or -shaped notch in the middle of the posterior margin of the vulval area.

The genera which have been included in this group may be distinguished by the following characters, though it is doubtful how far some of the distinctions will be found to be permanent:

1	A. Carapace and abdomen more or less flattened.	2
	B. Carapace and abdomen more or less convex.	5
2	1. Tibia i. more or less, sometimes very much, enlarged. Tibia and protarsus iv. without spines.	3
	2. Tibia i. not enlarged, five or six times longer than broad, parallel-sided. (Maxillae dilated at the outer angle and squarely truncated at the apex.)	<i>Anoka</i> , Peckh.
3	a. Maxillae not dilated at the outer angle, nor truncated at the apex, but normally and evenly rounded. Tibia i. not fringed with hair beneath.	4
	b. Maxillae dilated at the outer angle and squarely truncated at the apex. Tibia i. densely fringed with hair beneath.	<i>Ashtabula</i> , peckh.
4	a'. Tibia i. very dilated, very little longer than broad, chelate. Sternum not produced into a conical point behind. Spines beneath protarsus i. short.	<i>Cheliferoides</i> , gen. nov.
	b'. Tibia i. not nearly so dilated, at least three times longer than broad, not chelate. Sternum produced into a conical point behind. Spines beneath protarsus i. very long.	<i>Rudra</i> , Peckh.
5	1. Posterior row of eyes scarcely wider than the anterior row. (Abdomen without any central dorsal triangular pale spot.)	6
	(not 1.)	7
6	a. Legs i. and ii. in both sexes without fringes of hair on the sides or beneath.	<i>Metaphidippus</i> , gen. nov.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *September 1901.*

6	b. Legs i. and ii. in both sexes with fringes of hair on the sides or beneath.	<i>Paraphidippus</i> , gen. nov.
----------	--	----------------------------------

7	2. Posterior row of eyes distinctly wider than the anterior.	8
8	a. Carapace uniformly rounded on the sides. Abdomen with a central dorsal triangular pale spot.	<i>Phidippus</i> , C. L. Koch.
	b. Carapace dilated laterally, in front of the small eyes. Abdomen without the characteristic central pale spot.	<i>Parnaenus</i> , Peckh.

CHELIFEROIDES, gen. nov.

Type *C. segmentatus*, sp. n. Guatemala.

Leg i. very incrassate, the tibia being almost as broad as long and, with the protarsus, forming a distinct chela, functional probably both in copulation and in the pursuit of prey. Cephalic quadrangle not longer than wide, but broader behind; the small eyes placed midway, or, if anything, slightly nearer the anterior laterals. Tibia and protarsus iv. without spines. Body flat, as in *Rudra*, and the maxillae, as in this latter genus, rounded at the apex.

This spider very much resembles *Chirothecia*, Tacz., but differs in the length of the cephalic area (see Peckham's identification of that genus, which he regards as a "Homalattid").

1. *Cheliferoides segmentatus*, sp. n. (Tab. XXII. figg. 12, 12a—f, ♂.)

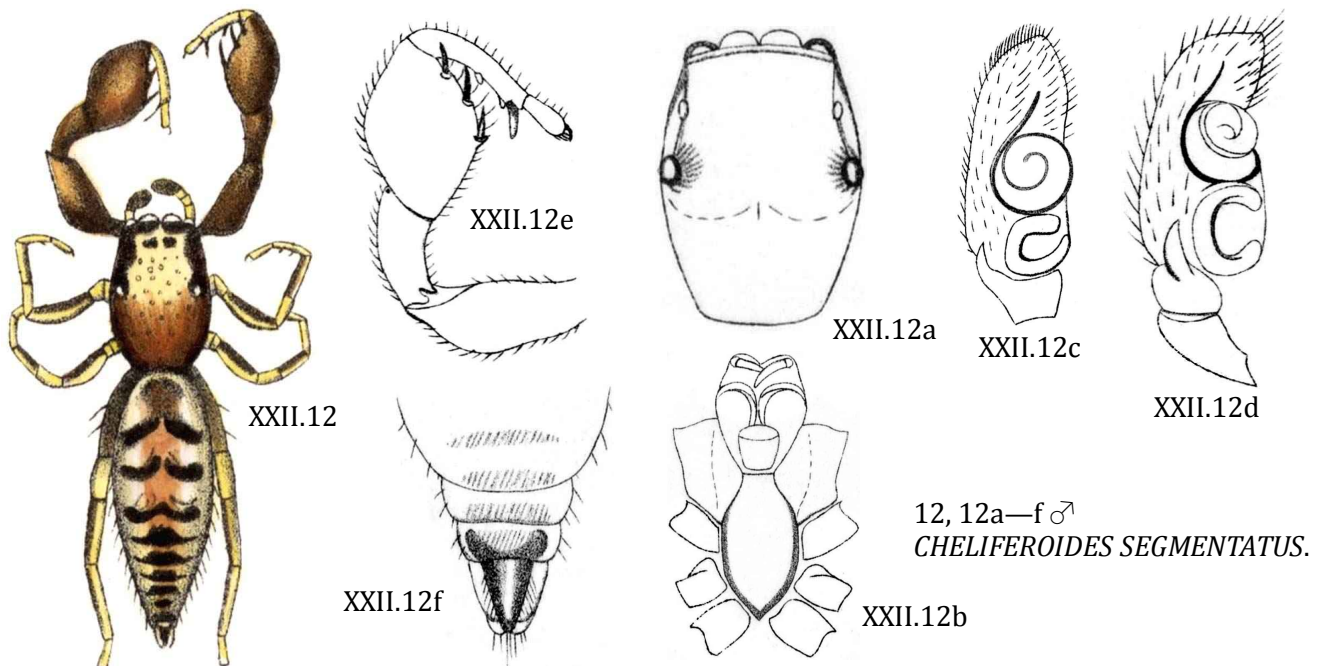


Plate XXII. Fig. 12. *Cheliferoides segmentatus*, ♂ (4.1 mm); 12a, carapace from above; 12b, sternum; 12c, palpus from the outer side beneath; 12d, ditto from the outer side; 12e, leg i. from the inner side; 12f, anal tubercle from above.

Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

For colour and structure, see Plate.

Hab. Guatemala (*Sarg.*).

It is very difficult to place this species in its proper systematic position. If, as Peckham considers, *Chirothecia* is a "Homalattid" and *Rudra* a "Marptusid," *C. segmentatus* falls between the two, and removes any distinction which might have been supposed to exist between the groups. For the present it is placed in the Phidippeae. One would suspect by its general appearance that this spider mimics one of the Pseudoscorpions.

RUDRA.

Rudra, Peckham, Proc. Nat. Hist. Soc. Wisc. 1885, p. 76 (Dec.).

Type *R. geniculata*, Peckham. Guatemala.

Tibia and protarsus iv. without spines; femur i. with, at most, one spine at the apex in front. The spines beneath the protarsi of the first pair of legs long, the basal ones three-fourths as long as the segment. Coxae i. at least two-thirds of a diameter apart at their base. Sternum twice as long as broad, oval-elongate, not much dilated behind, but with an abrupt contraction in the middle, forming a conical point. The cephalic area has a pencil of three or four stiff bristles on each side, below the small eyes. The males of the two known species belonging to this genus have not yet been found, but the females may be distinguished as follows:—

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

RUDRA.—ANOKA.

<i>Females.</i>	
1	<p>a. Abdomen marked with black and yellow in very strong contrast, the black markings consisting of a marginal line, a central bar (the anterior half dilated and scalloped on the margins, narrowed in the posterior half, with two lateral branches forming a slender ⊥-shaped bar), and a transverse bar between this and the spinners. Vulval area circular, indented in the centre of the posterior margin, with two orifices in the anterior third of the area, four diameters apart, with two hypodermal ducts, extending to the posterior third, where they become convoluted.</p> <p style="text-align: right;"><i>geniculata</i>, Peckh.</p>
	<p>b. Abdomen very like that of <i>R. geniculata</i> (sec. Peckham); but, according to his figure, the black markings on the abdomen are more scattered. Vulval area with a large transverse oval cavity anteriorly, the posterior margin slightly emarginate in the middle, with a small rounded cusp between the posterior margin of the cavity and the posterior margin of the vulval area.</p> <p style="text-align: right;"><i>polita</i>, Peckh.</p>

1. *Rudra geniculata*. (Tab. XXII. figg. 13, 13a—e, ♀.)

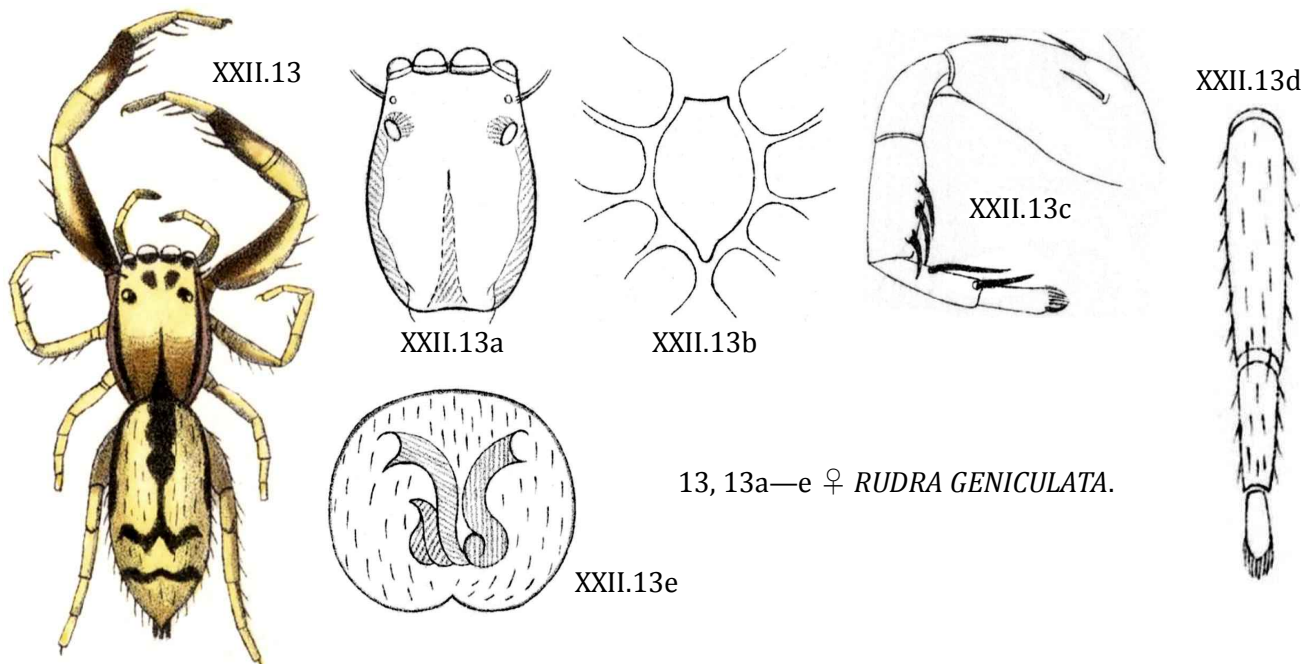


Table XXII. Fig. 13. *Rudra geniculata*, ♀ (5.3 mm): 13a, carapace from above; 13b, sternum; 13c, leg i. from the inner side; 13d, tibia and protarsus iv. from beneath; 13e, vulva.

Rudra geniculata, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 77, t. 2. figg. 9, 9a (♀) (Dec.)¹; Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 121, t. 12. figg. 3—3b (♀) (Nov. 1894)².

Type, ♀, in coll. Peckham. Total length 5 millim.

Hab. Guatemala^{1 2}, Escuintla (*Sarg*).

2. *Rudra polita*. (Tab. XXII. fig. 14, ♀.)

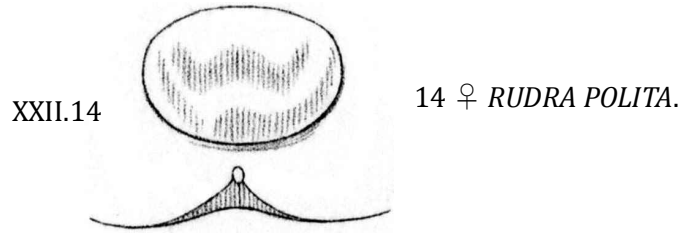


Plate XXII. Fig. 14. *Rudra polita*, ♀, vulva. (After Emerton.)

Rudra polita, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 121, t. 12. figg. 4, 4a (♀) (Nov. 1894)¹.

Type, ♀, in coll. Peckham. Total length 7 millim.

Hab. Guatemala¹.

Our figure of the vulva of this species is taken from Peckham's work.

ANOKA.

Anoka, Peckham, P. Z. S. 1893, p. 701.

Type *Anoka vernalis*, Peckham. St. Vincent, Antilles.

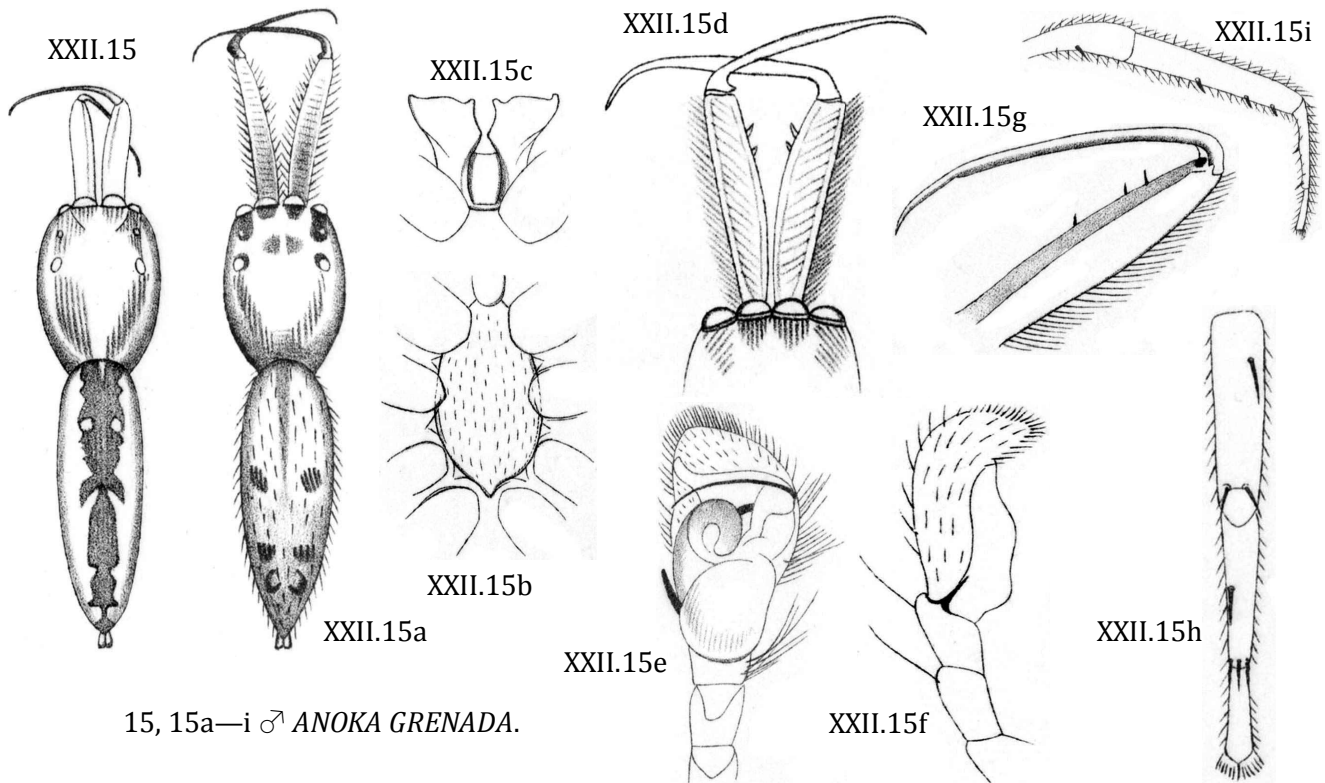
The following characters are taken from *A. grenada*, ♂ (Guatemala):—Tibia and protarsus iv. with spines beneath, the former with a single small one towards the base on the outer side, and two at the apex; the latter with a single median spine on the inner side, and three at the apex beneath. The spines beneath the tibia and protarsus i. very short, scarcely longer than the diameter of the segment, those beneath the former situated on the anterior half of the segment. Coxae i. rather closely situated at their base, about half a diameter apart. Sternum, in length, rather over twice its breadth, oval, gradually dilated behind. Leg i. long, tibia not incrassate.

The two Central-American forms may be recognized as follows:—

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

<i>Males.</i>		
1	A. Mandibles much longer. Maxillae much more dilated towards the apex, with the outer anterior angle slightly prolonged. Spine at the apex of the prolonged palpal hulf curving more circularly, not sinuously, across the tarsus. Abdomen more distinctly spotted.	<i>grenada</i> , Peckh.
	B. Mandibles much shorter. Maxillae almost parallel-sided, with the outer anterior angle not prolonged. Spine at the apex of the palpal bulb directed in a straight or sinuous line across the tarsus. Abdomen with a uniform central reddish dorsal band, with also, however, 3—4 pairs of indistinct spots.	<i>fimbriata</i> , sp. n.

1. *Anoka grenada*. (Tab. XXII. figg. 15, 15 a—i, ♂.)



15, 15a—i ♂ ANOKA GRENADA.

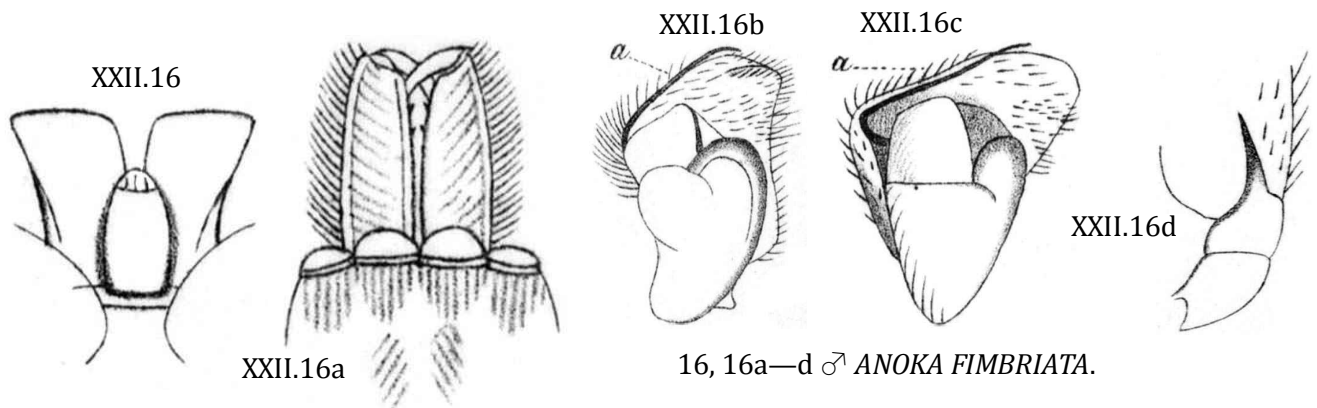
Plate XXII. Fig. 15. *Anoka grenada*, ♂, dorsal view, legs removed (5.6 mm); 15a, ditto, variety (5.4 mm); 15b, sternum; 15c, maxillae; 15d, mandibles from above; 15e, palpus from beneath; 15f, ditto from the outer side; 15g, mandible from beneath; 15h, leg iv. from beneath; 15i, leg i. from the inner side.

*Anoka** *grenada*, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 126, t. 12. figg. 8-8c (♂) (Nov. 1894)¹; op. cit. iii. 1, p. 6 (April 1896)².

Type, ♂, in coll. Peckham. Total length 5.5 millim.

Hab. Guatemala (*Sarg.*)—Colombia^{1 2}.

2. *Anoka fimbriata*, sp. n. . (Tab. XXII. figg. 16, 16a—d, ♂.)



16, 16a—d ♂ ANOKA FIMBRIATA.

Plate XXII. Fig. 16. *Anoka fimbriata*, ♂, maxillae; 16a, mandibles from above; 16b, bulb of palpus from beneath; 16c, ditto, another view; 16d, tibia of palpus from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length, exclusive of mandibles, 4 millim.

Hab. Guatemala (*Sarg.*).

The characters distinguishing this from the last species are given in the Table; but one cannot be too cautious over those drawn from the mandibles and maxillae, while it is perfectly possible, too, that the curvature of the palpal spine varies also. Both species have the white fringes on the mandibles. I should not be surprised to find that these two forms, together with *A. moneagua*, Peckh., from Jamaica, and *A. parallela*, Peckh., from Trinidad [Occas. Papers Nat. Hist. Soc. Wisc. ii. 2 (Nov. 1894)], were all referable to the same species.

ASHTABULA.

Ashtabula, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 139 (Nov. 1894).

Type *Ashtabula zonura*, Peckham. Colombia.

The type-species of *Ashtabula* I do not know, but if I have correctly placed the following two forms in it, the genus is very similar to *Rudra* and *Cheliferoidea*; they have the maxillae, however, distinctly dilated, the outer apical angle being somewhat produced and squarely truncated, and the cephalic quadrangle of eyes is also longer in proportion than in *Rudra*. The genus is also closely allied to *Anoka*, but the tibiae of the first pair of legs in the latter are not dilated. The two species which I refer to it may be distinguished as follows:-

* Spelling changed to *Anoka* with 1905 corrections (x.).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

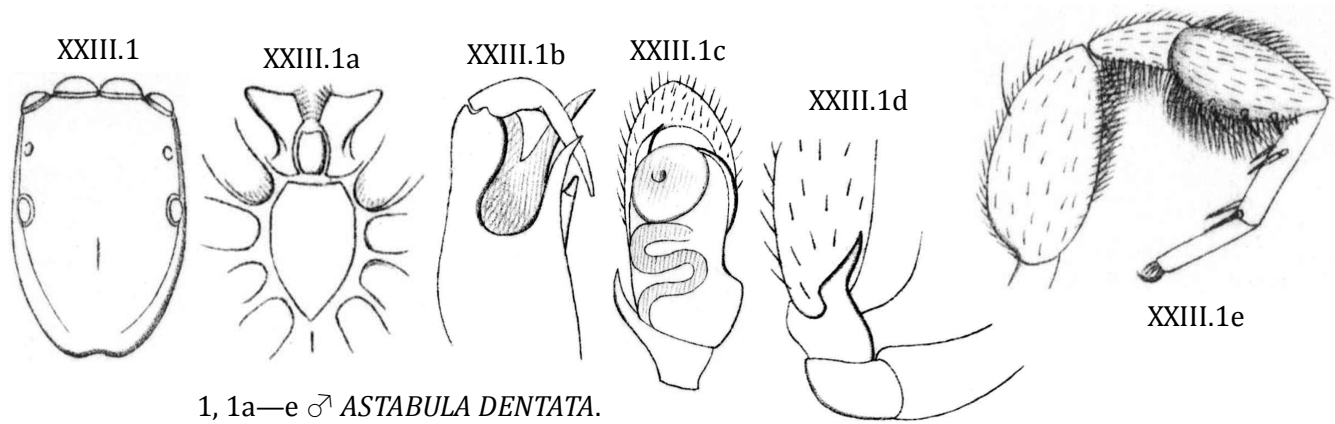
ASTABULA.

257

<i>Males.</i>							
1	<table border="1"><tr><td style="text-align: center;">a.</td><td>Abdomen pale yellow, clothed with white hairs, having a central longitudinal dorsal, dark, deeply dentated band. Apical spine of palpal bulb very fine and short, quite inconspicuous. Tibial spine of palpus geniculate. Basal segment of mandible much excavated below the base of the fang, with a very long upper and under tooth, and a third smaller one. The fang itself with a large tooth or enlargement on the upperside near the basal half. Cephalic quadrangle occupying half the carapace</td><td style="text-align: right;"><i>dentata</i>, sp. n.</td></tr><tr><td style="text-align: center;">b.</td><td>Abdomen black, the dorsal area entirely clothed with green iridescent scales and margined with a narrow band of white. Apical spine of palpal bulb stout, conspicuous, and slightly sinuous. Tibial spur of palpus slightly curved, not geniculate. Basal segment of mandible with a single short stout tooth on the upper and lower margin of the fang-groove. Cephalic quadrangle of eyes occupying less than half the carapace.</td><td style="text-align: right;"><i>nigricans</i>, sp. n.</td></tr></table>	a.	Abdomen pale yellow, clothed with white hairs, having a central longitudinal dorsal, dark, deeply dentated band. Apical spine of palpal bulb very fine and short, quite inconspicuous. Tibial spine of palpus geniculate. Basal segment of mandible much excavated below the base of the fang, with a very long upper and under tooth, and a third smaller one. The fang itself with a large tooth or enlargement on the upperside near the basal half. Cephalic quadrangle occupying half the carapace	<i>dentata</i> , sp. n.	b.	Abdomen black, the dorsal area entirely clothed with green iridescent scales and margined with a narrow band of white. Apical spine of palpal bulb stout, conspicuous, and slightly sinuous. Tibial spur of palpus slightly curved, not geniculate. Basal segment of mandible with a single short stout tooth on the upper and lower margin of the fang-groove. Cephalic quadrangle of eyes occupying less than half the carapace.	<i>nigricans</i> , sp. n.
a.	Abdomen pale yellow, clothed with white hairs, having a central longitudinal dorsal, dark, deeply dentated band. Apical spine of palpal bulb very fine and short, quite inconspicuous. Tibial spine of palpus geniculate. Basal segment of mandible much excavated below the base of the fang, with a very long upper and under tooth, and a third smaller one. The fang itself with a large tooth or enlargement on the upperside near the basal half. Cephalic quadrangle occupying half the carapace	<i>dentata</i> , sp. n.					
b.	Abdomen black, the dorsal area entirely clothed with green iridescent scales and margined with a narrow band of white. Apical spine of palpal bulb stout, conspicuous, and slightly sinuous. Tibial spur of palpus slightly curved, not geniculate. Basal segment of mandible with a single short stout tooth on the upper and lower margin of the fang-groove. Cephalic quadrangle of eyes occupying less than half the carapace.	<i>nigricans</i> , sp. n.					

Note.—The female of *A. dentata* is unknown to me and that of *A. nigricans* is not adult; I cannot, therefore, give figures of the vulva of either.

1. *Ashtabula dentata*, sp. n. (Tab. XXIII. figg. 1, 1a—e, ♂.)



1, 1a—e ♂ *ASTABULA DENTATA*.

Plate XXIII. Fig. 1. *Ashtabula dentata*, ♂, carapace and eyes; 1a, sternum and maxillae; 1b, mandible from beneath; 1c, palpus from beneath; 1d, ditto from the outer side; 1e, leg i. from the outer side.

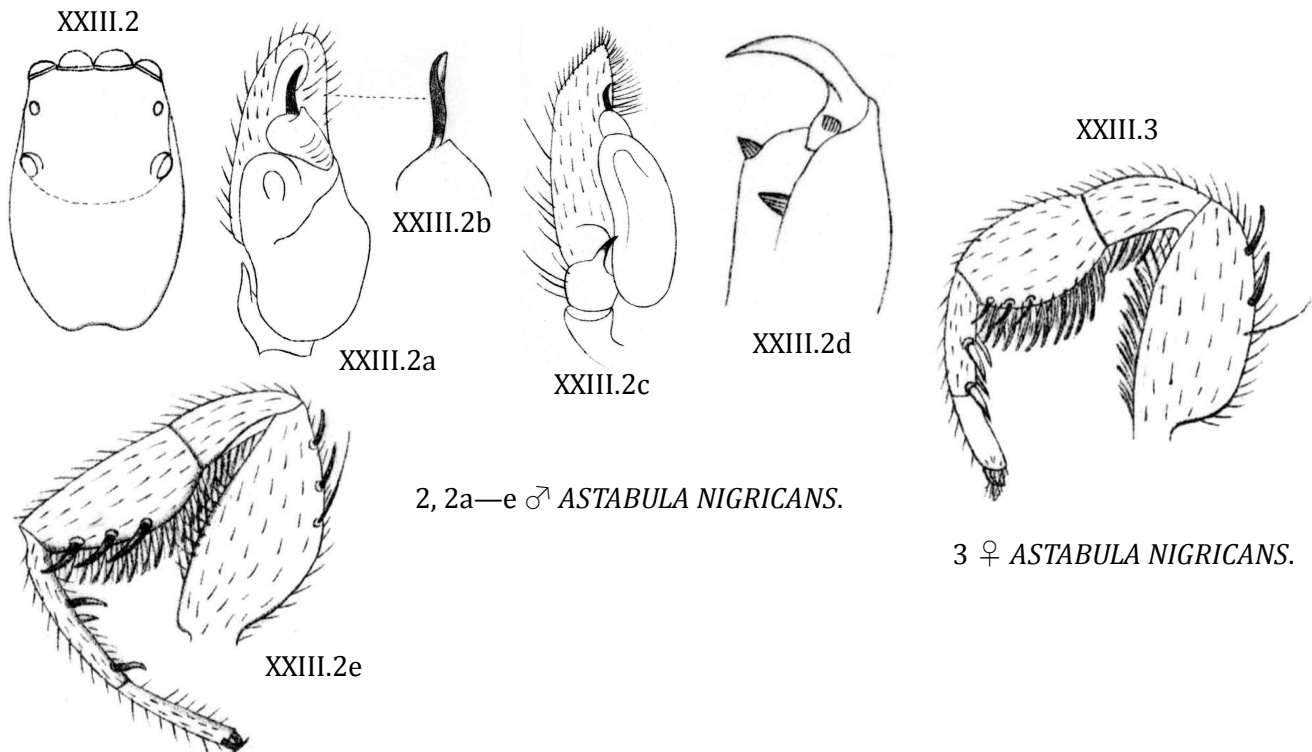
Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

For a description of the specific characters, see the Table.

Hab. Guatemala (*Sarg.*).

This species, in general appearance, resembles *A. zonura*, Peckh., but the tibial spur of the palpus is differently formed, and the mandible also is evidently very dissimilar, Peckham not mentioning the long teeth on the basal segment, nor the enlargement above of the fang in the basal half.

2. *Ashtabula nigricans*, sp. n. (Tab. XXIII. figg. 2, 2a—e, ♂; 3, ♀.)



2, 2a—e ♂ *ASTABULA NIGRICANS*.

3 ♀ *ASTABULA NIGRICANS*.

Plate XXIII. Fig. 2. *Ashtabula nigricans*, ♂, carapace and eyes; 2a, palpus from beneath; 2b, palpal spine enlarged; 2c, ditto from the outer side; 2d, mandible from beneath; 2e, leg i. from the inner side. Fig. 3. *Ashtabula nigricans*, ♀, leg i. from the inner side.

Type, ♂, in coll. Godman & Salvin. Total length, ♂ 4.75, ♀ juv. 5.5 millim.

Coloration similar in both sexes. Carapace and abdomen black, the former clothed dorsally with a large area of green and copper iridescent scales, embracing the cephalic area, and extending over halfway to the posterior margin. Abdomen clothed over the entire dorsal area with iridescent scales, cinctured marginally with a narrow white band; ventral area black. Legs black-brown; protarsi and tarsi yellow; tibiae iii. and iv. also yellow, with lateral brown bands. Femur of palpus brown; patella, tibia, and tarsus yellow.

♂. Leg i. much incrassate; tibia two and a half times longer than broad, with three pairs of short stout spines on each side in the apical third; protarsus i. as long as the tibia, with 2—1 stout spines beneath; tarsus more than half as long as the tibia.

♀. Leg i. incrassate; tibia one and a half times longer than broad, with three pairs of short spines in the apical third. In both sexes the anterior margin of the femur and the underside of the patella and tibia are thickly fringed with stout hairs. Tibia iv. with one or two spines on each side and two at the apex beneath; protarsus iv. with one or two spines at the sides and four at the apex beneath. Maxillae dilated at the apex. Coxae i. almost a diameter apart. Mandibles short and stout, with a single tooth above and below.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg.*)

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

2 L†

258

ARANEIDEA.

METAPHIDIPPUS, gen. nov.

Type *M. mandibulatus*, sp. n., ♂. Costa Rica.

This genus includes those spiders referred by Peckham to *Dendryphantes*. It is very difficult to remove them structurally from *Paraphidippus*, and if they happened to be of the same size there would be still less inclination to do so. They are all smaller spiders, with either yellow bodies variegated with spots and slashes, or more or less clothed with metallic scales, copper, green, or pink. The only tangible difference one can find is that the first one or two pairs of legs are not clothed with hairs in either sex. The *protarsi* of the posterior legs are in most cases entirely devoid of spines, except at the apex.

<i>Males.</i>		
(Legs not fringed with hair beneath, but, as usual, clothed with scattered hairs throughout.)		
1	I. Mandibles very elongate, more or less attenuated; basal segment often as long or longer than the carapace; the three mandibular teeth widely separate, the lower and larger one situated close to, about once or twice its length from, the base of the fang, the other two, usually more or less adjacent, situated close to the basal inner angle of the segment, where they meet the curved point of the elongate, usually more or less sinuous, fang.	2
	(not I.)	13
2	A. Bulb of palpus with a straight or circularly curved spine at the apex, not situated on the side.	3
	(not A.)	12
3	1. Fang of mandible very long, and widely sinuous, having a long spur near its base on the outer side, whose apex is slightly recurved.	<i>mandibulatus</i> , sp. n.
	2. Fang of mandible simple, without spur at the base on the outer side.	4
4	a ¹ . The apical tooth of the mandible widely separate from the two smaller basal teeth.	5
	(not a ¹ .)	10
5	a ² . The apical tooth not larger than either of the basal teeth.	<i>nitidus</i> , Peckh.
	b ² . The apical tooth much larger than either of the basal teeth.	6

6	a ³ .	The basal teeth widely separate, three times the length of the middle one apart, which is much the largest of the two.	<i>tridentatus</i> , sp. n.
	b ³ .	The basal teeth adjacent, not more than the length of one of them apart.	7
7	a ⁴ .	Upper apical angle of basal segment of mandible with a stout cusp or tooth.	8
		(not a ⁴ .)	9
8	a ⁵ .	Apical spine of palpal bulb straight, conical, sharp. Upper apical tooth of mandible sharp.	<i>octonotatus</i> , sp. n.
	b ⁵ .	Apical spine of palpal bulb circularly curved, starting from the outer side, curving downward and upward, its apex directed outward. Upper apical tooth of mandible truncated.	<i>pernix</i> , sp. n.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

METAPHIDIPPUS.

259

9	b ⁴ .	Upper apical angle of basal segment of mandible without any distinct cusp or tooth. Apical spine of palpal bulb short, stout, and slightly curved outward at the apex.	<i>dentiger</i> , sp. n.
10	b ¹ .	The apical tooth of the mandibles much nearer to, not further than its own length from, the two basal teeth, these being adjacent.	11
11	*	Tibia and patella of palpus each three times longer than broad; bulb not unusually dilated at the base, its apical spine long, slender, almost straight, directed obliquely forward.	<i>longipalpus</i> , sp. n.
	**	Tibia and patella of palpus each not longer than broad; bulb much inflated, its apical spine short, stout, slightly curving outward.	<i>globosus</i> , sp. n.
12	B.	Bulb of palpus with a large spirally curved spine situated on the inner side of the apical portion. (Apical tooth of basal segment of the mandible very far removed from the basal teeth; the segment itself strongly curved outward at its base.)	<i>maxillosus</i> , sp. n.
13	II.	Mandibles shorter, not attenuated; basal segment much shorter than the carapace. Fang not nearly so long.	14
14	AA.	The lower mandibular tooth sharp at the apex.	15
	BB.	The lower mandibular tooth slightly dilated and obliquely truncated at the apex.	18
15	a.	Spine of palpal bulb situated at the apex.	16
	b.	Spine of palpal bulb spiraliform, situated on the inner side of the bulb*. (Upper tooth of mandible the largest, broad conical.)	<i>levispinus</i> , sp. n.
16	aa.	Tibia of the first pair of legs with the 2—2—2 spines situated close together at the apex of the segment. (Apical spine of palpal bulb short, slender, straight, its apex curving slightly inward. Tibial spur of palpus strongly curved at its apex.)	<i>apicalis</i> , sp. n.
	bb.	Tibia of the first pair of legs with the 2—2—2 spines spread over the apical half of the segment.	17
17	a ¹ .	Apex of palpal bulb with a double spine, the inner one slightly longer than the outer. Tibial spur of palpus very short, deflected abruptly downward.	<i>bispinosus</i> , sp. n.
	b ¹ .	Apex of palpal bulb with a broad lanceolate spine, the apex of which slightly curves outward. Tibial spur of palpus longer and more slender, directed forward.	<i>lanceolatus</i> , sp. n.
18	A.	Spur of tibia of palpus simple, single-pointed, straight or curved downward.	19
		(not A.)	24
19	a.	Apical spine of bulb bifurcated.	20
		(not a.)	21
20	a ¹ .	Apical spine of bulb long, slender, with two equal and similar	

* *M. laetabilis*, Peckh., probably belongs to this group.

260		ARANEIDEA.	
20	a ¹ .	prongs, forming a little fork. Bulb not inflated, somewhat flattened in the basal region. Tibial spur of palpus longer, more slender, sinuous, but straight, not curved abruptly downward.	<i>furcillatus</i> , sp. n.
	b ¹ .	Apical spine of bulb short, broad, flat, the inner prong of the fork the longest, the other often a mere barb-like cusp. Bulb much inflated in the basal region. Tibial spur of palpus shorter, stouter, falciform, abruptly curved downward at the apex.	<i>furcatus</i> , sp. n.
21	b.	Apical spine of bulb simple not bifurcated.	22
22	*	Spots and bands on the carapace primrose-yellow. (Abdomen with a short anterior dorsal and a broad entire marginal band of yellow scales. Apical spine of bulb broad basally, abruptly narrowed, straight, filiform to the apex, the bulb itself somewhat broader.)	<i>flavolineatus</i> , sp. n.
	**	Spots and bands on the carapace white.	23
23	aa.	Abdomen with a double row of four white cuneiform spots down the dorsal area. Apical spine of bulb broad throughout, lanceolate, the bulb itself narrower, elongate.	<i>variegatus</i> , sp. n.
	bb.	Abdomen with iridescent scales, an unbroken white marginal band and three pairs of white spots in the basal half, two oblique spots on each side of the apex. Apical spine of bulb very broad, dilated, obliquely truncated at the apex, with a small cusp in the middle of the truncature, whose inner angle is produced into a point curving forward.	<i>digitatus</i> , sp. n.
24	B.	Spur of tibia of palpus bi-branchiate, with an equally developed upper and lower branch, the upper more slender and curved downward, sharp, the lower stouter, straight, truncated at the apex. (Apical spine of bulb very broad, base dilated, deeply embedded in the apical portion of the bulb, apex geniculate, curving forward, minutely bifid at the extreme point.)	<i>bicuspidatus</i> , sp. n.

Note.—I do not know *M. centralis*, *M. laetabilis*, *M. felix*, and *M. hondurensis* (Peckh.), nor *M. capitatus* (Hentz), sufficiently well to enable me to include them in the Table.

<i>Females.</i>			
1	A.	Posterior margin of vulval area not or only slightly emarginate, not deeply notched.	2
		(not A.)	4
2	a.	Abdomen with a broad black longitudinal band on each side of the dorsal area, but reaching neither the anterior margin nor the spinners. (Vulva with a transverse irregular oval area anteriorly, with two indistinct orifices close together in the anterior middle of this area, connected with a curved line on each side.)	<i>nigropictus</i> , sp. n.

2	b.	Abdomen without longitudinal black bands.	3
3	1.	Abdomen with a central anterior dorsal transparent cruciform mark. Vulval area circular, the two orifices more adjacent.	<i>pallidatus</i> , sp. n.

3	2.	Abdomen with a variegated brown pattern on the dorsal area. Vulval area broad, transverse, triangular-oval, the two orifices more remote from each other.	<i>expallidatus</i> , sp. n.
4	B.	Posterior margin of vulval area more or less deeply notched.	5
5	i.	Vulval area longitudinal-oval, with a pair of large adjacent longitudinal-oval concave discs anteriorly, and a much smaller pair of dark subepidermal discs lying between these and the posterior margin.	<i>bicavatus</i> , sp. n.
	ii.	Vulval area without any large anterior oval concave discs.	6
6	a ¹ .	Abdomen umber-brown, with numerous yellow or white elongate or cuneiform spots and bands.	7
	b ¹ .	Abdomen either pale clay-yellow without metallic scales, or clothed with pink, copper, or green iridescent scales.	8
7	a ² .	Abdominal pattern consisting of a pair of elongate, parallel, pale, unbroken bars, not reaching the anterior margin; with two median lateral spots and three pairs of cuneiform spots posteriorly, forming chevrons, these spots being placed on four pairs of deep black spots. Notch on posterior margin of vulva Λ -shaped, often very deep.	<i>bispinosus</i> .
	b ² .	Abdominal pattern consisting of six pairs of pale cuneiform dorsal spots and two pairs of anterior lateral spots, the first pair of dorsal spots reaching the anterior margin. Scarcely any trace of black spots. Notch on margin of vulva more semicircular.	<i>variegatus</i> .
8	*	Abdomen clothed with iridescent metallic scales.	9
		(not *)	16
9	1aa.	Carapace also clothed with pink, copper, or green iridescent scales; not much inflated laterally behind the posterior eyes.	10
		(not 1aa.)	15
10	a*.	Abdomen with four round jet-black spots on each side.	<i>octonotatus</i> .
	b*.	Abdomen without these black spots on each side.	11
11	2a.	Abdomen with a narrow white marginal encircling band, and also (in <i>M. apicalis</i>) with lateral white transverse oblique spots as well.	12
		(not 2 a.)	13
12	a**.	Vulval area longitudinal-oval, with the orifices situated one diameter apart in a transverse-oval depression.	<i>cupreus</i> , sp. n.
	b**.	Vulval area triangular, without transverse-oval depression, having a pair of orifices one and a half diameters apart in the posterior half. Abdomen with anterior marginal band and three white transverse oblique lateral marginal slashes on each side.	<i>apicalis</i> .

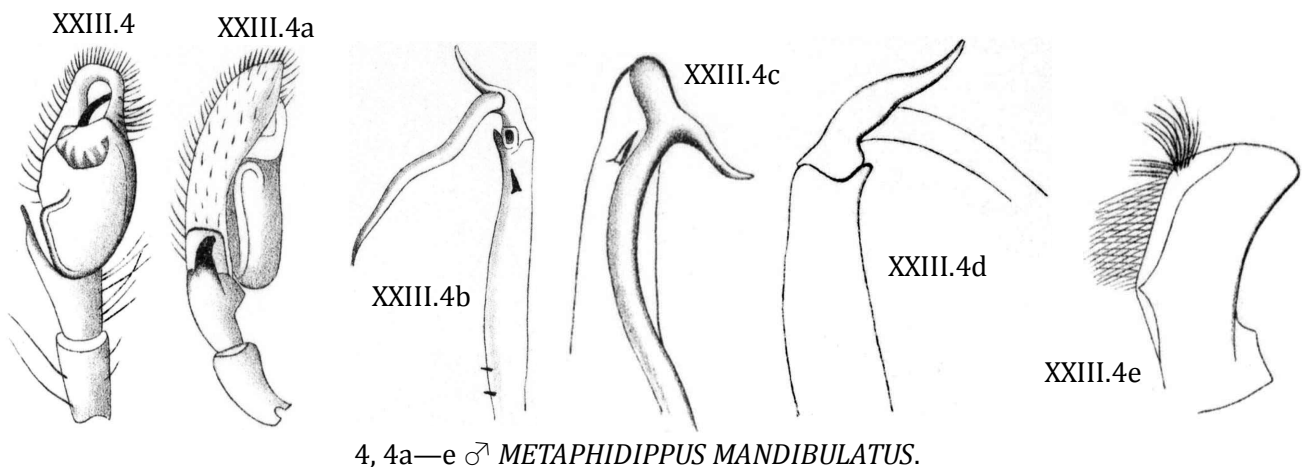
BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

13	2b.	Abdomen without any white marginal band or white spots. Vulval area broad, transverse, oval-triangular, abruptly narrowed anteriorly.	14
14	3a.	Vulval orifices closely adjacent, in the middle of the area.	<i>ovatus</i> , sp. n.
	3b.	Vulval orifices widely separate, six diameters apart, with a pair of dark longitudinal-oval discs lying between them.	<i>iridescens</i> , sp. n.
15	1bb.	Carapace not clothed with iridescent scales, but with white or grey hairs; more distinctly inflated laterally behind the posterior eyes.	<i>inflatus</i> , sp. n.
16	**	Abdomen not clothed with iridescent scales.	17
17	aa.	Carapace more distinctly inflated behind the posterior eyes.	18
	bb.	Carapace scarcely inflated behind the posterior eyes.	19

18	1.	Abdomen yellow, with two median lateral black bands, broken up into eight square spots. Vulva oval-triangular, with a pair of transverse orifices, one diameter apart, in the centre.	<i>momus</i> , sp. n.
	2.	Abdomen yellow, with four black spots at the apex. Vulval area oval-triangular, with a pair of punctiform orifices, four diameters apart, connected with a spiraloïd line on each side curving forward.	<i>quadrinotatus</i> , sp. n.
19	1.	Abdomen yellow, with five pairs of dorsal linear-cuneiform brown spots, besides others. Vulval area elongate triangular.	<i>ochraceus</i> , sp. n.
	2.	Abdomen dull red-brown, with four pairs of very indistinct pale chevrons, united on the median dorsal line. Vulval area short triangular-oval.	<i>pallens</i> , sp. n.

Note.—I am not sufficiently well acquainted with the characters of *M. centralis*, *M. dubitabilis*, *M. hondurensis*, or *M. vegetus* (Peckh.) to enable me to insert them in the Table; they probably belong, however, to this group of species, and a figure of the vulva of each of the first three of these will be found on our Plates. *M. retiarius*, *M. nubilus*, and *M. capitatus* (Hentz), which also belong to this genus, are unknown to me.

1. *Metaphidippus mandibulatus*, sp. n. (Tab. XXIII. figg. 4, 4a—e, ♂.)



4, 4a—e ♂ *METAPHIDIPPUS MANDIBULATUS*.

Plate XXIII. Fig. 4. *Metaphidippus mandibulatus*, ♂, palpus from beneath; 4a, ditto from the outer side; 4b, mandible from beneath; 4c, ditto from beneath, another view; 4d, ditto from above; 4e, maxilla.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Dried example. Carapace deep purple-brown, the cephalic area clothed with green and white scales, having also a narrow marginal band of white scales. Abdomen brown, with a central longitudinal dorsal band of green iridescent scales and a double row of four spots of white scales, and a broken marginal band of the same, the two arms of the band not meeting in front; sides and ventral area brown, thinly clothed with fine ochreous hairs. Femora i. and ii., apex of patellae i. and ii., tibia i., apex of protarsus i., and the apices of all the other segments of the legs ii., iii., and iv. (except the tarsi) brown, the rest of the legs yellow; the apices of the femora and the bases of the tibiae and patellae i. and ii. strongly, of iii. and iv. slightly, clothed with white scales. Sternum, maxillae, and labium, the coxae and trochanters of leg i., and the mandibles deep brown.

Eyes—cephalic quadrangle slightly wider behind; central posteriors slightly nearer to the lateral anteriors than to the lateral posteriors. Mandibles very long, the basal segment longer than the carapace, with a

stout curving tooth near the insertion of the fang, and two much smaller teeth within two of their own lengths of each other, close to the base of the segment, meeting the apical hook of the fang when the latter is closed. Fang very long and sinuous, as long as the basal segment, having a long slender spur on the upperside near the base, its apex curving forward and slightly outward. Palpal bulb rather broad, bilobate, with a slender curved apical spine; tarsus slightly excavated at the base opposite the tibial spur, which is short, broad, and a little curved downward. Tibia ii. with 2—2—2 spines beneath.

Hab. Costa Rica (Rogers).

2. *Metaphidippus nitidus*. (Tab. XXIII. figg. 5, ♂; 6, ♀.)

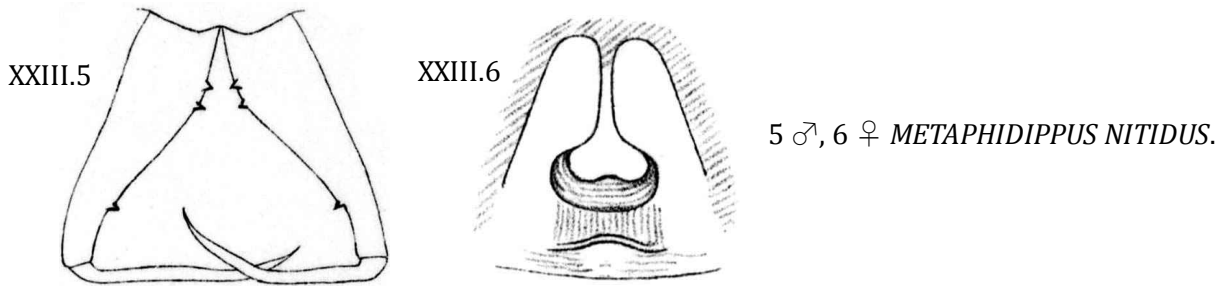


Plate XXIII. Fig. 5. *Metaphidippus nitidus*, ♂, mandible from beneath. Fig. 6. *Metaphidippus nitidus*, ♀, vulva.

Dendryphantus nitidus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 53, t. 4. figg. 8, 8b, 8c (♀), 8a (♂) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 6—8, ♀ 9—10 millim.

Hab. Guatemala¹.

3. *Metaphidippus tridentatus*, sp. n. (Tab. XXIII. figg. 7, 7a, b, ♂.)

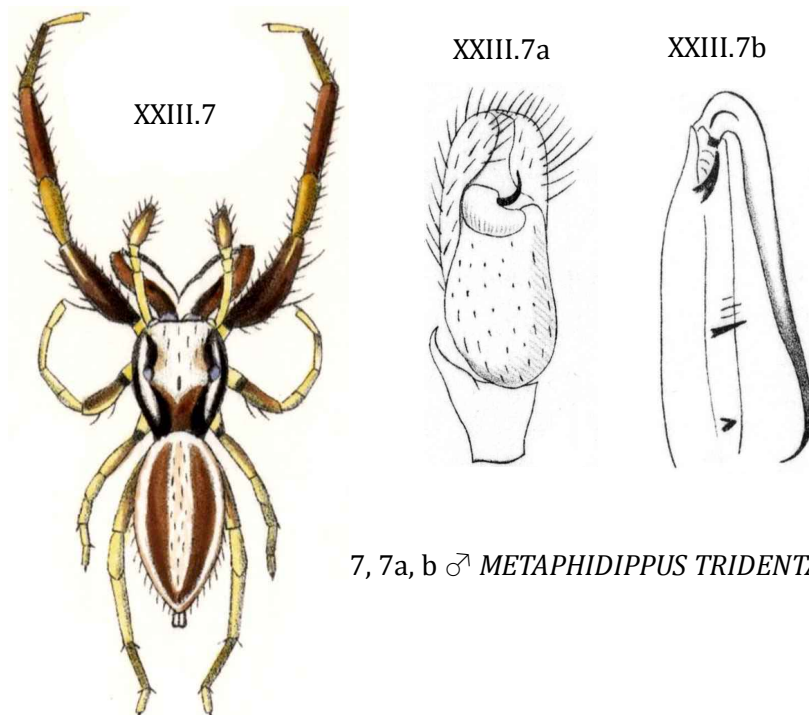


Plate XXIII. Fig. 7. *Metaphidippus tridentatus*, ♂ (4.7 mm): 7a, palpus from beneath; 7b, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

Dried example. Carapace deep black-brown, clothed on the cephalic area with white and ochreous scales; with a broad lateral band of white scales extending from the anterior lateral eyes almost to the posterior margin; another broad band of white scales lies along the margin itself. The anterior central eyes are surrounded with **ochreous** scales; the clypeus is clothed with pure white scales. Abdomen with an elongate-oval chocolate-brown dorsal band, extending from the anterior margin to the spinners, its centre longitudinally clothed with a band of white scales; the entire margin encircled with a broad band of white scales; central ventral area chocolate-brown, devoid of scales, the space between this and the marginal band thinly clothed with white scales. Legs and palpi more or less clothed with white scales. Coxae, femora, apex of patella, entire tibia, and apex of protarsus i. deep brown; femur ii. almost entirely brown; apex of femora iii. and iv. brown; the rest of the legs yellow. Sternum, maxillae, labium, and mandibles deep brown.

Eyes—cephalic quadrangle slightly wider behind, with the lateral posteriors rather nearer the anterior laterals than to the posterior laterals. Mandibles very long, their basal segment two-thirds the length of the carapace, with a single large tooth near the insertion of the fang, curving forward, another shorter, straight, sharp tooth about midway, and a third very small tooth at the base of the inner margin. Fang very long, as long as the basal segment, sharply curved at the base, fairly straight, slightly sinuous and hooked at its apex, but without any spurs or cusps. Palpal bulb elongate, bilobate, with a short, sharply curved, black spine at its apex; tibial spur short and curving downward; tarsus only slightly excavated at the base, opposite the tibial spur. Tibia ii. with a pair of spines at the apex and two spines situated longitudinally beneath.

Hab. Mexico, Amula in Guerrero (*H. H. Smith*).

4. *Metaphidippus octonotatus*, sp. n. (Tab. XXIII. figg. 8, 8a—c, ♂; 9, 9a, ♀.)

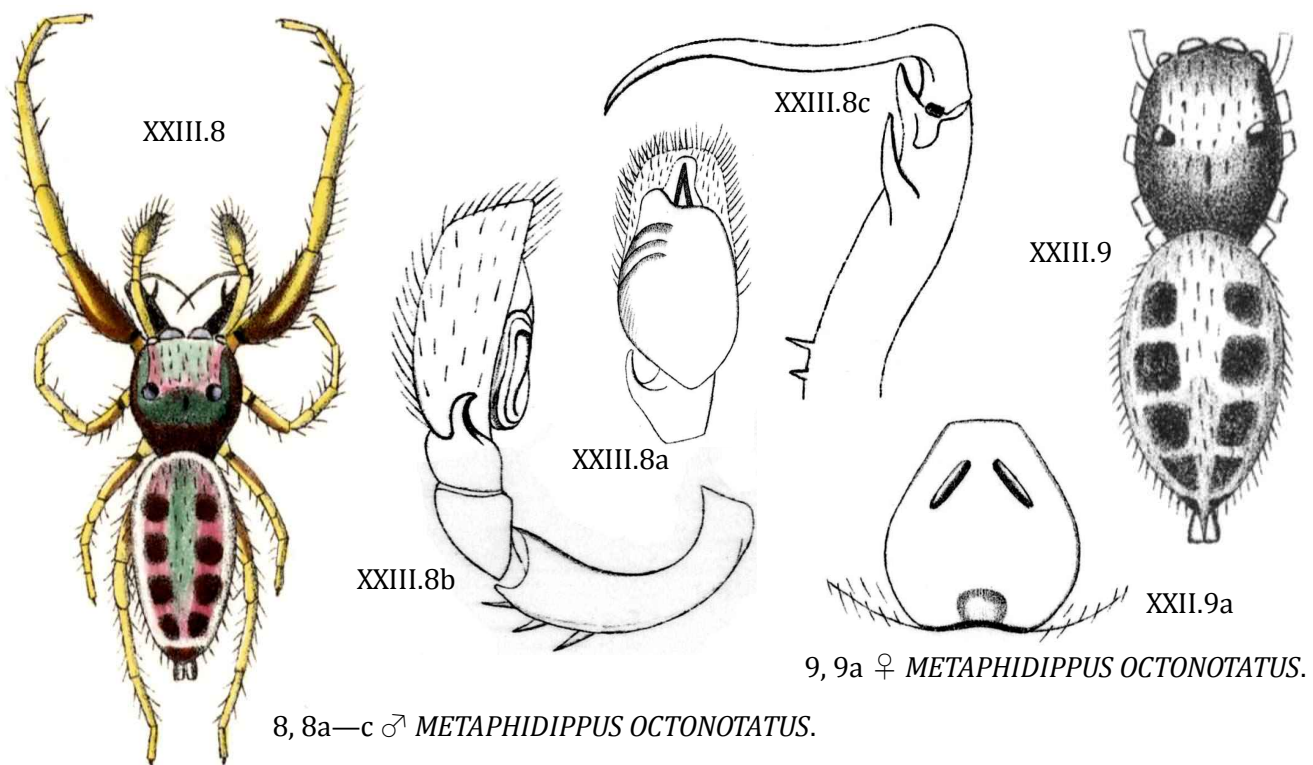


Plate XXIII. Fig. 8. *Metaphidippus octonotatus*, ♂ (4.5 mm): 8a, palpus from beneath; 8b, ditto from the outer side; 8c, mandible from beneath. Fig. 9. *Metaphidippus octonotatus*, ♀, dorsal view, legs removed (4.8 mm); 9a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 4.5, ♀ 5 millim.

Colour similar in both sexes. Carapace dark red-brown; cephalic area black, clothed with white hairs and iridescent scales. Abdomen deep red-brown, clothed with iridescent scales, having an anterior marginal white band, broken up along the sides into three narrow oblique pale bands, and on each side of the dorsal area a broad black band broken up into four black square spots by three narrow transverse white bars. The coloration in the male is more distinct and vivid. Ventral area with a broad central dusky band. Legs yellow, i. and ii. darker brown; protarsi and tarsi yellow, iii. and iv. pale yellow, the apex of the femora, patella, and tibia being dusky brown. Vulva consisting of an oval area, broader behind,

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

264

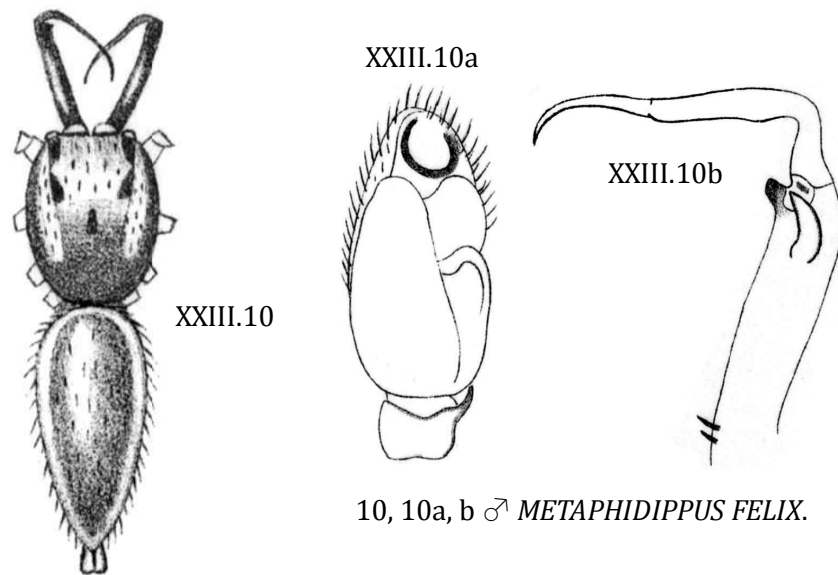
ARANEIDEA.

slightly emarginate in the centre of the posterior margin, with a pair of dark, narrow, oblique, anteriorly convergent, slit-like orifices towards the anterior margin of the area. Patella and tibia of palpus short, subequal, not longer than broad; tibia with a short, stout, curved, blunt spur at the middle of the outer anterior margin. Bulb broad, simple, slightly bilobate anteriorly, with, at its apex, a short, stout, sharp, conical, black spur (or spine). Mandibles much developed, the basal segment very long, with a stout spur at its apex above and a large, long, curved tooth or spur further down on the lower side, and also two smaller sharp teeth close together, about a diameter of the anterior one apart, at the inner basal angle, to meet the point of the long, sinuous, slender fang (or apical segment).

Hab. Guatemala (*Sarg.*).

The female of this species resembles *M. bicavatus* in coloration and general appearance, except that it has no white central or marginal band on the carapace, and the ventral area, instead of being pale unicolorous, has a broad black central band.

5. *Metaphidippus pernix*, sp. n. (*M. felix*, Tab. XXIII. figg. 10, 10a, b, ♂.)



10, 10a, b ♂ METAPHIDIPPUS FELIX.

Plate XXIII. Fig. 10. *Metaphidippus felix*, ♂, dorsal view, legs removed (4.8 mm); 10a, palpus from beneath; 10b, mandible from beneath.

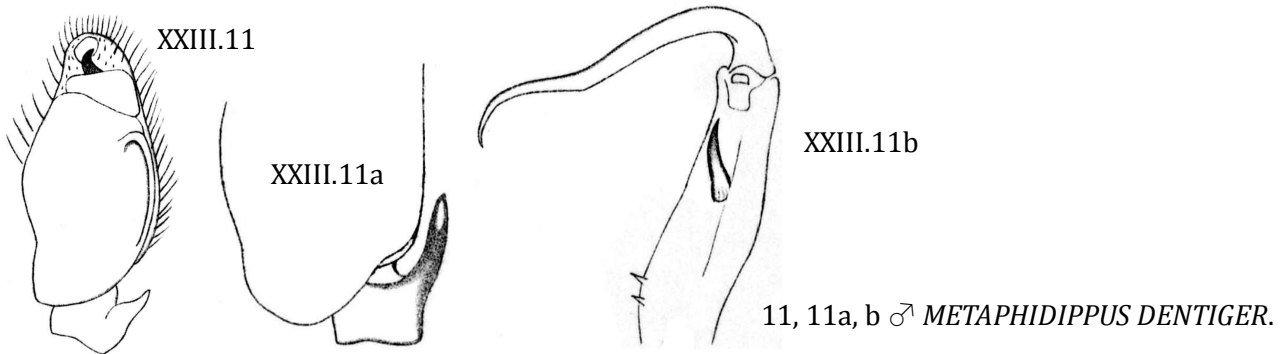
Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown, with a white band along the sides of the cephalic area beneath the lateral eyes, extending also on to the thorax. Abdomen ochreous-brown, clothed with iridescent scales; margin with a band of white hairs, unbroken in front and extending to the spinners. Legs red-brown, the tarsi and protarsi paler. Mandibles much developed, basal segment with a conspicuous cusp at the apex above, a very large tooth a little further down on the lower side, and two smaller teeth near the base; fang very long, abruptly curved at the base, sinuous and sharply curved at the apex. Bulb of palpus not projecting beyond

the tibia; tibial spur very short, sharp, and slightly curved; apical spine forming an almost complete circle within the extreme apex of the tarsal sheath. The three spines on the inner side of tibia i. extend just beyond the middle of the segment.

Hab. Guatemala (*Sarg.*).

6. *Metaphidippus dentiger*, sp. n. (Tab. XXIII. figg. 11, 11a, b, ♂.)



11, 11a, b ♂ *METAPHIDIPPUS DENTIGER*.

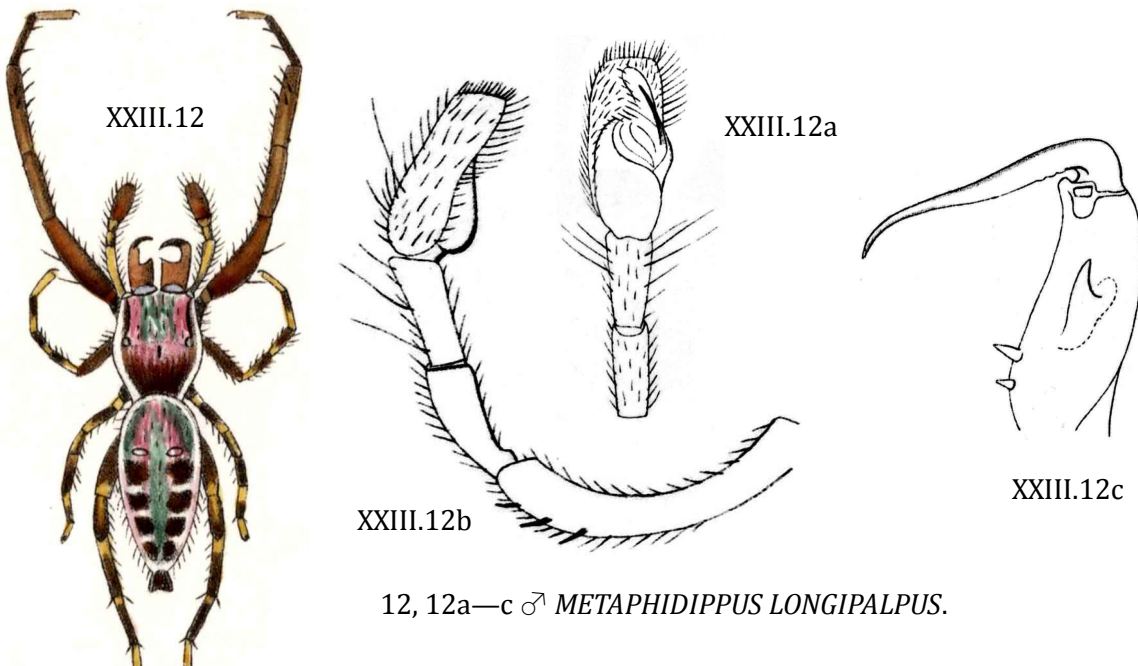
Plate XXIII. Fig. 11. *Metaphidippus dentiger*, ♂, palpus from beneath; 11a, tibia of palpus, showing spur; 11b, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown or black, with a marginal band of white hairs encircling the cephalic and thoracic area. Abdomen red-brown, with a white marginal band, clothed with iridescent scales; ventral area brown. Legs unicolorous brown, the tarsi paler. Tibia i. with paired spines extending just beyond the middle. Mandibles much developed, with the usual three teeth—a large one towards the apex and two others, very small and adjacent, towards the base; fang very long, sinuous. Palpal bulb broad and somewhat compressed; apical spine very short, stout, and curved; tibial spur a little longer than the segment, curved, stout, bluntly pointed.

Hab. Guatemala (*Sarg.*).

1. *Metaphidippus longipalpus*, sp. n. (Tab. XXIII. figg. 12, 12a—c, ♂.)



12, 12a—c ♂ *METAPHIDIPPUS LONGIPALPUS*.

Plate XXIII. Fig. 12. *Metaphidippus longipalpus*, ♂ (6.6 mm): 12a, palpus from beneath; 12b, ditto from the inner side; 12c, mandible from beneath.

Type, ♂, in coll. Godman & Salvin Total length 7 millim.

Carapace brown or black, with iridescent scales (these, however, very much obliterated); with a broad marginal band of white hairs; no median lateral band. Abdomen brown, with a marginal white band, broken up into white spots behind, with a broad dark band on each side more or less broken up into four square dark spots by white transverse spots; the dorsal area densely clothed with iridescent green scales; ventral area brown. Legs dark brown, unicolorous, mottled with white hairs, with a conspicuous spot of white scales on the apex of the femur and base of tibiae i. and ii. above. Palpus very long (as compared with that of others of the group); tibia and patella about equal in length, three or four times longer than broad;

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

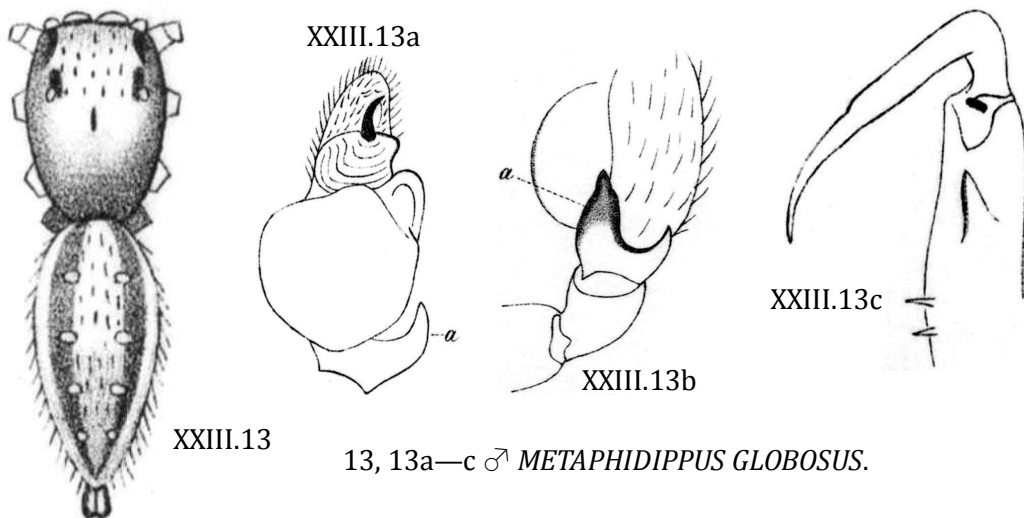
METAPHIDIPPUS.

265

bulb not basally produced over the tibia; apical spine slender, black, sharp, its point directed obliquely forward and inward; tibial spur short, sharp, curving slightly downward. Mandibles much developed, with a stout tooth (or cusp) on the lower side, about the middle, and a pair of small teeth more towards the base on the upperside; fang very long, sinuous and stout, a little rugulose at the base beneath.

Hab. Panama, Bugaba (*Champion*).

8. *Metaphidippus globosus*, sp. n (Tab. XXIII. figg. 13, 13a—c, ♂.)



13, 13a—c ♂ METAPHIDIPPUS GLOBOSUS.

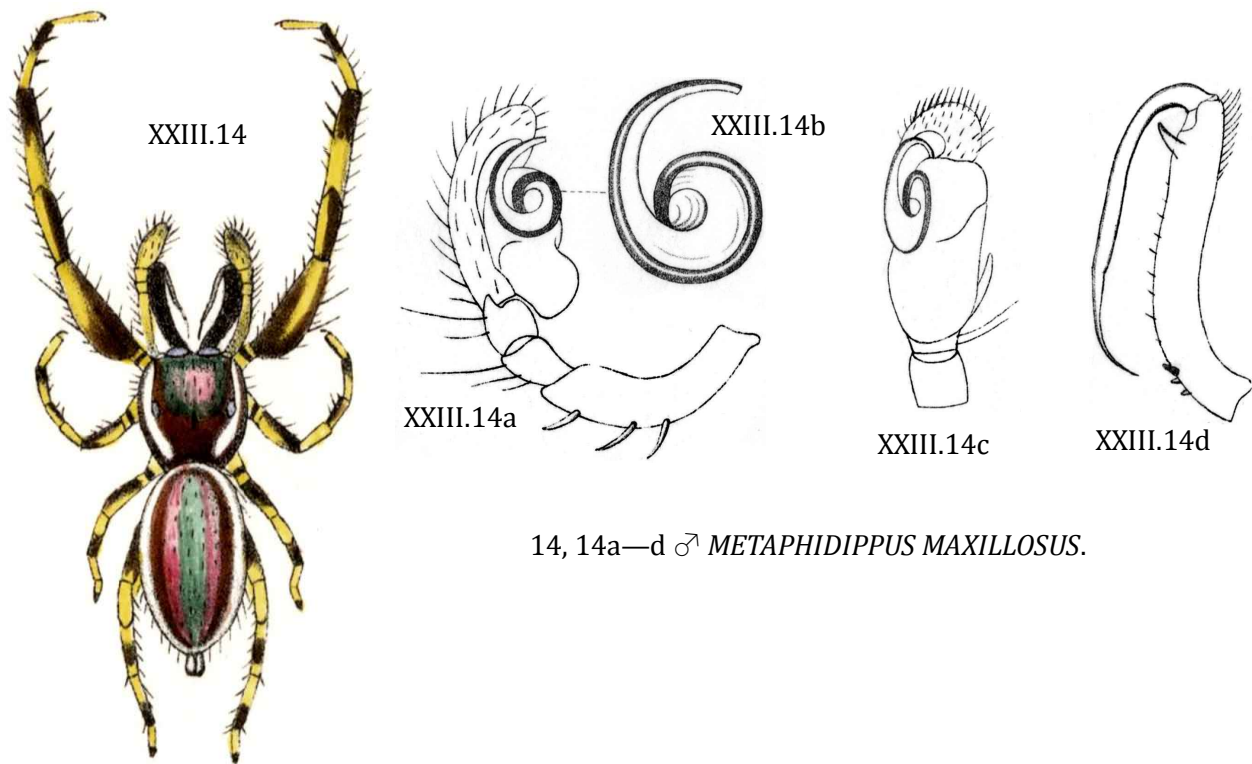
Plate XXIII. Fig. 13. *Metaphidippus globosus*, ♂, dorsal view, legs removed (4.7 mm); 13a, palpus from beneath; 13b, ditto from the outer side; 13c, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown, clothed with iridescent scales. Abdomen brown, with a marginal white band and a paler central dorsal band clothed with iridescent scales, and a pair of lateral dark bands broken by four white spots, but not divided into separate squares, as in some other species of the genus; ventral area brown. Legs i. brown, the femur darker; ii., iii., and iv. pale yellow, unicolorous. The paired spines beneath tibia i. reaching just beyond the middle of the segment. Mandibles somewhat enlarged, without any upper apical cusp, but with a large lower tooth near the apex and two smaller teeth nearer the base; fang stout, long, sinuous. Bulb of palpus enlarged, globose; apical spine short and slightly curved; tibial spur very large (as compared with that of other species of the genus), convex at the base, bluntly pointed and unguiculate at the apex.

Hab. Costa Rica (*Sarg*).

9. *Metaphidippus maxillosus*, sp. n. (Tab. XXIII. figg. 14, 14 a—d, ♂.)



14, 14a—d ♂ *METAPHIDIPPUS MAXILLOSUS*.

Plate XXIII. Fig. 14. *Metaphidippus maxillosus*, ♂ (5.5 mm): 14a, palpus from the outer side; 14b, palpal spine enlarged; 14c, palpus from beneath; 14d, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 5.5 millim.

Carapace black, clothed with scattered iridescent scales, without marginal bands, but with a white median lateral band extending from beneath the small eyes almost to the posterior margin. Abdomen brown, clothed with iridescent scales, with a white marginal unbroken band; ventral area brown, broadly margined with pale yellow. Legs i. unicolorous brown, the femur darker; ii., iii., and iv. yellow, apical two-thirds, apex of patella, and base of tibia suffused with dark brown; tibia i. spinose to the middle on the inner side and to just beyond it on the outer side. Carapace slightly inflated laterally, behind the posterior eyes. Sternum rather more than one-half longer than broad, not abruptly narrowed behind.

Mandibles very much developed, elongate, with a stout tooth on the outer (lower) side towards the apex; a much smaller one towards the base, with two very minute teeth opposite it, to receive the point of the very elongate, slender, sinuous fang; the basal segments sweep outward, curve upward, and are widely divergent at the apex. Spine of palpal bulb not at the apex, but springing from the inner side at the tip, forming a bold spiraliform coil, its apex directed downward; tibial spur long and slender.

Hab. Mexico, Orizaba (*H. H. Smith*).

10. *Metaphidippus apicalis*, sp. n. (Tab. XXIII. figg. 15, 15a—d, ♂; 16, 16a, ♀.)

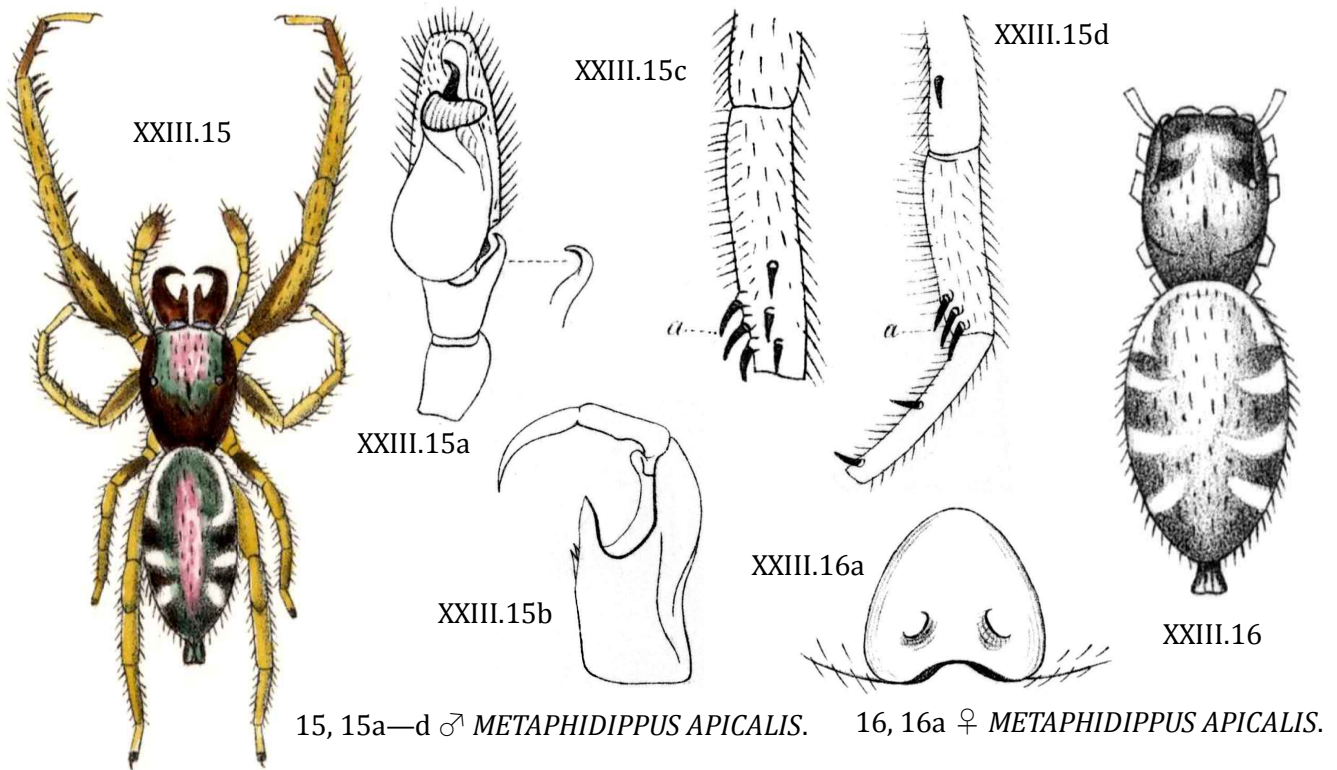


Plate XXIII. Fig. 15. *Metaphidippus apicalis*, ♂ (5.6 mm): 15a, palpus from beneath; 15b, mandible from beneath; 15c, tibia i. from beneath; 15d, patella, tibia, and protarsus i. from the inner side. Fig. 16. *Metaphidippus apicalis*, ♀, dorsal view, legs removed (4.8 mm); 16a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 4.5, ♂ 5 millim.

Carapace black, clothed with scattered iridescent scales, but without lateral white bands or a central cephalic white spot. Abdomen with a brown anterior dorsal spot, two lateral spots on each side, and an apical spot; margined and the spots outlined with white, the central dorsal area clothed with pink iridescent scales. Legs brown, more or less clothed with white hairs; tibia i. with the usual 2—2—2 spines, but these are situated at the extreme apex of the segments. Palpal bulb somewhat enlarged at the base, with a short black apical spine slightly curved inward at the tip; tibial spur short, slender, abruptly hooked at the tip.

Mandibles very much developed, with a large single lower tooth and two small upper ones; fang elongate, stout, with a very low conical protuberance beneath in the basal half, abruptly narrowed about the middle.

Female similar to the male, see Table and figures.

Hab. Mexico, Teapa (*H. H. Smith*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

2 M‡

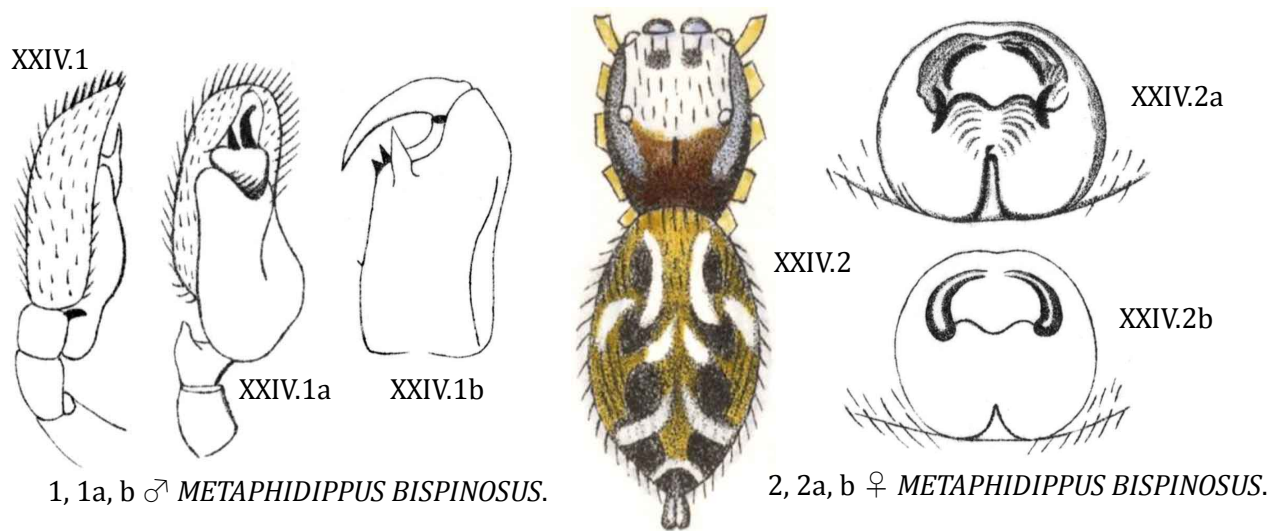
11. *Metaphidippus bispinosus*, sp. n. (Tab. XXIV. figg. 1, 1a, b, ♂; 2, 2a, b, ♀.)

Plate XXIV. Fig. 1. *Metaphidippus bispinosus*, ♂, palpus from the outer side; 1a, ditto from beneath; 1b, mandible from beneath. Fig. 2. *Metaphidippus bispinosus*, ♀, dorsal view, legs removed (5.9 mm); 2a, vulva; 2b, ditto, variety.

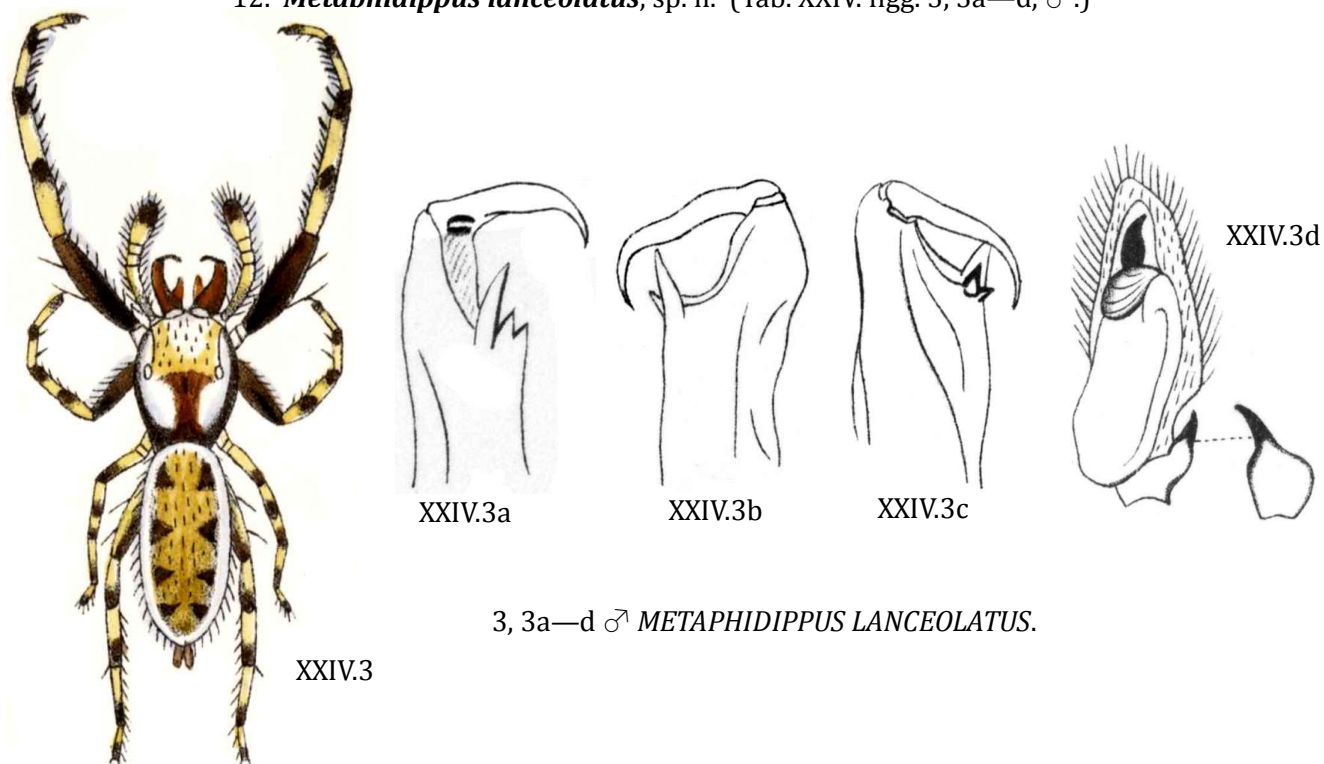
Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 5, ♀ 6 millim.

Coloration similar in both sexes, but not so well marked in the male. Carapace red-brown, clothed with white hairs, with a band of white hairs extending from beneath the lateral eyes and reaching the middle of the lateral area, midway between the central stria and the posterior margin. Abdomen yellow, with an anterior-lateral white band, broken in front and dilated behind; dorsally with a pair of elongate, slightly divergent, white bands, followed by an oval spot on each side, a sinuous spot dilated on the sides, and two \wedge -shaped white marks, the anterior the smaller, the branches of the posterior slightly dilated, just above the spinners (these white spots break a pair of black dorsal bands into four spots on each side); lateral area brown; ventral area pale, with a broad central longitudinal brown band, having a pair of narrow pale dotted lines in the middle.

Mandibles of the male variable in length, with a ridge on the inner upper margin, whence the inner side descends precipitately; the basal segment short, with two small teeth on the upper and one much larger broad and conical tooth on the lower side (sometimes the mandible is elongated, and these teeth are then more or less remote from the apex). Fang either shorter or longer according to the development of the basal segment. Maxillae dilated at their apex; outer apical angle slightly produced. Palpal bulb elongate, bilobate, with two broad black apical spines, the outer one the smaller of the two; tibial spur very short, directed sharply downward. Vulva consisting of a more or less circular area, with a transverse anterior cavity, its posterior margin deeply sinuate, having on each side a black slash, possibly indicating an orifice; the posterior margin is so deeply but narrowly notched that the incision extends one-third through the vulval area.

Hab. Guatemala, Guatemala city (*Stoll*); Panama, Bugaba (*Champion*).

12. *Metaphidippus lanceolatus*, sp. n. (Tab. XXIV. figg. 3, 3a—d, ♂.)



3, 3a—d ♂ *METAPHIDIPPUS LANCEOLATUS*.

Plate XXIV. Fig. 3. *Metaphidippus lanceolatus*, ♂ (4.7 mm): 3a, mandible from beneath; 3b, ditto, another view; 3c, ditto from above; 3d, palpus from beneath.

Type, ♂. in coll. Godman & Salvin. Total length 5 millim.

Dried example. Carapace red-brown, clothed on the cephalic area with white and olive-white scales, becoming golden towards the posterior margin; a broad band of transparent white (not opaque dead white) scales extends along the sides of the carapace from the lateral anterior eyes almost to the posterior margin, where it attenuates.

Abdomen with a large oval dull olive-brown area, covered with dull golden-brown scales and hairs, extending from the anterior margin to the spinners, having, on each side, close to the lateral white bands, four darker brown spots, with a group of white scales in close proximity, the posterior groups blending with the lateral bands on each side: the euture abdominal margin encircled with a broad band of white scales, followed at the sides and towards the lateral ventral area by yellowish-white hairs and scales; the central ventral area brown. Mandibles deep red-brown. Legs red-brown or yellow, annulated with groups of white scales. Femur i. entirely dark brown, the apices only of all the other segments of i., ii., iii., and iv. being brown, except the tarsi, which are entirely yellow. Palpi red-brown, clothed with dull white scales and hairs. Sternum pale red-brown. Coxae of legs yellow-brown, clothed with pale hairs.

Cephalic quadrangle slightly wider behind; posterior central eyes a little nearer to the anterior laterals than the middle point between the laterals, anterior and posterior. Mandibles stout, elongate, divergent; the base compressed on the inner margin, bearing, about one-third from the insertion of the fang, two teeth, a larger anterior and a closely approximate posterior smaller tooth, with a much longer opposing tooth below; fang long, slightly sinuous; with a convex prominence about the centre of the inner margin. The outer spine of the third pair of tibia i. much nearer the base of the segment; tibia ii. with two apical spines beneath, and two situated longitudinally beneath the segment about the middle.

Palpal bulb comparatively narrow and elongate, with an apical lobe terminated by a short, broad, black lanceolate spine, which is concave in the middle; the base of the tarsus excavated on the outer side opposite the tibial spur, the inner side of the excavation being somewhat tuberculiform; tibial spur short, black, sharp, and curving downward.

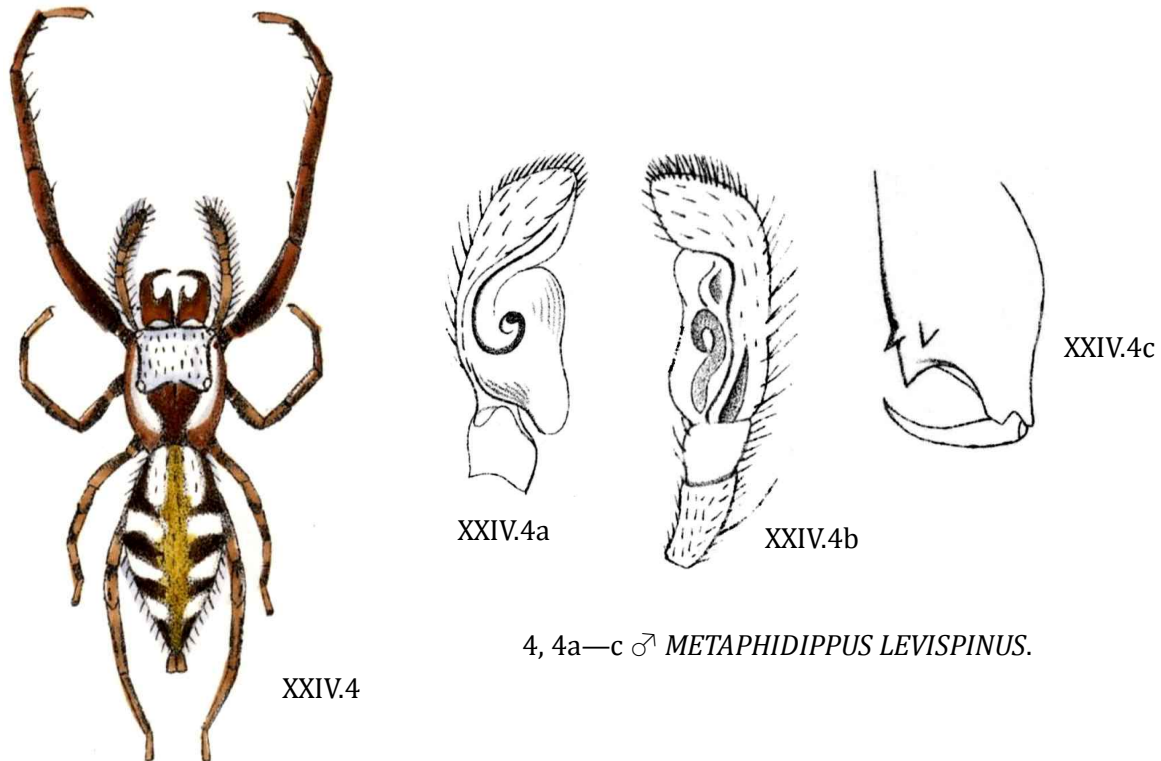
Hab. Mexico, Amula in Guerrero (*H. H. Smith*); Guatemala (*Sarg*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

METAPHIDIPPUS.

267

13. *Metaphidippus levispinus*, sp. n. (Tab. XXIV. figg. 4, 4a—c, ♂.)



4, 4a—c ♂ METAPHIDIPPUS LEVISPINUS.

Plate XXIV. Fig. 4. *Metaphidippus levispinus*, ♂ (5.1 mm): 4a, palpus from the inner side; 4b, ditto from the outer side ; 4c, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 5 millim.

Colour very similar to that of *M. lanceolatus*, but the abdominal band is not broken in front. Tibia i. with the three spines on the inner side close together, in rather less than the apical half, but not so near the apex as in *M. lanceolatus*. Mandibles very stout and clothed with white hairs on the basal half above. Palpal bulb small, but basally extending on the tibia, with a slender spiraloid spine on the inner apical side, its apex long, aculeate, directed forward and somewhat across the tarsus at its apex; tibial spur stout, nearly straight, sharp at the apex. Mandible very stout, convex above, with a stout tooth (or spur) on the upperside opposed by a pair of smaller ones on the lower side.

Protarsus iv. with lateral as well as apical spines.

Hab. Panama, Bugaba (*Champion*).

14. *Metaphidippus laetabilis*. (Tab. XXIV. figg. 5, 5a, b, ♂.)

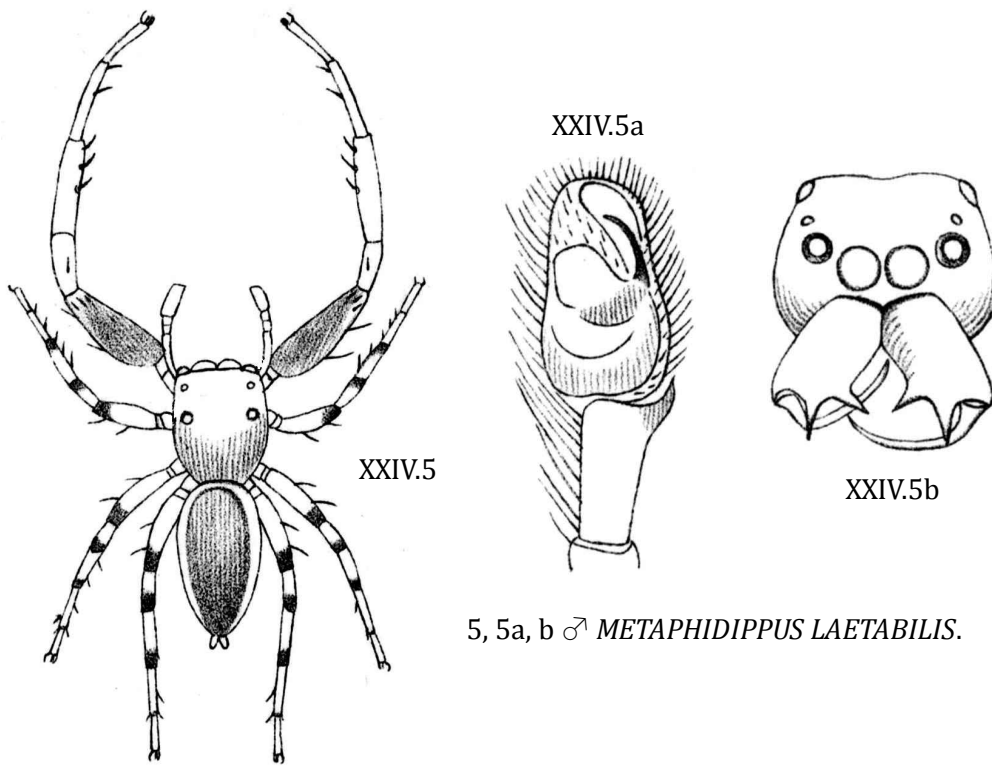


Plate XXIV. Fig. 5. *Metaphidippus laetabilis*, ♂ (5.9 mm): 5a, palpus from beneath; 5b, eyes and mandibles from in front. (Our figures are taken from Peckham's work.)

Dendryphantes laetabilis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 51, t. 4. figg. 6—6b (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 6 millim.

Hab. Panama¹.

15. *Metaphidippus dubitabilis*. (Tab. XXIV. fig. 6, ♀.)

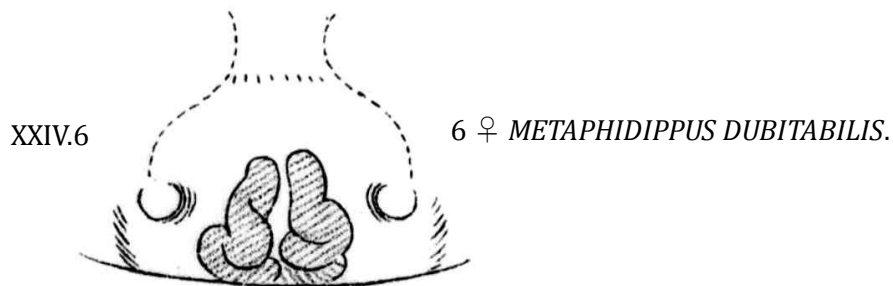


Plate XXIV. Fig. 6. *Metaphidippus dubitabilis*, ♀, vulva. (After Peckham.)

Dendryphantes dubitabilis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 52, t. 4. figg. 7, 7a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 5.9 millim.

Hab. Mexico, Tahia* (Townsend¹).

Our figures of the vulva of this and the preceding species are taken from Peckham's work.

16. *Metaphidippus furcillatus*, sp. n. (Tab. XXIV. figg. 7, 7a, b, ♂.)

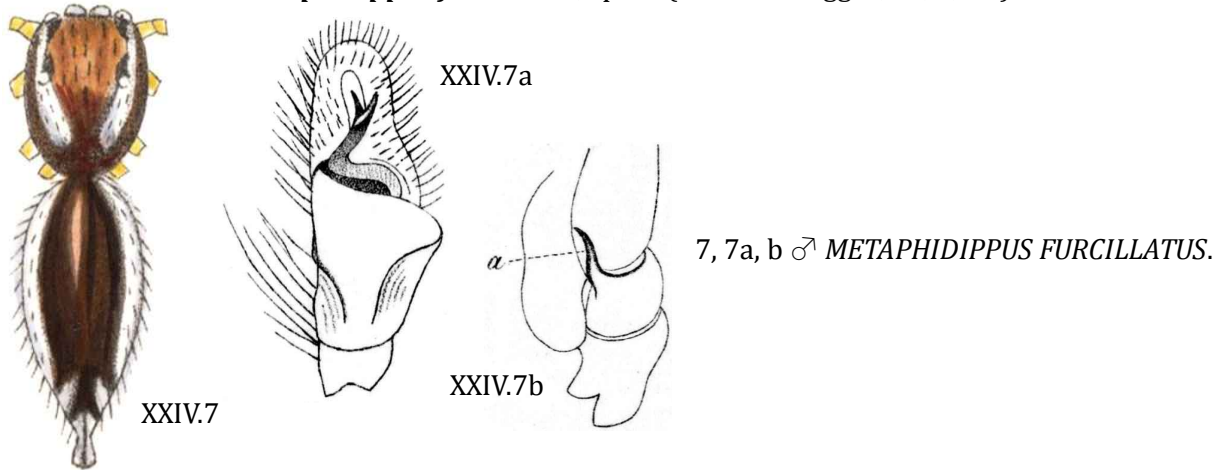


Plate XXIV. Fig. 7. *Metaphidippus furcillatus*, ♂, dorsal view, legs removed (7.4 mm); 7a, palpus from beneath; 7b, tibia of ditto from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 8 millim.

Carapace red-brown, without marginal border, but with a straight band of white hairs, embracing the lateral eyes, and extending nearly to the base. Abdomen rich chocolate-brown (possibly clothed with iridescent scales), with a white marginal band, broken in front, extending to the spinners, in the apical fourth with two white points running inward, traces of the usual white spots; lateral area spotted with brown; ventral area pale yellow, slightly speckled with brown. Legs i. deep brown, ii., iii., and iv. yellow, unicolorous.

Carapace elongate, not inflated behind the posterior eyes laterally, compressed instead. Paired spines beneath tibia i. extending to the middle of the segment. Bulb of palpus broader in front; apical spine black, curved and furcuate at the apex; tibial spur as long as the segment, sharp and sinuous. Mandibles not developed, normal.

Hab. Mexico, Omilteme in Guerrero (*H. H. Smith*).

17. *Metaphidippus furcatus*, sp. n. (Tab. XXIV. figg. 8, 8a, ♂.)

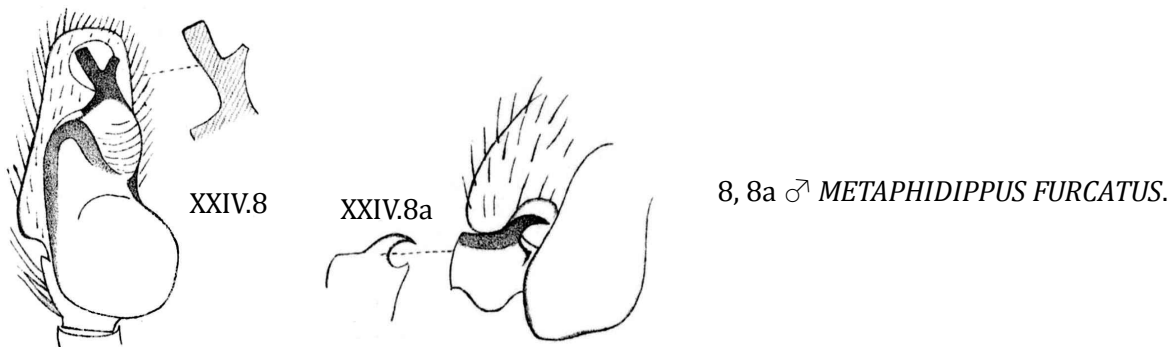


Plate XXIV. Fig. 8. *Metaphidippus furcatus*, ♂, palpus from beneath; 8a, tibia of ditto from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

Carapace red-brown, clothed with iridescent scales, without any marginal band, but with a median lateral band of white hairs on each side extending from beneath the small eyes almost to the posterior margin.

* Probably Tapia, near Cordova, in the State of Vera Cruz.

Abdomen brown, with iridescent scales, margined with a band of white hairs, unbroken in front; ventral area brown, margined with pale yellow. Legs yellow-brown, i. and ii. darker, unicolorous, iii. and iv. more or less annulated with darker brown. Carapace not inflated posteriorly. Sternum one-half longer than broad, not abruptly narrowed behind. Spines beneath tibia i. extending to the middle on the inner side, and to just beyond the middle on the outer side.

Mandibles not much developed, with a broad tooth on the lower margin and two smaller ones opposite it on the upper margin. Bulb of palpus enlarged, globose, produced beyond the tibia; apical spine broad, black, bifurcate, the outer branch being the smaller; tibial spur short, stout, black, sharp and strongly curved.

Hab. Mexico, Orizaba (*H. H. Smith*).

18. *Metaphidippus flavolineatus*, sp. n. (Tab. XXIV. figg. 9, 9a—c, ♂.)

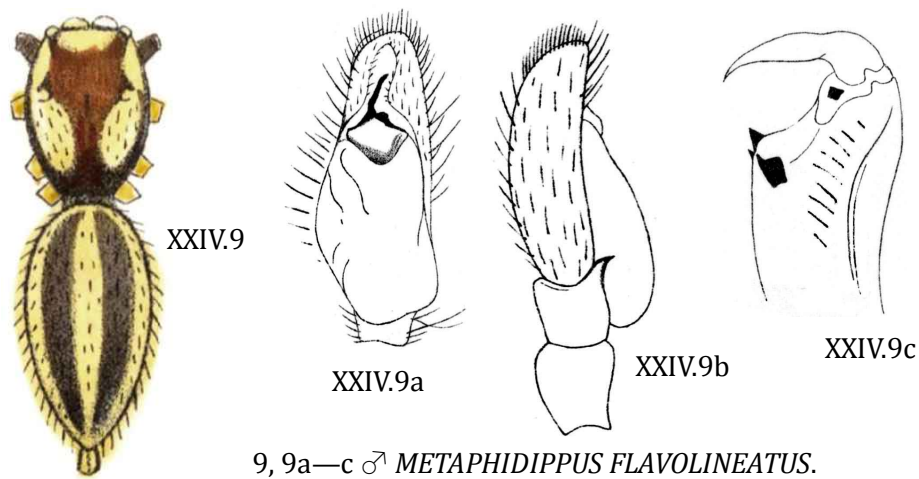


Plate XXIV. Fig. 9. *Metaphidippus flavolineatus*, ♂, dorsal view, legs removed (4.4 mm); 9a, palpus from beneath; 9b, ditto from the outer side; 9c, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 3.5 millim.

Dried example. Carapace pale red-brown, with a large patch of primrose-yellow scales on the central anterior cephalic area, a broad lateral band, and an anterior marginal patch of similarly coloured scales on each side of the central anterior eyes; a patch of yellow scales also lies on the clypeus between the central anterior eyes. Abdomen rich olive-brown, with a short, narrow, central, dorsal anterior band and a broader entire marginal band of yellow scales reaching almost to the spinners; sides olive-brown; ventral area brown, margined on each side by a narrow band of pure white scales. Mandibles brown, without pale basal scales. Leg i. brown, the femur, tibia, and patella each with a broken band of yellow scales on the inner upper side; the other legs yellow. Palpi brown; femur and patella with some yellow scales above.

Eyes—cephalic area slightly wider behind; central posteriors scarcely further from the lateral posteriors than from the lateral anteriors. Mandibles stout; basal segment broad, with two small teeth, the lower very minute, on the upperside, and a single larger very broad tooth, slightly dilated at the apex, on the lower margin opposite the former, situated not far from the insertion of the fang; fang short and stout. Tibia ii. with two apical spines and 1—1 in the middle beneath. Palpal bulb bilobate, with a rather long slender apical spine; tibial spur short, sharp, and curving slightly downward.

Hab. Panama, Bugaba (*Champion*).

This small species is allied to both *M. lanceolatus* and *M. tridentatus*.

19. *Metaphidippus variegatus*, sp. n. (Tab. XXIV. fig. 10, 10a, ♂; 11, 11a, ♀.)

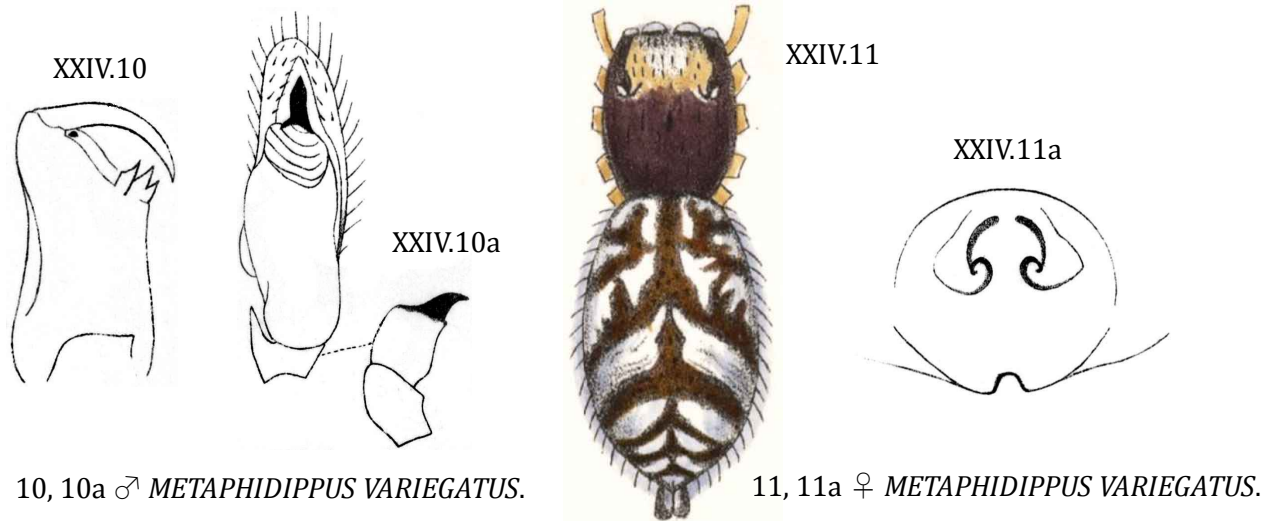


Plate XXIV. Fig. 10. *Metaphidippus variegatus*, ♂, mandible from beneath; 10a, palpus from beneath, and tibia of ditto. Fig. 11. *Metaphidippus variegatus*, ♀, dorsal view, legs removed (4.4 mm); 11a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 3.5, ♀ 4 millim.

♂. Dried example. Carapace purple-black, clothed all over, except on the sides behind, with white and ochre-yellow scales. Abdomen rich red-brown, clothed with scattered white scales, with a double row of four white spots down the dorsal area; sides with white scales; ventral area black.. Legs yellowish-brown, annulated with darker brown, and covered with scattered white scales. Mandibles brown, with white scales at the base.

♀. Similar to the male in colour, but the abdominal pattern is more distinct (especially noticeable when the specimens are immersed in alcohol); the ventral area is also, but more thinly, clothed with white scales, arranged in a double longitudinal band.

♂♀. Eyes as in other species of the group. Mandibles of the male very similar to those of *M. flavolineatus*, with a broad, slightly dilated, lower tooth. Palpal bulb elongate, with a broad lanceolate apical spine; tibial spur short, and curving downward, with another small cusp near its lower base. Vulva with notched posterior margin and concavity remote from it; see Plate. Tibia ii. with two apical spines and 1—1 beneath.

Hab. Mexico, Amula (*H. H. Smith*).

Closely allied to *M. flavolineatus*.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

20. *Metaphidippus digitatus*, sp. n. (Tab. XXIV. figg. 12, 12a—c, ♂.)

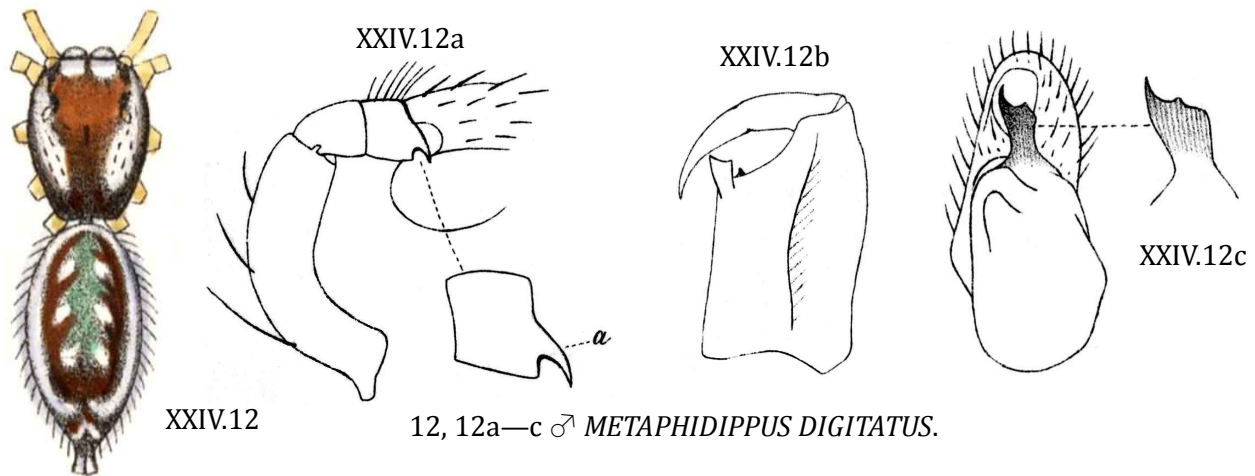


Plate XXIV. Fig. 12. *Metaphidippus digitatus*, ♂, dorsal view, legs removed (4.5 mm); 12a, palpus from the outer side; 12b, mandible from beneath; 12c, palpal bulb from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 4 millim.

Carapace red-brown, with two spots of white hairs behind the anterior eyes, a broad median lateral white band extending from beneath the anterior lateral eyes almost to the posterior margin, and a very narrow marginal line of white hairs. Abdomen dorsally red-brown, with iridescent scales and an unbroken marginal white band, with three pairs of white spots in the basal half, and two oblique white spots on each side at the apex; ventral area brown, broadly margined with pale yellow or dull white.

Legs i. yellow-brown, femur and apices of the other segments dark brown; ii., iii., and iv. yellow, annulated (like i.) with brown. Carapace scarcely dilated behind laterally; tibia i. spined on the inner side to the middle, and on the outer side to a little beyond this. Mandibles stout, not developed, with a larger tooth, dilated at its apex, on the lower margin, opposed by a small tooth on the upper. Bulb of palpus extending basally over the tibia; its apical spine black, very broad, obliquely truncated at the apex, with a small central cusp and a longer apical point directed forward, and slightly curving inward; tibial spur very short, sharp, and curving downward. Sternum rather over twice its breadth, not abruptly narrowed behind.

Hab. Mexico, Teapa (*H. H. Smith*); Guatemala (*Sarg*).

21. *Metaphidippus bicuspidatus*, sp. n. (Tab. XXIV. figg. 13, 13a, b, ♂.)

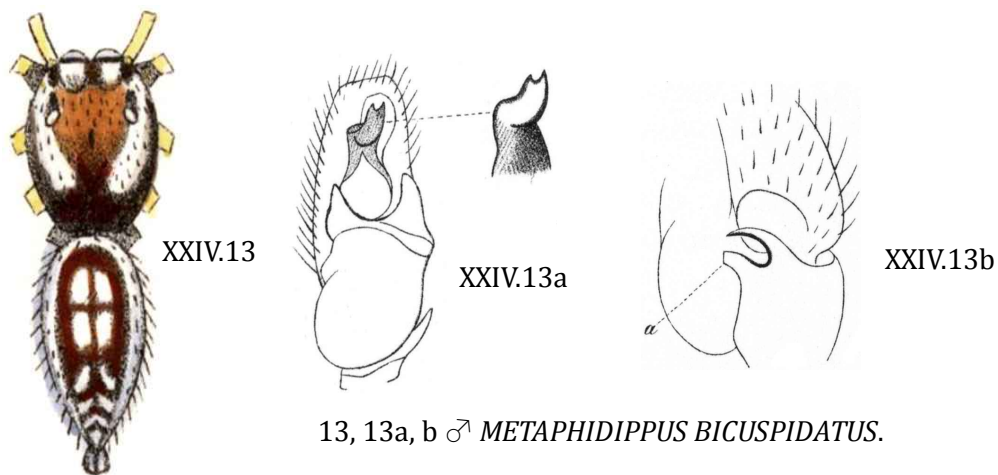


Plate XXIV. Fig. 13. *Metaphidippus bicuspidatus*, ♂, dorsal view, legs removed (3.6 mm); 13a, palpus from beneath; 13b, tibia of ditto from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 3 millim.

Colour and general structure similar to that of *M. digitatus*. Bulb of palpus extended basally over the tibia, deeply indentate at the apex, where the apical lobe is inserted; apical spine very broad, somewhat geniculate, its apex bifid (or bicuspidate) and directed forward; tibial spur deeply bicuspidate, forming two branches, the lower broader and straight, the upper more slender and curving downward. Mandibles as in *M. digitatus*.

Hab. Guatemala (*Sarg.*).

22. *Metaphidippus centralis*. (Tab. XXIV. figg. 14, 14a, ♂, 15, ♀.)

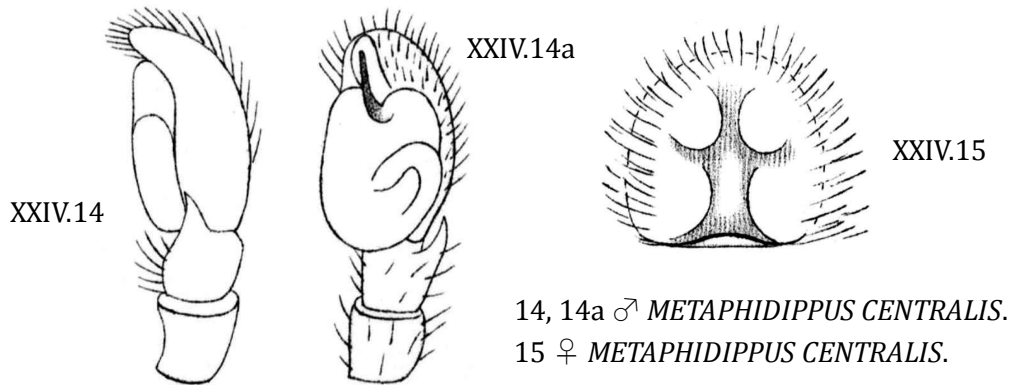


Plate XXIV. Fig. 14. *Metaphidippus centralis*, ♂, palpus from the outer side; 14a, ditto from beneath. Fig. 15. *Metaphidippus centralis*, ♀, vulva. (After Peckham.)

Dendryphantus centralis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 49, t. 4. figg. 5a (♀), 5b, c (♂) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 3.5, ♀ 5 millim.

Hab. Panama¹.

Our figures are taken from Peckham's work.

23. *Metaphidippus nigropictus*, sp. n. (Tab. XXIV. figg. 16, 16a, b, ♀.)

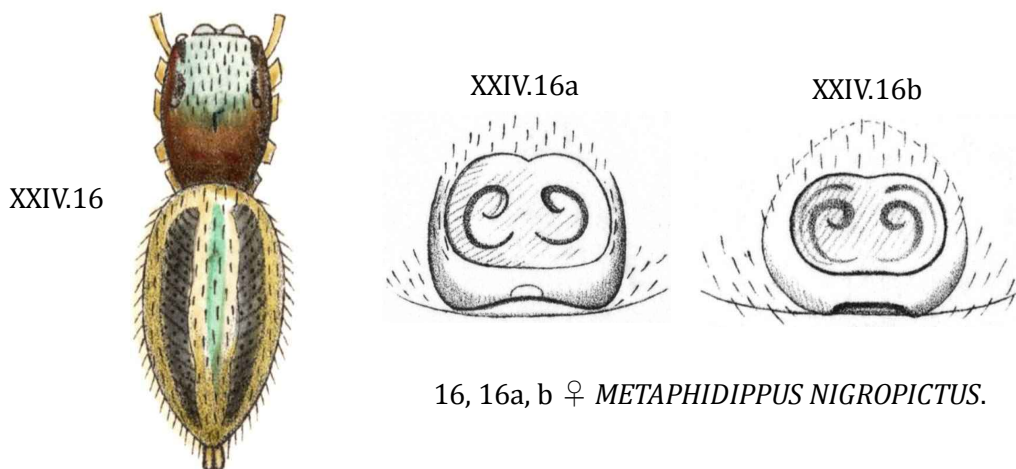


Plate XXIV. Fig. 16. *Metaphidippus nigropictus*, ♀, dorsal view, legs removed (5.6 mm); 16a, vulva; 16b, ditto, variety.

Type, ♀, in coll. Godman & Salvin. Total length 6 millim.

Carapace dark red-brown, with iridescent green scales; cephalic area almost black, more or less clothed with grey hairs. Abdomen pale yellow, clothed with white hairs and with green iridescent scales, with a

broad black longitudinal band on each side, not reaching either the anterior margin or the spinners; ventral area and sides pale yellow. Legs dark yellow-brown, i. and ii. darker. General structure as in other species of the group. Vulva consisting of a large, transverse-oval, shallow cavity not reaching the posterior margin, which is slightly emarginate in the centre; in the cavity is situated an orifice on each side of the middle, connected with a semicircular dark line.

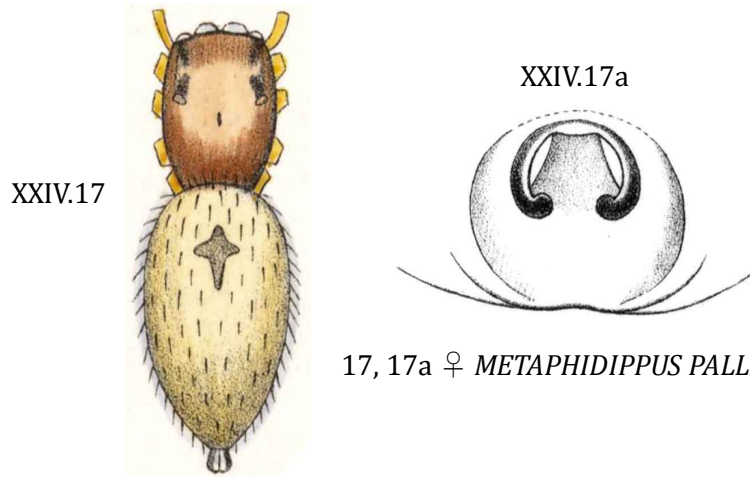
Hab. Mexico, Teapa (*H. H. Smith*).

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *September 1901.*

270

ARANEIDEA.

24. *Metaphidippus pallidatus*, sp. n. (Tab. XXIV. figg. 17, 17a, ♀.)



17, 17a ♀ *METAPHIDIPPUS PALLIDATUS*.

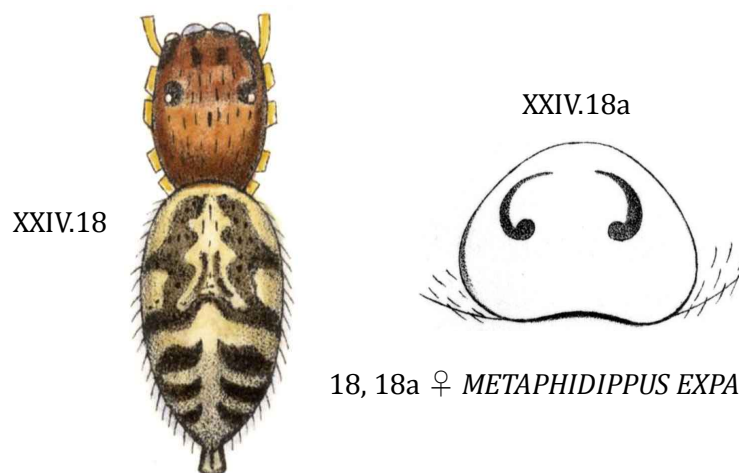
Plate XXIV. Fig. 17. *Metaphidippus pallidatus*, ♀, dorsal view, legs removed (4.3 mm); 17a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4.5 millim.

Colour entirely pale yellow; carapace rather darker, red-brown, clothed with white hairs; abdomen also clothed with white hairs, having an anterior, central, dorsal, cruciform, transparent mark. General structure as in other species of the group. Vulva consisting of a circular area, its posterior margin only very slightly emarginate, with a large circular horseshoe-shaped depression or concavity in front, open behind, bounded by two deep black outlines (see Plate).

Hab. Guatemala (*Sarg*).

25. *Metaphidippus expallidatus*, sp. n. (Tab. XXIV. figg. 18, 18a, ♀.)



18, 18a ♀ *METAPHIDIPPUS EXPALLIDATUS*.

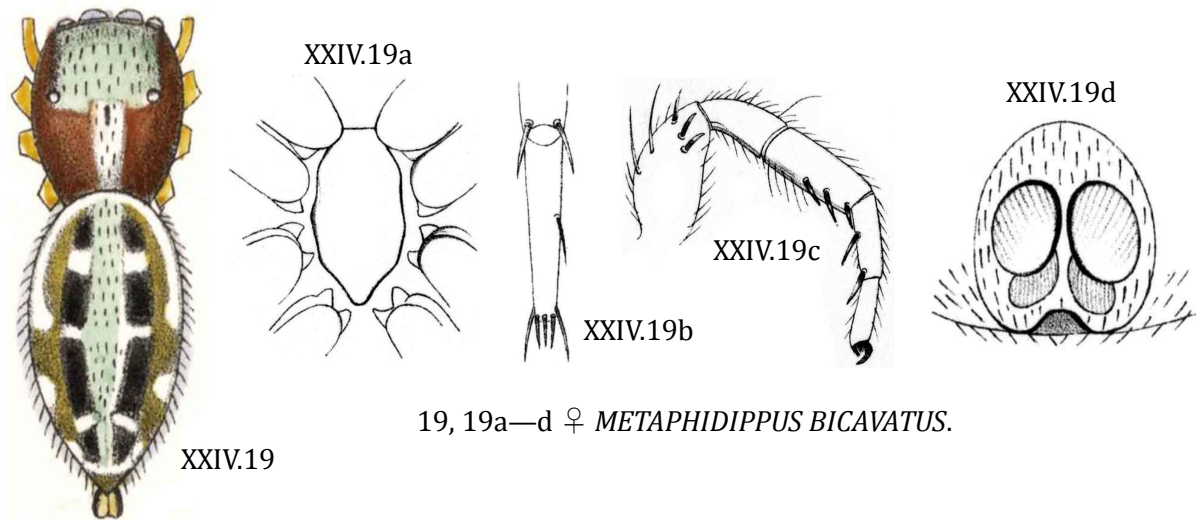
Plate XXIV. Fig. 18. *Metaphidippus expallidatus*, ♀, dorsal view, legs removed (3.7 mm); 18a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 3.5 millim.

Carapace red-brown, clothed with white hairs, with a pair of indistinct dusky spots in the centre of the cephalic area. Legs yellow; femur, patella, and tibia of i. and ii. with a dusky annulus at the apex. Abdomen pale yellow, with a brown variegated pattern on the dorsal area (see Plate). Ventral area with a broad sooty-black central band. General structure as in other species of the group. Vulva consisting of a broad triangular-oval area, slightly emarginate behind, not notched, with, anteriorly, two curved black lines forming the boundaries of a concavity, the two orifices at the posterior end of the lines being wide apart, four diameters of an orifice.

Hab. Panama, Bugaba (*Champion*).

26. *Metaphidippus bicavatus*, sp. n. (Tab. XXIV. figg. 19, 19a—d, ♀.)



19, 19a—d ♀ *METAPHIDIPPUS BICAVATUS*.

Plate XXIV. Fig. 19. *Metaphidippus bicavatus*, ♀, dorsal view, legs removed (11.6 mm); 19a, sternum; 19b, protarsus iv. from beneath; 19c, leg i. from the inner side; 19d, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Carapace deep red-brown, clothed with iridescent scales, with a central posterior band and a posterior marginal band of white hairs. Abdomen pale yellow, clothed with iridescent scales, having an anterior marginal white band, which extends along each side, dilated at the end, forming a spot about the middle of the lateral area, followed by a larger and a smaller white spot; on each side of the dorsal area lies a broad black band, broken up by three white spots into four black oblong patches; ventral area pale. Legs orange, i. and ii. dark brown, slightly darkened at the apex of each segment; in iii. and iv. these points are much darker by contrast with the paler legs. Vulva consisting of a large broad-oval area, deeply notched behind, in the middle of the posterior margin, with a pair of large, adjacent, shallow, oval cavities lying longitudinally with a narrow septum between, and a pair of dark spots between them and the posterior margin. Tibia i. with 2—2—2 spines beneath, those on the inner side being closer together and situated in the apical half, those on the outer side more widely separate. Protarsus iv. with three subapical spines at its apex beneath, besides a lateral one on each side at the apex and a lateral spine about the middle of the outer side.

Hab. Panama, Bugaba (*Champion*).

27. *Metaphidippus cupreus*, sp. n. (Tab. XXIV. figg. 20, 20a, ♀.)

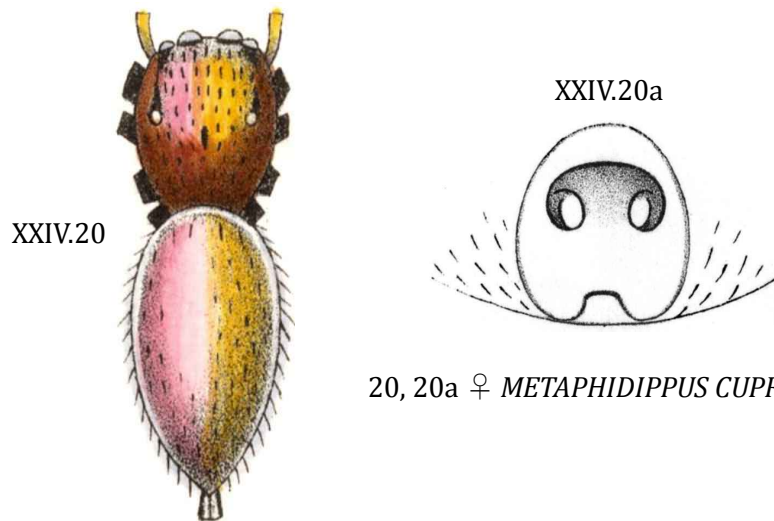


Plate XXIV. Fig. 20. *Metaphidippus cupreus*, ♀, dorsal view, legs removed (6.7 mm); 20a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 7 millim.

Carapace red-brown, clothed with coppery-pink iridescent scales. Abdomen red-brown, above entirely clothed with coppery-pink iridescent scales, having a narrow white marginal band entirely encircling it; sides brown-mottled; ventral area brown, bounded on each side by a narrow white dotted line (or line of dots). Vulva very distinct in form, consisting of an oval area, its posterior margin deeply notched, having a pair of deep cavities anteriorly. Legs i. brown, ii., iii., and iv. white; apex of femora, the patella, the sides of the tibiae, and almost the whole of the protarsus, brown.

Hab. Panama, Bugaba (*Champion*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

METAPHIDIPPUS.

271

28. *Metaphidippus ovatus*, sp. n. (Tab. XXV. figg. 1, 1a, ♀.)

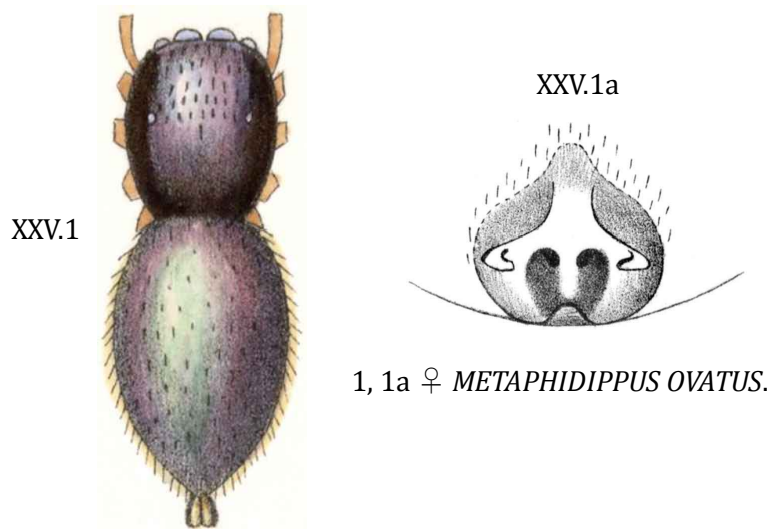


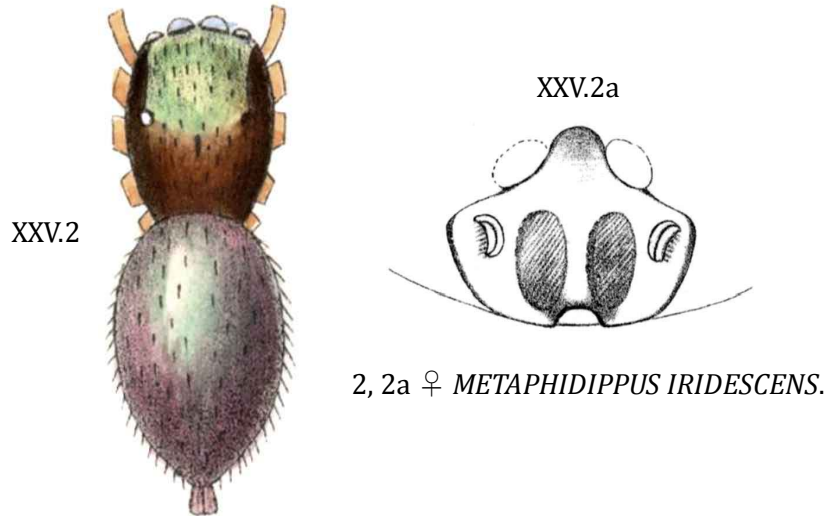
Plate XXV. Fig. 1. *Metaphidippus ovatus*, ♀, dorsal view, legs removed (6.7 mm); 1a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 6.5 millim.

Carapace deep brown-black, clothed with iridescent violet scales. Abdomen dull yellow, entirely clothed with green, pink, and violet iridescent scales. Legs unicolorous red-brown. Ventral area of abdomen pale, with a longitudinal central dusky band. General structure as in *M. quadrinotatus*. Vulva with a variable \wedge -shaped notch in the centre of the posterior margin.

Hab. Guatemala (*Sarg.*).

29. *Metaphidippus iridescens*, sp. n. (Tab. XXV. figg. 2, 2a, ♀.)



2, 2a ♀ *METAPHIDIPPUS IRIDESCENS*.

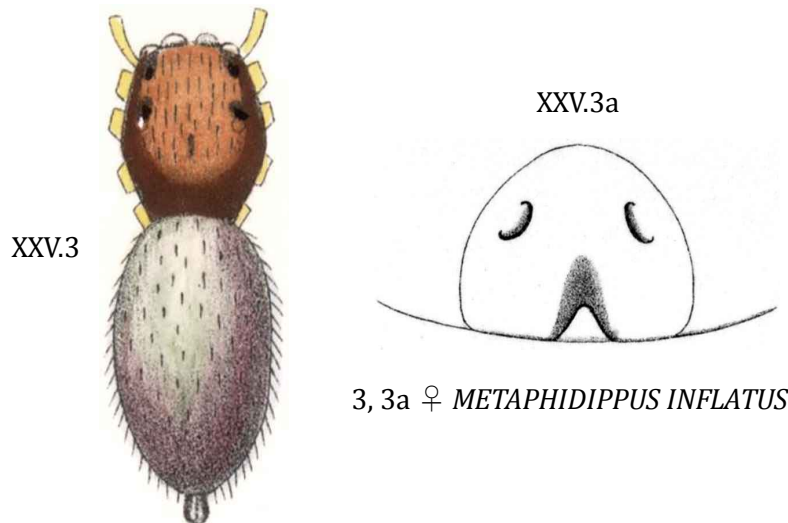
Plate XXV. Fig. 2. *Metaphidippus iridescens*, ♀, dorsal view, legs removed (4.7 mm); 2a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown, with a paler area behind the posterior eyes, clothed with green metallic scales. Abdomen entirely clothed with pink and green metallic scales; ventral area pale, with a dusky central band. Legs unicolorous red-brown. General structure as in *M. quadrinotatus*. Vulva with a semicircular notch in the centre of the posterior margin (see Plate).

Hab. Panama, Chiriqui (*Champion*).

30. *Metaphidippus inflatus*, sp. n. (Tab. XXV. figg. 3, 3a, ♀.)



3, 3a ♀ *METAPHIDIPPUS INFLATUS*.

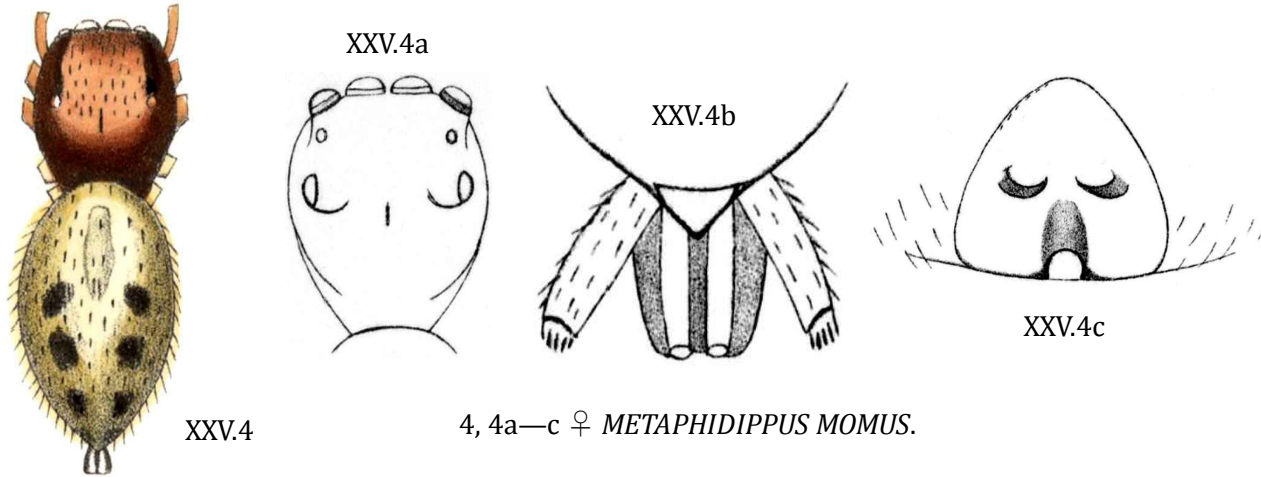
Plate XXV. Fig. 3. *Metaphidippus inflatus*, ♀, dorsal view, legs removed (6.7 mm); 3a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 6.5 millim.

Carapace red-brown, entirely clothed with white hairs, much inflated behind the posterior eyes. Abdomen dull white, with pink and green metallic scales; ventral area with a longitudinal central dusky band. Legs yellow, i. and ii. more or less suffused with brown, iii. and iv. dusky at the apex of the patellae, tibiae, and protarsi. General structure as in *M. quadrinotatus*. Vulva with a deep triangular notch in the middle of the posterior margin (see Plate).

Hab. Guatemala (*Sarg.*).

31. *Metaphidippus momus*, sp. n. (Tab. XXV. figg. 4, 4a—c, ♀.)



4, 4a—c ♀ *METAPHIDIPPUS MOMUS*.

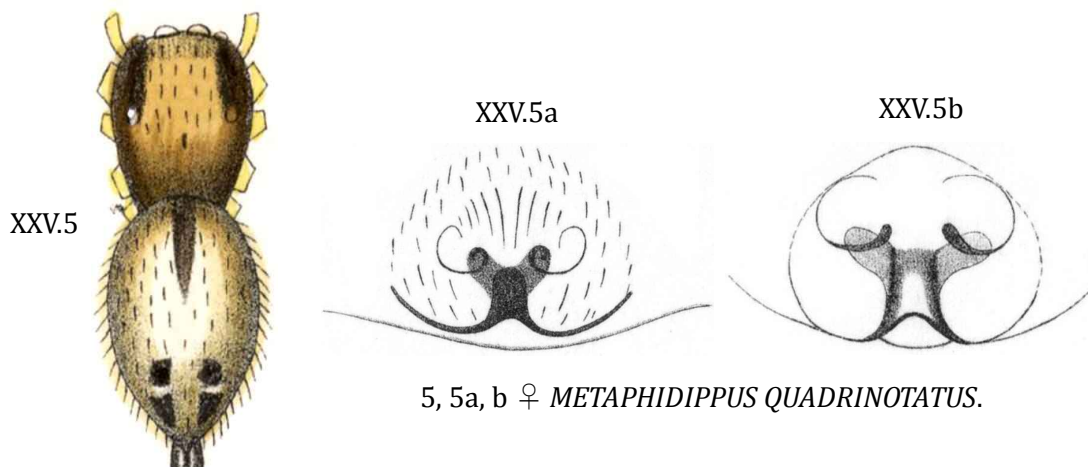
Plate XXV. Fig. 4. *Metaphidippus momus*, ♀, dorsal view, legs removed (4.0 mm); 4a, eyes from above; 4b, spinners from above; 4c, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown. Abdomen yellow, with two black bands broken up into eight square spots; ventral area with a central dusky band. Legs i. and ii. red-brown, iii. and iv. yellow with dusky annulations. General structure similar to that of others of the group, the carapace being more enlarged behind the posterior eyes, as in *M. inflatus*. Vulva consisting of a rounded-triangular area, deeply notched in the middle of the posterior margin, with a pair of transverse cavities, one diameter apart, in the middle of the vulval area.

Hab. Guatemala (*Sarg.*); Panama, Bugaba (*Champion*).

32. *Metaphidippus quadrinotatus*, sp. n. (Tab. XXV. figg. 5, 5a, b, ♀.)



5, 5a, b ♀ *METAPHIDIPPUS QUADRINOTATUS*.

Plate XXV. Fig. 5. *Metaphidippus quadrinotatus*, ♀, dorsal view, legs removed (4.4 mm); 5a, vulva; 5b, ditto, variety.

Type, ♀, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace dull yellow-brown; cephalic area darker and with a pale broad transverse area behind the posterior eyes. Abdomen dull yellow-white, with white and brown hairs intermingled, with a faint anterior, dorsal, central, longitudinal, dusky, wedge-shaped band, and four black spots at the apex; ventral area dull white. Legs dull yellow-white. Tibia iv. with one median and two apical spines beneath; protarsus iv. with one median externo-lateral and four apical spines beneath. Ocular quadrangle much broader than long, wider behind; small eyes nearer the anterior laterals. Carapace inflated laterally behind the cephalic region. Vulva deeply emarginate in the centre of the posterior margin (see Plate).

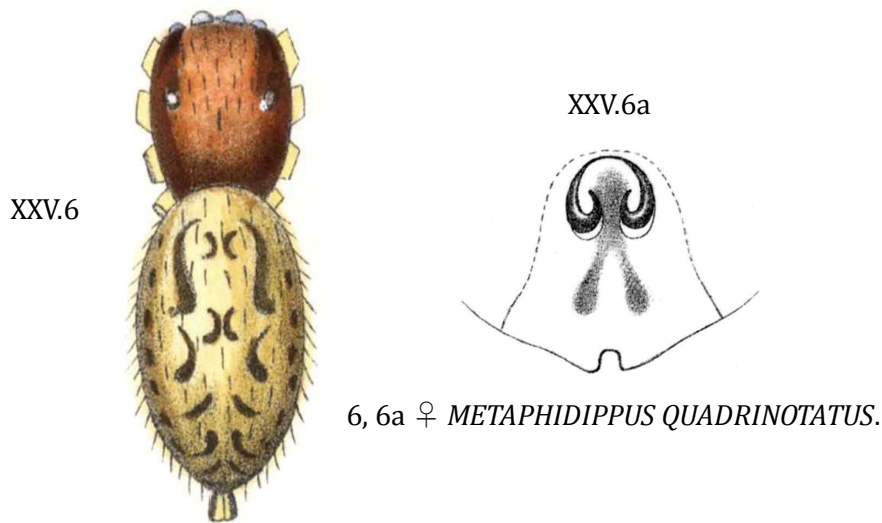
Hab. Costa Rica (*Sarg*); Panama, Bugaba (*Champion*).

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *September 1901*.

272

ARANEIDEA.

33. *Metaphidippus ochraceus*, sp. n. (Tab. XXV. figg. 6, 6a, ♀.)



6, 6a ♀ *METAPHIDIPPUS QUADRINOTATUS*.

Plate XXV. Fig. 6. *Metaphidippus ochraceus*, ♀, dorsal view, legs removed (4.7 mm); 6a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace red-brown, clothed with scattered white hairs. Abdomen clay-yellow-white, with a pale central band, ill-defined by a series of indistinct brown spots; lateral area spotted with brown; ventral area pale, with three very faint brown longitudinal central bands. Legs unicolorous yellow; tibia iv. with a dusky black spot on the inner side at the apex. General structure as in *M. quadrinotatus*, but there is no median spine beneath tibia and protarsus iv. Vulva with a short square notch in the middle of the posterior margin (see Plate).

Hab. Guatemala (*Sarg*).

34. *Metaphidippus pallens*, sp. n. (Tab. XXV. figg. 7, 7a, ♀.)

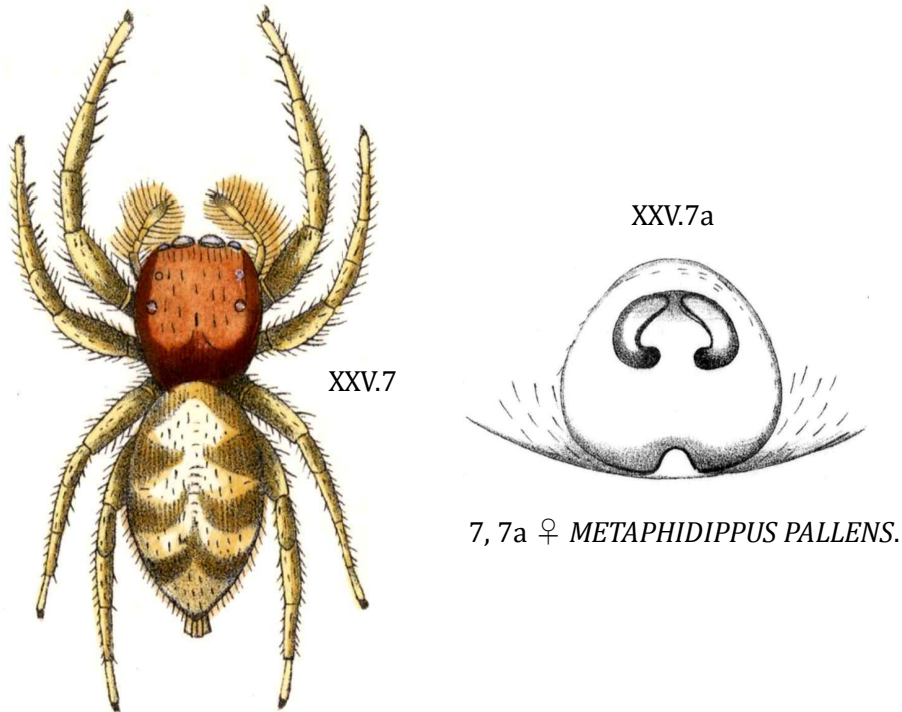


Plate XXV. Fig. 7. *Metaphidippus pallens*, ♀ (7.6 mm): 7a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 8 millim.

In the single specimen received the carapace, abdomen, and legs are almost entirely deprived of pubescence and hairs, but the vulva is of a very distinct form, consisting of a large circular-oval area deeply notched in the middle of the posterior margin, having near the anterior margin a very shallow transverse-oval cavity with a broad central piece, very narrow in front, dilated and then abruptly narrowed behind, where on each side is a dark orifice. General structure as in other species of the group.

Hab. Guatemala (*Sarg*).

35. *Metaphidippus hondurensis*. (Tab. XXV. fig. 8, ♀.)

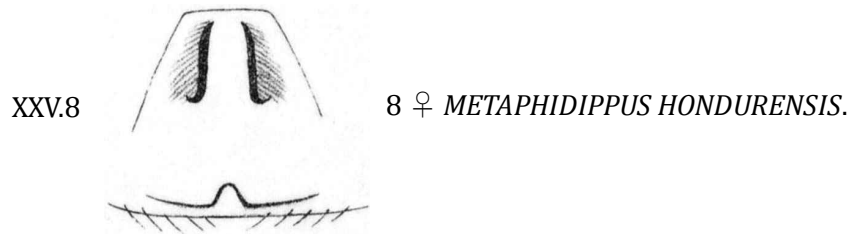


Plate XXV. Fig. 8. *Metaphidippus hondurensis*, ♀, vulva.

Dendryphantès hondurensis, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 48, t. 4. figg. 4, 4a (♀) (April 1896)¹.

Type ♀, androtype ♂, in coll. Peckham. Total length, ♀ 5, ♂ 4.5 millim.

Hab. British Honduras¹; Guatemala¹.

Our figure of the vulva is taken from Peckham's work.

36. *Metaphidippus retiarius*.

Attus retiarius, Hentz, Spid. U. S., ed. by Burgess, p. 161, t. 17. fig. 11 (♀)¹.

*Dendryphantes retiarius**, Banks, Proc. Calif. Acad. Sci. (3) i. p. 284².

Hab. North America¹, Lower California, Sierra San Lazaro².—Mexico, Tepic².

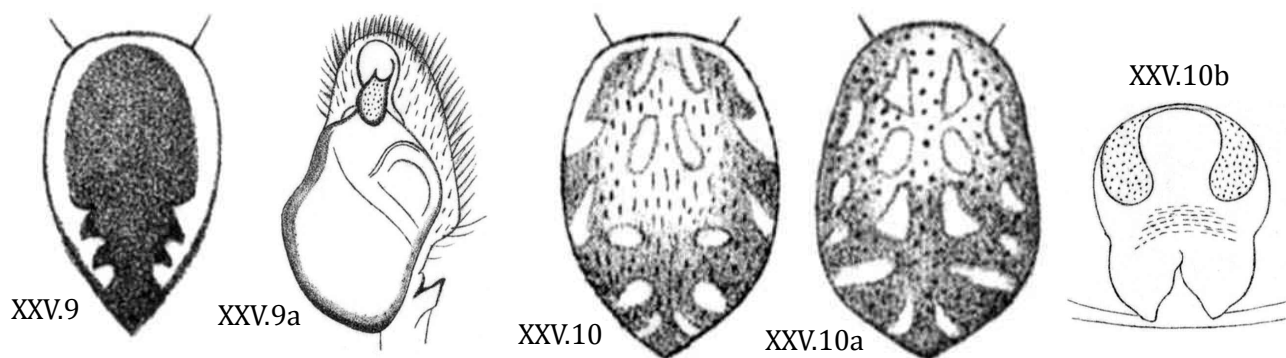
37. *Metaphidippus nubilus*.

Attus nubilus, Hentz, Spid. U. S., ed. by Burgess, p. 61, t. 8. fig. 15, t. 18. fig. 27 (♀)¹.

Dendryphantes nubilus, Banks, Prof. Calif. Acad. Sci. (3) i. p. 284².

Hab. North America, Alabama¹.—Mexico, Tepic².

38. *Metaphidippus capitatus*. (Tab. XXV. figg. 9, 9a ♂, 10, 10a, b, ♀).



9, 9a ♂ *METAPHIDIPPUS CAPITATUS*.

10, 10a, b ♀ *METAPHIDIPPUS CAPITATUS*.

Plate XXV. Fig. 9. *Metaphidippus capitatus*, ♂, abdomen, dorsal view; 9a, palpus from beneath. (After Peckham.) Fig. 10. *Metaphidippus capitatus*, ♀, abdomen, dorsal view; 10a, ditto, variety; 10b, vulva. (After Peckham.)

Attus capitatus, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 200 (1845)¹; Spid. U. S., ed. by Burgess, p. 51, t. 7. fig. 15 (1875)².

Dendryphantes capitatus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 36, t. 1. figg. 25 (♂), 25a, 25b (♀), t. 3. figg. 25 (♂), 25a (♀)³ (Sept. 1888).

* Spelling changed to *retiarius* with 1905 corrections (x).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

METAPHIDIPPUS.—*PARAPHIDIPPUS*.

273

Attus parvus, Hentz, loc. cit. p. 358⁴; Spid. U. S., ed. by Burgess, p. 62, t. 8. fig. 17⁵.

Attus aestivalis, Peckh. Descr. Att. U. S. p. 2, t. 1. fig. 2 (1883)⁶.

Hab. North America^{1 3}.—Mexico³.

I do not know this species, but we have given copies of Peckham's figures. The synonyms, too, are on his authority.

39. *Metaphidippus felix*.

Note that the figure of "*Metaphidippus felix*" (Plate XXIII, Figure 10) was assigned to *Metaphidippus pernix*, and was referenced in the account of that species.

Dendryphantes felix, Peckh. Trans. Wisc. Acad. Sci. xiii. p. 313, t. 27. figg. 6, 6a (♂) (1901)¹.

Type, ♂, in coll. Peckham. Total length 6.5 millim.

Hab. Mexico, San Rafael (*Townsend*¹).

40. *Metaphidippus vegetus*.

Dendryphantes vegetus, Peckh. Trans. Wisc. Acad. Sci. xiii. p. 323, t. 28. figg. 7, 7a (♀) (1901)¹.

Type, ♀, in coll. Peckham. Total length 5 millim.

Hab. Mexico, San Rafael (*Townsend*¹).

PARAPHIDIPPUS, gen. nov.

Type *P. laniipes*, sp. n., ♂. Mexico.

This genus, which, if not absolutely distinct, is at any rate convenient for separating into groups the great number of species allied to *Phidippus*, may be distinguished from the latter by the fact that the eyes of the posterior row are not or scarcely wider than those of the anterior row, and the small eyes are a little further away from the lateral anteriors. The abdominal pattern, too, is characteristic, being without the triangular central pale spot, and the mandibles in the male are usually more highly developed, though otherwise there is no structural difference between the two.

<i>Males.</i>		
(Mandibles very stout, enlarged, with the lower tooth, or in <i>P. chrysis</i> the upper one, much elongated. Legs i. fringed with hair beneath, and to a lesser extent legs ii.)		
1	i. Lower tooth of mandibles always the largest.	2
	(not i.)	5
2	a. Fang of mandible less robust, less sinuous, and not or scarcely constricted in the middle, either quite simple or with a single prominence in the centre of the inner margin. Legs i. longer and more slender; tibia i. at least one-third longer than the patella and with the protarsus much less densely clothed with fringing black hairs. Palpal spine slender and almost straight.	3
	(not a.)	4
3	a'. Fang of mandible with a single prominence at the middle of the inner margin. Legs i. clothed beneath with a dense fringe of	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., *September* 1901.

2 N‡

274

ARANEIDEA.

3	a'. short hairs curling over at the tip. Abdomen with an unbroken marginal white band, and a central longitudinal dorsal band of iridescent scales, flanked by a brown band; no white spots. Apical spine of palpus uniformly stout, not aculeate at the tip.	<i>laniipes</i> , sp. n.
----------	---	--------------------------

3	b'. Fang of mandible without any prominence, or with only a very small one, at the middle of the inner margin. Legs i. clothed beneath with a dense fringe of short straight hairs, not curling over at the tip. Abdomen with a broken white or orange marginal band; the whole dorsal area clothed with iridescent scales and with five pairs of white spots, the second pair longitudinal and the fourth transverse. Apical spine of palpus aculeate at the apex.	<i>inermis</i> , sp. n.
4	b. Fang of mandible very stout, sinuous, or constricted in the middle, with two conspicuous cusps at the middle of the inner margin. Legs i. shorter and stouter in proportion; tibia i. not more than one-fourth longer than the patella, densely clothed on all sides, but especially beneath, with long black hairs. Palpal spine slender, but curved at the apex. Abdomen as in <i>P. inermis</i> .	<i>funnebris</i> , Banks.
5	ii. Upper tooth of mandibles the largest, forming the apex of a large compressed apophysis, when viewed from in front. (Abdomen as in <i>P. inermis</i> ; legs i. fringed beneath with straight, short, black hairs.)	<i>chrysis</i> , Walck.

Note.—The following species are unknown to me and cannot be inserted in the Table:—*P. luteus* (Peckh.), *P. trimaculatus* and *P. limbatus* (Banks), and *P. militaris* (Hentz), though they probably belong to *Paraphidippus*.

<i>Females.</i>		
1	A. Body entirely dark brown or black, with a few apical marginal and sometimes small dorsal white spots	<i>nigropilosus</i> , Banks. <i>funnebris</i> .
	B. Body not dark brown or black, but clothed with either a mottled pattern of white, yellow, and brown hairs and scales, or with green, pink, and copper-coloured metallic iridescent scales.	2
2	i. Ventral area with a broad longitudinal brown or black central band.	3
	(not i.)	4
3	a. Carapace and abdomen clothed with green, pink, and copper-coloured iridescent scales on the dorsal area, and with an anterior white or orange marginal band, a central larger marginal white or orange spot, and a small one nearer the apex; dorsal area of the abdomen with four pairs of small white spots, sometimes conspicuously set on square or rounded black spots.	<i>disjunctus</i> , Banks.
	b. Carapace and abdomen entirely devoid of iridescent scales, but clothed with mottled white and brown hairs. The whole body clothed with hoary-white hairs. Abdomen with three pairs of obliquely longitudinal white spots, the first pair often confluent, in the middle of the dorsal area, and two \wedge -shaped apical bars; an	

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

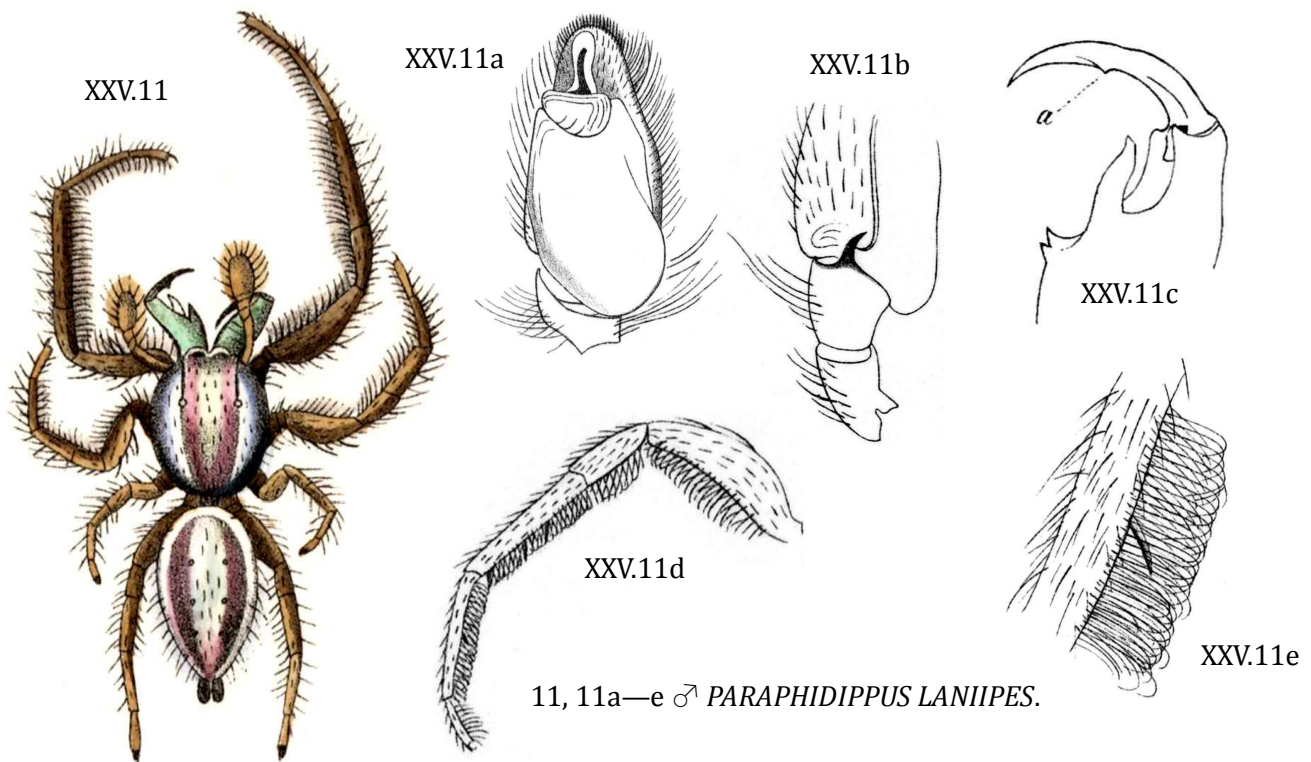
PARAPHIDIPPUS.

275

3	b. anterior marginal white band, and a large white marginal spot, just behind the middle.	<i>marmoratus</i> , sp. n.
4	ii. Ventral area with a central band of thinly clustered ochre-yellow scale-like hairs. Abdomen more or less as in <i>P. disjunctus</i> , with marginal white or orange band more or less broken up, or entirely unbroken; clothed with coppery metallic scales, having pink and green reflections.	<i>chrysis</i> .

Note.—*P. multicolor* and *P. militaris* (Hentz), *P. fertilis* and *P. mexicanus* (Peckh.), and *P. tricolor* and *P. aureus* (C. L. Koch) are unknown to me, so that they cannot be included in the Table. *P. mexicanus* is stated by Peckham to be identical with *P. asinarius* (C. L. Koch), and it is therefore probably closely allied to *P. marmoratus*.

1. *Paraphidippus laniipes*, sp. n. (Tab. XXV. figg. 11, 11a—e, ♂.)



11, 11a—e ♂ *PARAPHIDIPPUS LANIIPES*.

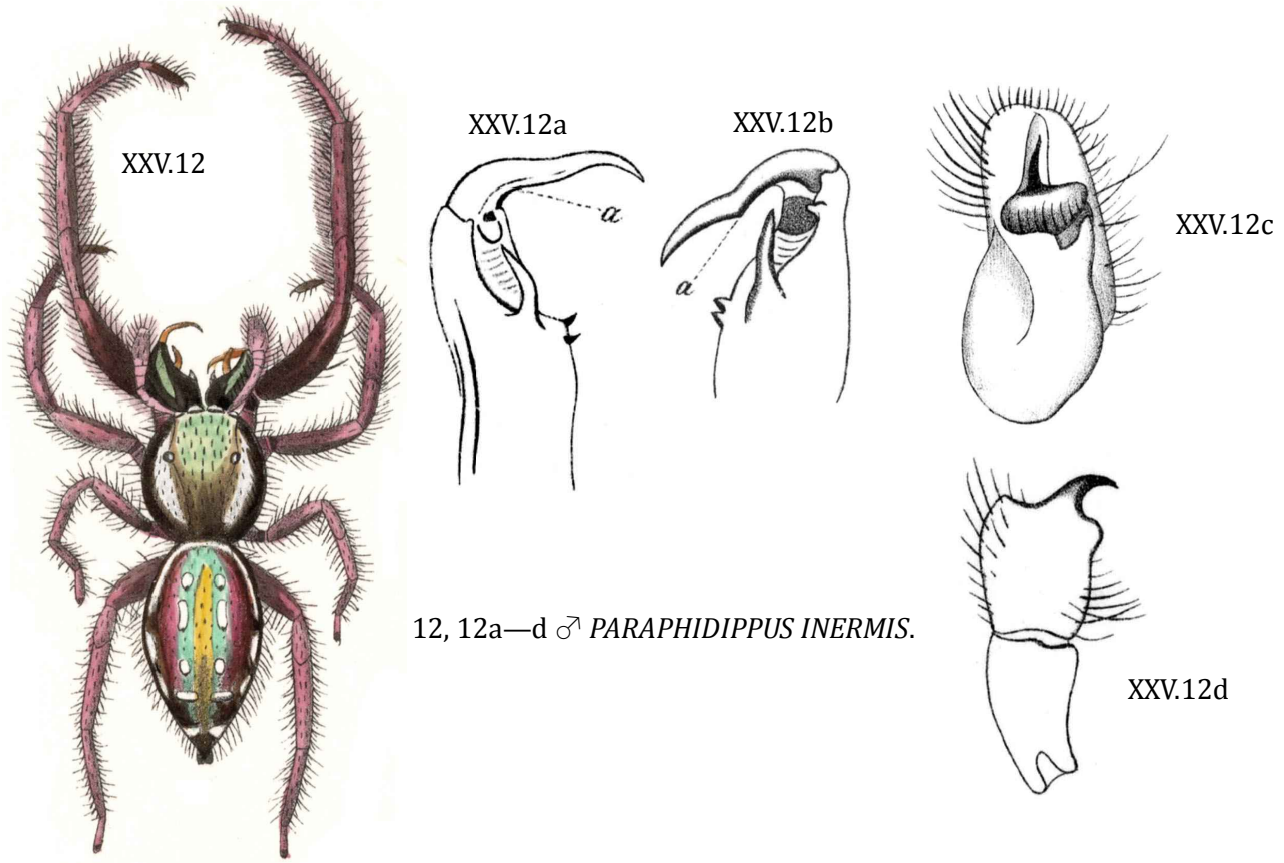
Plate XXV. Fig. 11. *Paraphidippus laniipes*, ♂ (11.9 mm): 11a, palpus from beneath; 11b, tibia of palpus from the outer side; 11c, mandible from beneath; 11d, leg i. from the inner side; 11e, protarsus i., about the middle.

Type, ♂, in coll. Godman & Salvin. Total length 12 millim.

Carapace clothed with iridescent scales, with a band of white extending from behind the lateral anterior eyes nearly to the posterior margin. Abdomen iridescent, encircled with a broad uninterrupted white band; no dorsal white spots present. Legs unicolorous brown, the first and second pairs hairy beneath, their femora, patellae, tibiae, protarsi, and tarsi clothed with a dense fringe of woolly curly hairs, curving upwards. Mandible as in *P. inermis*, but with a less elongated apical cusp, lower or upper. The fang has a central cusp, as in some varieties of *P. inermis*. The palpal bulb is very similar also, but the apical spine is longer and more slender, and very similar to that of *P. chrysis*.

Hab. Mexico, Jalisco (*Godman*).

2. *Paraphidippus inermis*, sp. n. (Tab. XXV. figg. 12, 12a—d, ♂.)



12, 12a—d ♂ *PARAPHIDIPPUS INERMIS*.

Plate XXV. Fig. 12. *Paraphidippus inermis*, ♂ (10.6 mm): 12a, mandible from beneath; 12b, ditto, variety; 12c, palpal bulb from beneath; 12d, tibia and patella of palpus from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 8 millim.

Similar to *P. chrysis* in coloration, but, differing from it in the great development of the lower mandibular tooth and of the apical mandibular cusps. From *P. funebris*, which also has a greatly developed lower mandibular tooth, it may be known by the non-bicuspidate inner margin of the fang. Varieties occur in which the apical cusps are but little developed.

Hab. Mexico, Omilteme, Cuernavaca, Atoyac, Orizaba (*H. H. Smith*); Costa Rica (*Sarg*).

3. *Paraphidippus funebris*. (Tab. XXV. figg. 13, 13a—h, ♂; 14, 14a, ♀.)

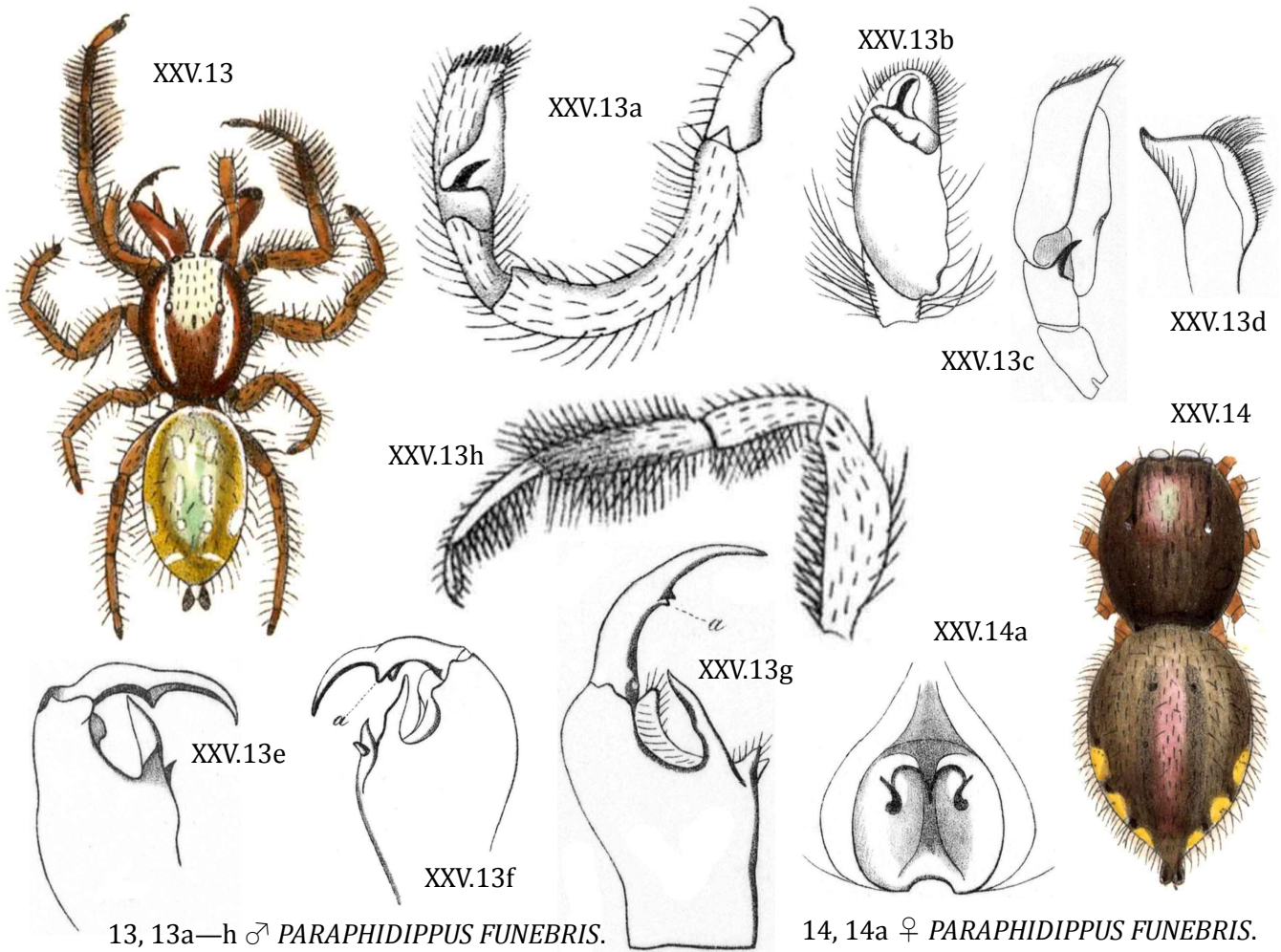


Plate XXV. Fig. 13. *Paraphidippus funebris*, ♂ (10.2 mm): 13a, palpus from the outer side; 13b, palpal bulb from beneath; 13c, ditto from the outer side; 13d, maxilla; 13e, mandible from above; 13f, ditto from beneath; 13g, ditto, variety; 13h, leg i. from the inner side. Fig. 14. *Paraphidippus funebris*, ♀, dorsal view, legs removed (11.5 mm); 14a, vulva.

Phidippus funebris, Banks, Proc. Calif. Acad. Sci. (3) i. p. 280, t. 17. fig. 22 (♂ ♀)¹.

Type ♂, gynetype ♀, in coll. Calif. Acad. Sciences, San Francisco. Total length, ♂ 10.5, ♀ 13.5 millim.

♂. *Dried specimen*. Carapace deep mahogany-brown, the cephalic area clothed with green scales and black hairs, having a narrow band of white scales extending from between the lateral eyes almost to the posterior margin, convergent behind. Abdomen entirely clothed over the dorsal area with brilliant green (or coppery) metallic scales; the encircling white band is broken up into a few elongate spots; the dorsal area has four pairs of white spots, the first two elongate, the second pair transverse. Mandibles red-brown, often with a slight green reflection. Legs black or red-brown, clothed with black and white hairs and also with numerous white scales, on the underside with hoary-white hairs; tibia and protarsus i. fringed with a very dense clothing of brown hairs; tarsi iii. and iv. paler; patella and tarsus i. clothed with white hairs beneath, and all the tarsi with a few conspicuous white scales at the base above. Tarsus of palpus pale, or white, at the apex. The coloration, of course, varies also, but not very much.

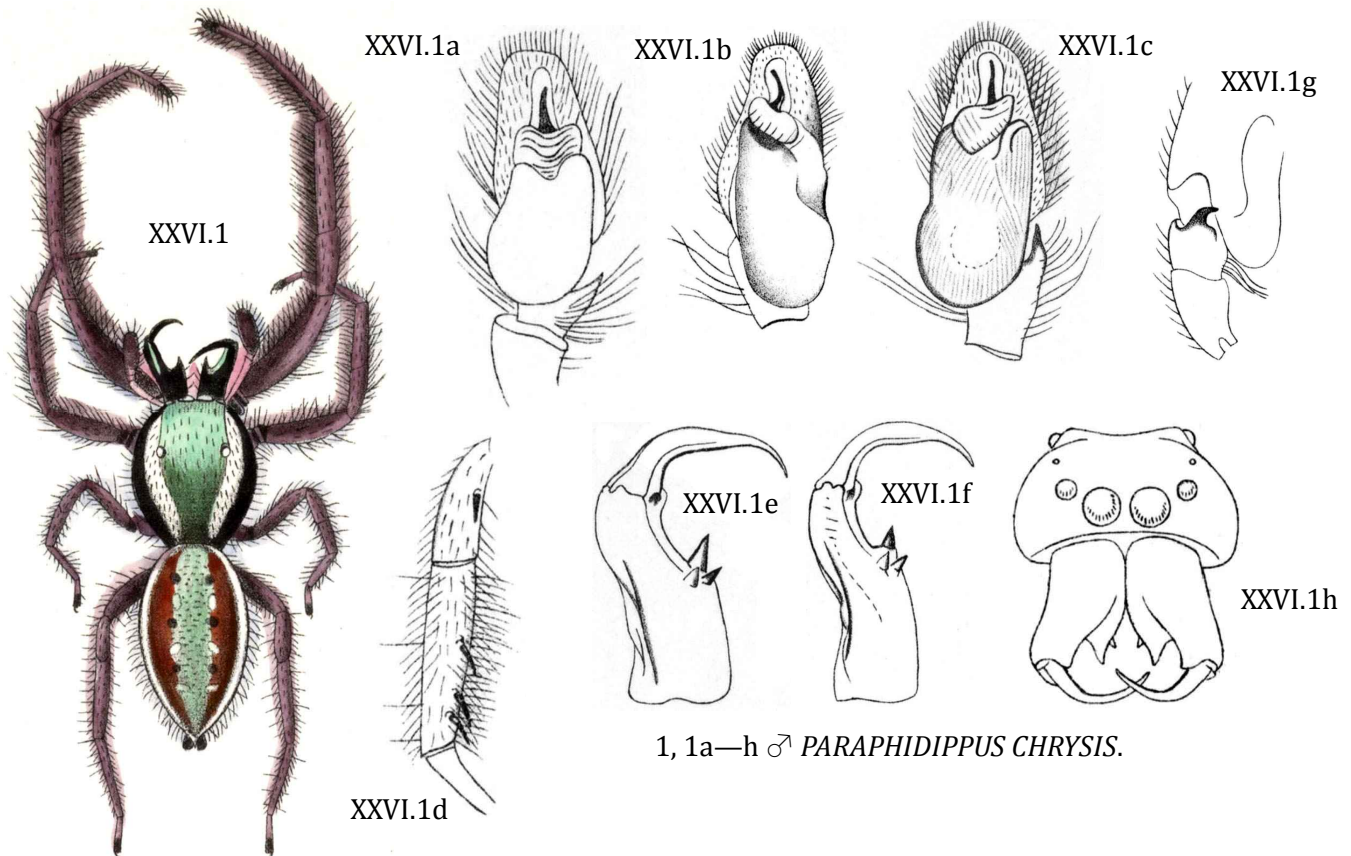
♀. Deep brown or black, with brown hairs. Abdomen with the two apical marginal spots only pure white

or brilliant orange; the carapace and abdomen almost entirely without iridescent scales. Tibia i. with a thick clothing of dark hairs below. Protarsus iv. spined towards the base.

Hab. Mexico, Tepic (*fide Banks*¹), Atoyac in Vera Cruz (*H. H. Smith*); Guatemala (*Sarg*); Costa Rica (*Rogers*).

Whether the females before me really belong to the species which Banks has called *P. funebris* I cannot say. It is quite possible, however, that black varieties of *P. chrysis* occur, though the almost complete absence of metallic scales in these examples renders it difficult to believe that we have an instance of such variation.

4. *Paraphidippus chrysis*. (Tab. XXVI. figg. 1, 1a—h, ♂; 2, 2a—f, ♀.)



1, 1a—h ♂ *PARAPHIDIPPUS CHRYSIS*.

Plate XXVI. Fig. 1. *Paraphidippus chrysis*, ♂ (9.8 mm): 1a, palpus from beneath; 1b, ditto, variety; 1c, ditto, variety, showing tibial spur. Captions were omitted for figures 1d—h.

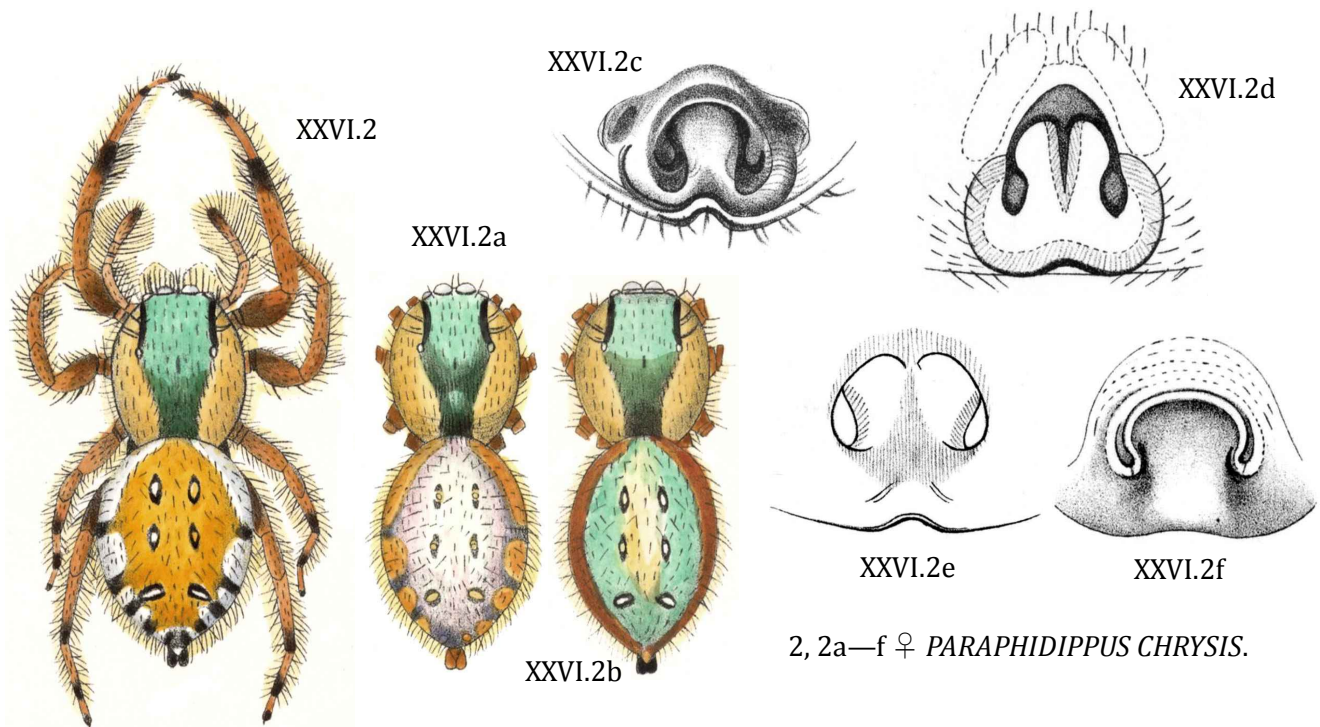


Plate XXVI. Fig. 2. *Paraphidippus chrysis*, ♀ (11.8 mm): 2a, ditto, variety (11.6 mm); 2b, ditto, another variety (12.0 mm); 2c, vulva; 2d, ditto, variety; 2e, ditto, another variety; 2f, ditto, an immature example.

Attus chrysis, Walck. Tabl. p. 25 (1805)¹; Ins. Apt. i. p. 454 (1837)², and iv. Suppl. p. 422³.

Philaeus chrysis, Peckh. Trans. Wisc. Acad. Sci. vii. p. 30, t. 1. fig. 20 (♀), t. 2. figg. 20 (♂), t. 3. fig. 20a (♀) (1888)⁴.

Plexippus orichalceus, C. L. Koch, Die Arachn. xiii. p. 113, fig. 1174 (♀)⁵.

Phidippus orichalceus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, pp. 7, 13, 33, t. 2. figg. 8 (♂), 8a (♀), t. 3. fig. 7 (♂) (1896)⁶.

Examples in coll. Godman & Salvin. Total length, ♂ 7—10, ♀ 8—12 millim.

♂. *Dried specimen*. Carapace black, with dull green iridescence on the cephalic area, having a narrow band of pure white scales on each side, extending from behind the anterior lateral eyes, slightly converging behind the cephalic region and extending almost to the posterior margin, attenuated at both extremities. Abdomen rich red-brown above, the central area being clothed with green, golden, and pink scales; an almost continuous narrow band of white scales encircles the margin, broken, however, at the spinners, forming two small spots on each side; the dorsal area has a row of three small spots of white scales on each side, the last pair being elongate and transverse. Mandibles black, with a dull green reflection. Legs black, with a dull purple reflection, clothed entirely with black hairs, but with a few white hairs at the base of patella i. and on the dorsal area of femora ii., iii., and iv.; protarsi and tarsi ii. and iii. and tarsi iv. yellow; tibia i. clothed with black hairs beneath, the hairs not dense nor forming a fringe on each side. Underside of the body deep dull black-brown, clothed with olive-brown hairs; ventral area olive-brown. Palpi not white at the extreme apex.

The coloration is somewhat variable; the legs may be red-brown, the encircling abdominal band may be quite continuous and not broken at the apex, while the apical pair of spots may also be transverse, forming two pairs of transverse elongate spots.

♀. *Dried specimens* (1-3). Coloration exceedingly variable:—

1. Carapace with green iridescent scales on the cephalic area extending to the base; sides clothed with ochreous-white scales. Abdomen entirely clothed above with emerald-green and coppery scales, or entirely green or coppery, or coppery and green with pink reflections; on the anterior third runs a marginal band of ochreous-white scales, followed by a large spot and two smaller spots, often connected, the posterior one continued over the spinners in the form of a transverse elongation; the dorsal area presents three pairs of ochreous-white (or almost pure white) spots, the posterior pair tending to be transverse, each of these spots having a bare patch on either side, appearing to be black in contrast; ventral area brown, with numerous scattered ochre-white scales and a median band of the same. Legs, palpi, and mandibles red-brown, clothed with long ochre-yellow hairs; tibiae i., iii., and iv. usually more or less black at their apex.

2. Precisely similar to the last, but with orange marginal band and spots.

3. Similar to both the above, but with a broad unbroken orange band extending from the anterior margin of the abdomen to the spinners; the dorsal spots also orange.

Many intermediate varieties of these also occur.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

PARAPHIDIPPUS.

277

Hab. North America, South Carolina ², Georgia ⁶.—Mexico, Atojac, Amula, Omilteme, Chilpancingo (*H. H. Smith*); Guatemala ⁴, Coban (*Sarg*); Costa Rica (*Rogers*).—South America; Antilles, San Domingo ¹.

This very abundant species is in all probability the *Attus chrysis* of Walckenaer. It is very likely also identical with *Plexippus aureus* and *P. seladonicus*, C. L. Koch, and *Attus iris*, Walck. (*Ins. Apt. i. p. 455*); the type of the latter is figured in Abbot's Georgian Spiders (*fig. 415*).

5. *Paraphidippus disjunctus*. (Tab. XXVI. figg. 3, 3a—c, ♀.)

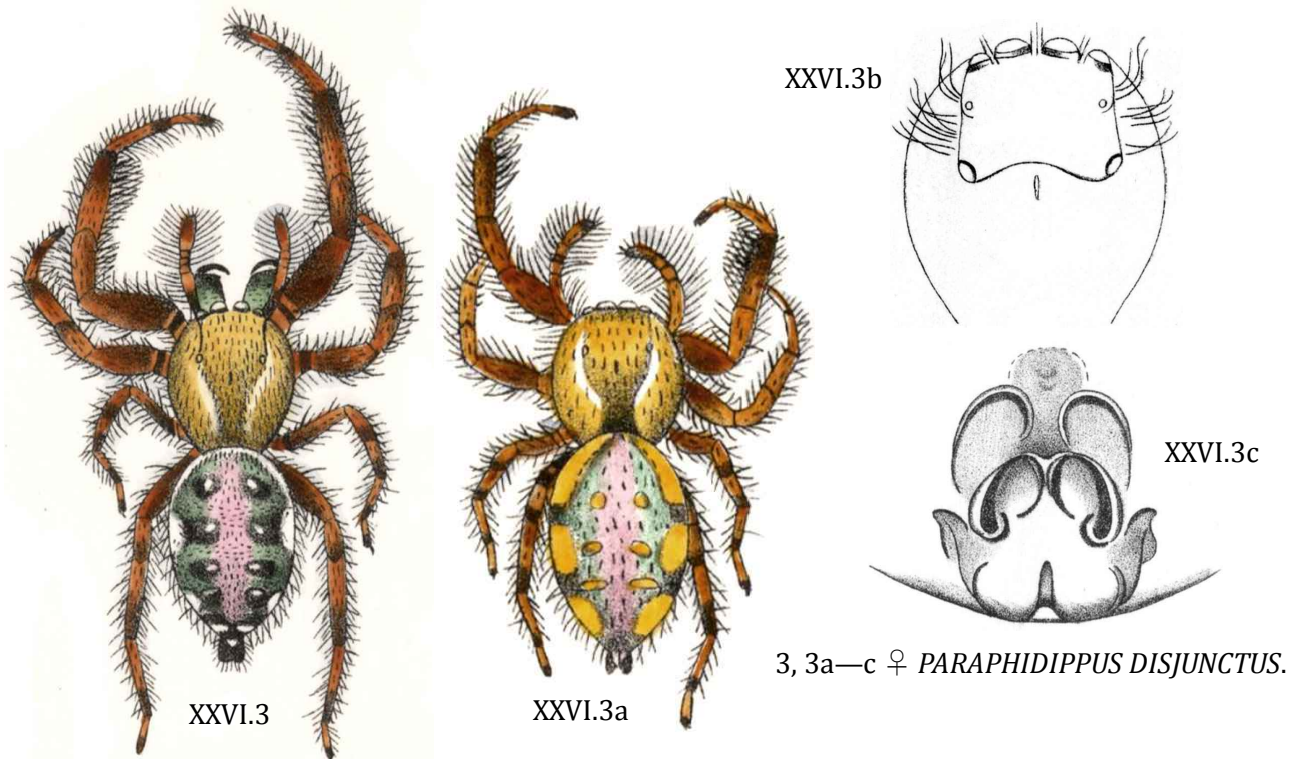


Plate XXVI. Fig. 3. *Paraphidippus disjunctus*, ♀ (11.6 mm): 3a, ditto, variety (13.1 mm); 3b, eyes from above; 3c, vulva.

Phidippus disjunctus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 281, t. 17. fig. 21 (♀) ¹.

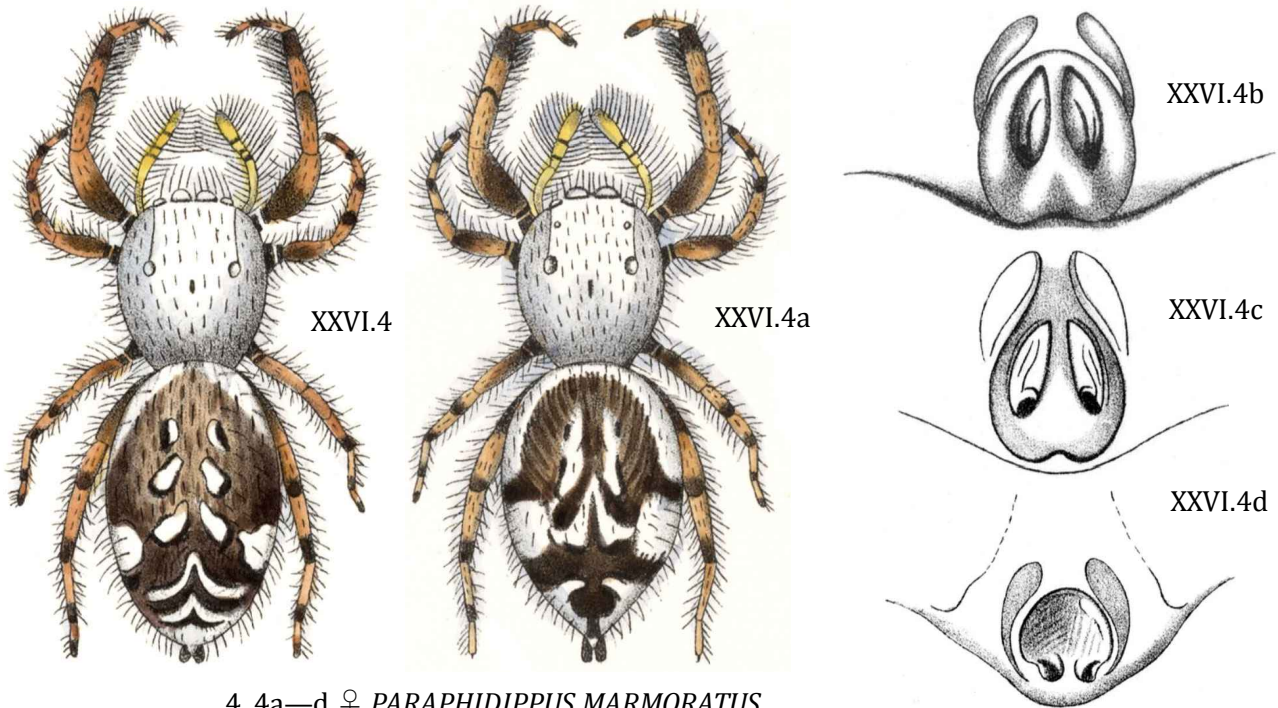
Type, ♀, in coll. Calif. Acad. Sciences, San Francisco. Total length 13.5 millim.

Carapace black, clothed with golden-brown pubescence, becoming intermingled with white laterally, but without any definite white bands. Abdomen dorsally clothed almost entirely with pink and green iridescent scales, becoming golden-brown in certain lights; the dorsal area with four large brown or black spots, which are devoid of scales on each side, and a central iridescent dorsal band, having five small white spots on each side, the apical ones becoming more transverse; anteriorly margined with white and with a larger and a smaller white spot on each side; sides clothed with grey scales; ventral area with a broad dark central band. Legs red-brown, clothed with grey-white scales and long white hairs; the apex of the patella and tibia of all four pairs is black; the femur, patella, and tibia i. with a lower fringe of curling black hairs, those beneath the protarsi white. Eyes and general structure as in other species of the genus. For the vulva, see the Plate.

Hab. Mexico, Tepic (*fide Banks*¹), Teapa (*H. H. Smith*).

Distinguishable from *P. chrysis* by the broad black band down the centre of the ventral area, and from *P. marmoratus* by the metallic scales on the carapace and abdomen.

6. *Paraphidippus marmoratus*, sp. n. (Tab. XXVI. figg. 4, 4a—d, ♀.)



4, 4a—d ♀ *PARAPHIDIPPUS MARMORATUS*.

Plate XXVI. Fig. 4. *Paraphidippus marmoratus*, ♀ (12.8 mm): 4a, ditto, variety (12.6 mm); 4b, vulva; 4c, ditto, variety; 4d, ditto, immature example.

Type, ♀, in coll. Godman & Salvin. Total length 8—13 millim.

Carapace red-brown, clothed with hoary-white hairs, also with more scattered black hairs. Abdomen varying in colour from rich chocolate to pale brown, with a broad white band encircling the anterior marginal half of the dorsal area, followed by a large white spot and another at the spinners on each side, the latter often joined over the spinners dorsally with an oblique branch extending upward and forward; these spots are very variable in size, shape, and colour, being often primrose-yellow or orange; the central dorsal area bears three pairs of elongate spots, the anterior pair smaller and often coalescing with the second pair, while just above the spinners are two pairs of \wedge -shaped pale white spots; all the dorsal spots are margined with darker brown than the ground-colour of the dorsal area; ventral area entirely clothed with white hairs and scales, blending laterally with the marginal band and spots, with a broad central brown band entirely

devoid of white scales, the band varying in colour from pale brown to chocolate-black. Palpi pale yellow, clothed with white scales and fringed with long pure white hairs. Mandibles and legs red-brown, clothed with white scales above and hairs beneath, more dense under tibia i. and at its apex beneath mingled with black hairs, the apex of tibia i. also black; femora, patellae, tibiae, and protarsi iii. and iv. dark at the apex (more easily observed in specimens immersed in alcohol). Sternum and coxae red-brown, not clothed with white hairs. Protarsus iv. with a spine on the outer side towards the base, but in some examples this is absent. The carapace and abdomen are entirely devoid of iridescent scales.

Hab. Costa Rica (Rogers).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

278

ARANEIDEA.

This species comes near the spider I identify as *P. disjunctus*, Banks, but may be distinguished from it by the absence of metallic scales, the elongate form of the dorsal spots, and the ^-like shape of the apical spots; the latter, however, are very variable. I am unable to recognize any reliable difference in the form of the vulva.

7. *Paraphidippus fartilis*. (Tab. XXVI. fig. 5, ♀.)

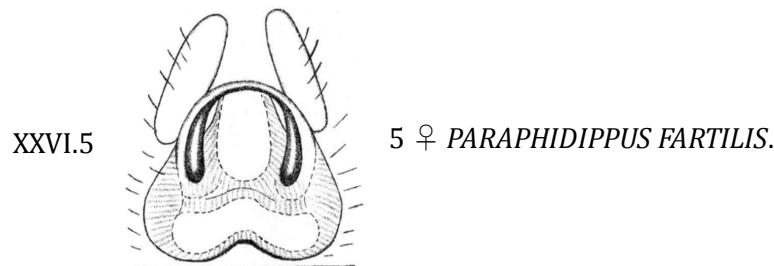


Plate XXVI. Fig. 5. *Paraphidippus fartilis*, ♀, vulva.

Philaeus fartilis, Peckh. Trans. Wisc. Acad. Sci. vii. p. 27, t. 2. fig. 17 (♀) (1888)¹.

Type, ♀, in coll. Peckham. Total length 10 millim.

Hab. Mexico¹.

This species is doubtless closely allied to *P. marmoratus*, but the vulva differs very much according to Peckham's figure, of which we give a copy.

8. *Paraphidippus luteus*.

Philaeus luteus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 40 (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 9 millim.

Hab. Honduras¹.

According to Peckham¹, this species is very closely allied to *P. chrysis* (Walck.), but is of lighter colour, while the first leg is shorter in proportion, and there is no ridge on the face of the falces as in *P. chrysis*.

9. *Paraphidippus trimaculatus*.

Philaeus trimaculatus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 282, t. 17. fig. 18 (♂)¹.

Type, ♂, in coll. Calif. Acad. Sciences, San Francisco. Total length 5.2 millim.

Hab. Mexico, Tepic¹.

According to Banks¹, the mandibles of the male are unarmed, *i. e.* without teeth on the basal segment: if this be correct, the absence of teeth is quite characteristic of the species. The fang is short. This and the following species are unknown to me.

10. *Paraphidippus limbatus*.

Philaeus limbatus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 282, t. 17. fig. 17 (♂)¹.

Type, ♂, in coll. Calif. Acad. Sciences, San Francisco. Total length 4.5 millim.

Hab. Mexico, Tepic¹.

11. *Paraphidippus multicolor*.

Attus multicolor, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 202 (1845)¹; Spid. U. S., ed. by Burgess, p. 53, t. 7. fig. 13 (♀)².

Philaeus multicolor, Banks, Proc. Calif. Acad. Sci. (3) i. p. 282³.

Hab. North America, Alabama^{1 2}.—Mexico, Tepic³.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

PARAPHIDIPPUS.

279

12. *Paraphidippus nigropilosus*.

Phidippus nigropilosus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 280, t. 17. fig. 20 (♀)¹.

Type, ♀, in coll. Calif. Acad. Sciences, San Francisco. Total length 12 millim.

Hab. Mexico, Tepic¹.

The description given is insufficient to enable one to gather what are the distinctive characters of this species.

13. *Paraphidippus militaris*. (Tab. XXVI. figg. 6, ♂; 7, ♀.)

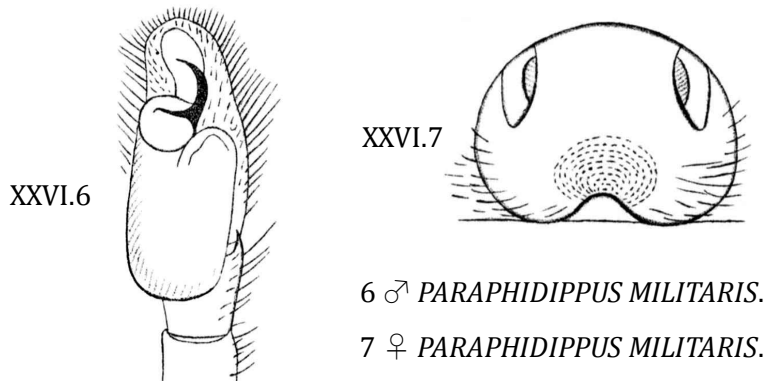


Plate XXVI. Fig. 6. *Paraphidippus militaris*, ♂, palpus. (After Peckham.) Fig. 7. *Paraphidippus militaris*, ♀, vulva. (After Peckham.)

Attus militaris, Hentz, Journ. Bost. Soc. Nat. Hist. v. p. 201 (1845)¹; Spid. U. S., ed. by Burgess, p. 52, t. 7. figg. 10, 11².

Philaeus militaris, Peckh. Trans. Wisc. Acad. Sci. vii. p. 28, t. 1. fig. 19 (♀), t. 2. fig. 19 (♂) (1888)³.

Eris aurigera, C. L. Koch, Die Arachn. xiii. p. 189, fig. 1237 (♂) (1846)⁴.

Hab. North America, Alabama¹.—Mexico³.

The very large (comparatively) falciform palpal spine strongly curving towards the inner side, of which Peckham³ gives a figure, should enable this species to be readily distinguished. The synonymy is given on his authority.

14. *Paraphidippus mexicanus*. (Tab. XXVI. fig. 8, ♀.)

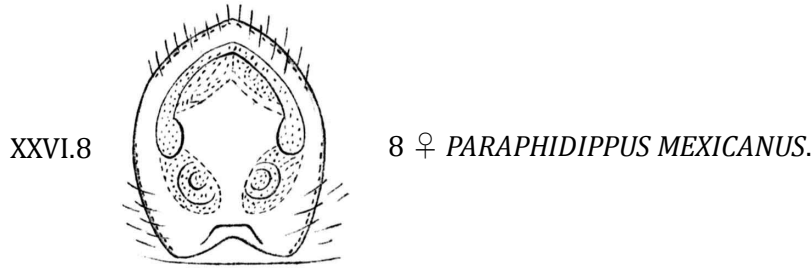


Plate XXVI. Fig. 8. *Paraphidippus mexicanus*, ♀, vulva.

Philaeus mexicanus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 28, t. 1. fig. 18, t. 2. fig. 18 (♀) (1888)¹.

Type, ♀, in coll. Peckham. Total length 10 millim.

Hab. Mexico¹.

I do not know this species, but it appears to be closely allied to those which are clothed with iridescent scales. Our figure of the vulva is copied from Peckham's work.

15. *Paraphidippus aureus*.

Plexippus aureus, C. L. Koch, Die Arachn. xiii. p. 114, fig. 1175 (♀)¹.

Hab. Mexico¹.

There is very little doubt that this species is closely allied to *P. chrysis*, but whether identical or not, it is now almost impossible to determine.

16. *Paraphidippus tricolor*.

Plexippus tricolor, C. L. Koch, Die Arachn. xiii. p. 116, fig. 1177 (♀)¹.

Hab. Mexico¹.

This species also is evidently very closely allied to *P. chrysis*.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

PHIDIPPUS.

Phidippus, C. L. Koch, Die Arachn. xiii. p. 125 (1846).

Type *P. variegatus*, C. L. Koch. North America.

P. variegatus, a species very closely allied to *P. albulatus*, described below, is typical of all those here referred to this genus, and has therefore been selected by me as the type. It is very difficult, by structure alone, to separate these spiders from those which I have included under *Paraphidippus*; but, for convenience, I have separated out under *Phidippus* all those in which the eyes of the posterior row are distinctly wider apart than those of the anterior row, the small eyes are not far distant from the anterior lateral eyes, and the abdomen usually bears a central white triangular spot formed by the confluence of two cuneiform closely adjacent spots. The spiders themselves are large, stout, and thickly clothed with hairs; and the carapace is uniformly rounded on the sides.

The species known to or identified by me may be distinguished as follows:—

<i>Males.</i>			
1	I.	Mandibles with two distinct teeth or one bicuspid tooth on the upper side and another single tooth below.	2
		(not I.)	9
2	*	Legs i. and ii. clothed and fringed with long sulphur-yellow hairs; iii. and iv. with shorter and paler yellow or nearly white hairs.	3
	**	Legs i. and ii. clothed with brown, black, or white, or partly black and partly white hairs; iii. and iv. similar, but modified.	4
3	a.	Carapace tuberculate, bearing on the sides of the cephalic area a stout conical tubercle. Femur i. with a long thick pencil of black hairs, springing from the basal third of the dorsal ridge and curving over to the front. Carapace and abdomen black, with sulphur-yellow bands. Mandibles steel-blue, with yellow basal hairs. The spine at the apex of the palpal bulb very slender, sinuous, with a broad transverse basal portion.	<i>tuberculatus</i> , sp. n.
	b.	Carapace not tuberculate; sides of cephalic part very widely rounded. Femur i. without pencil of black hairs. Carapace with wide white lateral bands. Abdomen light brown, with a posterior dorsal median longitudinal velvety-black band. Mandibles black, with white basal hairs above. The spine at the apex of the palpal bulb with broad base, very similar to that of <i>P. tuberculatus</i> .	<i>arizonensis</i> , Peckh.
4	aa.	Carapace without a transverse sinuous pale band behind the cephalic area.	5
		(not aa.)	8
5	a.	Carapace, legs, and abdomen black or purple-brown, variegated with pure white. Mandibles metallic green, with white basal hairs above.	6
		(not a.)	7

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1901.

PHIDIPPUS.

281

6	1.	Apical spine of palpal bulb broader and bifid at its apex. Tibial spur strongly curved forwards and downwards.	<i>albulatus</i> , sp. n.
	2.	Apical spine of palpal bulb narrower, shorter, and aculeate at its apex. Tibial spur straight (see Peckham's figure). Legs i. and ii. with black hairs, except patella and protarsus, which are clothed with white hairs.	<i>mexicanus</i> , Peckh.

7	b.	Carapace, legs, and abdomen entirely brown, the latter with some indistinct groups of a few white hairs dorsally. Tarsus of palpus clothed with orange-yellow scales and yellow hairs above. Mandibles brown. Apical spine of palpal bulb broad and strongly curved, falciform at its apex.	<i>brunneus</i> , sp. n.
8	bb.	Carapace black, with a transverse sinuous white band behind the cephalic area. Legs rufous, barred with black; femur, tibia, and apex of protarsus i. clothed with long black hairs, the patella with a long brush of snow-white hairs. Mandibles blue, iridescent.	<i>howardi</i> , Peckh.
9	II.	Mandibles with two teeth only, one above and one below. Legs i. and ii. clothed with long black hairs. Mandibles green, with violet reflections. Spine at apex of the palpal bulb very short, sinuous, with a broad rounded basal portion.	<i>bidentatus</i> , sp. n.
<i>Females.</i>			
1	A.	Abdomen not unicolorous, but with an anterior marginal band, a central triangular spot, an obliquely curved line, and a smaller spot on each side towards the spinners.	2
	(not A.)		9
2	I.	Legs i. and ii. clothed with black or brown hairs, in addition to the grey pubescence.	3
	(not I.)		6
3	aa.	Carapace almost entirely black or purple-brown, clothed with grey pubescence.	
	(not aa.)		5
4	a.	Vulva notched in the middle of the posterior margin, with the anterior bilobate cavity narrow and more remote from the posterior margin. Palpi clothed with long black hairs. (Mandibles metallic green, their base and the clypeus fringed with white hairs. Abdomen dull red, clothed with grey hairs, having a central dorsal posterior black band, an anterior white marginal band, and a central white dorsal spot.)	<i>carneus</i> , Peckh.
	b.	Vulva also notched in the middle of the posterior margin, but with a deep concavity nearer to the posterior margin, having a short, narrow, central, anterior, longitudinal carina. Palpi clothed with long silver-grey hairs (Mandibles metallic green, their base and the clypeus fringed with grey hairs. Abdomen deep purple-brown, with an anterior marginal band of silvery-grey hairs followed by two indistinct lateral pale spots; and also with a central dorsal triangular spot, followed on each side by a transverse spot and a smaller	

4	b.	spot nearer the spinners, and a posterior central dorsal longitudinal lanceolate band of metallic silver-grey scales.)	<i>foveolatus</i> , sp. n.
5	bb.	Carapace orange-red, clothed with dull golden-grey pubescence. (Mandibles orange-red-brown, their base and the clypeus clothed with scattered grey hairs. Abdomen ochreous-yellow, clothed with dull golden-grey pubescence, with a central pale spot, and a pair of parallel, longitudinal, black bands in the apical half.)	<i>aureopilosus</i> , sp. n.
6	II.	Legs i. and ii. clothed and fringed with long bright sulphur-yellow or grey hairs.	7
7	aa.	Legs i. and ii. clothed with bright sulphur-yellow hairs. Carapace and abdomen marked with sulphur-yellow, or white, longitudinal bands.	8

7	bb	Legs i. and ii. clothed with silky grey hairs. Carapace black, with grey pubescence on the sides. Abdomen dull magenta-red, with white markings; not marked with longitudinal yellow or white bands. (Mandibles brown-black, only slightly metallic. Abdomen clothed entirely, dorsally, with dull crimson-lake scales, except in the centre of the apical half; with an anterior marginal white band, an oblique median lateral white line, a central triangular spot, and an obliquely curved line followed by a small white spot towards the spinners; sides speckled with white, and with fine pencils of white hairs; ventral area clothed entirely with white pubescence.)	<i>cruentus</i> , sp. n.
8	a.	Carapace marked with yellow bands; clypeus clothed with yellow hairs. (Mandibles metallic green and blue, with a basal fringe of yellow hairs. Abdomen black, with a pale anterior marginal band, and a band of sulphur-yellow hairs on each side, united in front, with a central triangular yellow spot, followed nearer the spinners by a pair of smaller yellow spots.)	<i>tuberculatus</i> .
	b.	Carapace marked with white bands; clypeus clothed with white hairs.	<i>arizonensis</i> .
9	B.	Abdomen unicolorous brown, thinly clothed with scattered white hairs. (Mandibles brown, not metallic, or only very slightly so; tibia and tarsus of palpus fringed with long yellow hairs.)	<i>georgii</i> , Peckh. <i>brunneus</i> .

Note.—There are evidently also good distinctive characters (among others) to be drawn from the comparative length of the legs, the width of the posterior row of eyes, and the comparative length of *protarsus iv.*; but the measuring of the legs and the tabulation of other characters must be left to whomsoever has leisure to undertake a monograph of the genus.

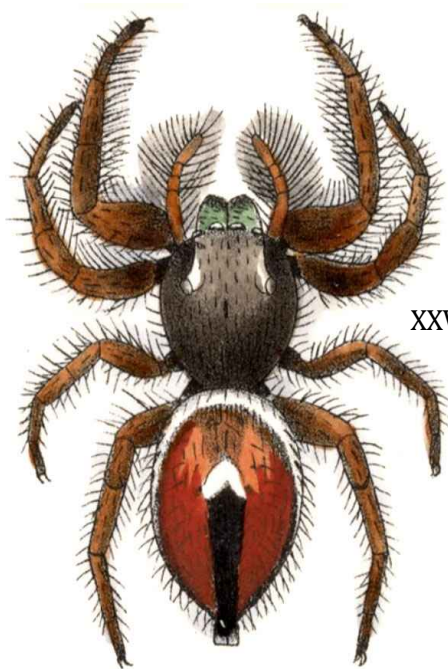
P. fulgidus, C. L. Koch, and *P. montivagus*, Peckh., are unknown to me, and they cannot be included in the Table. The characters of the male of *P. mexicanus*, Peckh., are taken from his figure.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

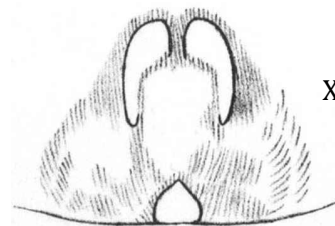
PHIDIPPUS.

283

1. *Phidippus carneus*. (Tab. XXVI. figg. 9, 9a, ♀.)



XXVI.9



XXVI.9a

9, 9a ♀ PHIDIPPUS CARNEUS.

Plate XXVI. Fig. 9. *Phidippus carneus*, ♀ (14.0 mm): 9a, vulva. (After Peckham.)

Phidippus carneus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 33, t. 2. figg. 5, 5a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 14.5 millim.

Hab. Central America¹.

This species has been included in our Table on the characters given by Peckham¹. Three very large immature females, about 14 millim. in length, taken by Mr. Rogers in Costa Rica, probably belong to it, but not being adult one cannot be absolutely sure. Our figures are taken from Peckham's work.

2. *Phidippus foveolatus*, sp. n. (Tab. XXVI. figg. 10, 10a, b, ♀.)

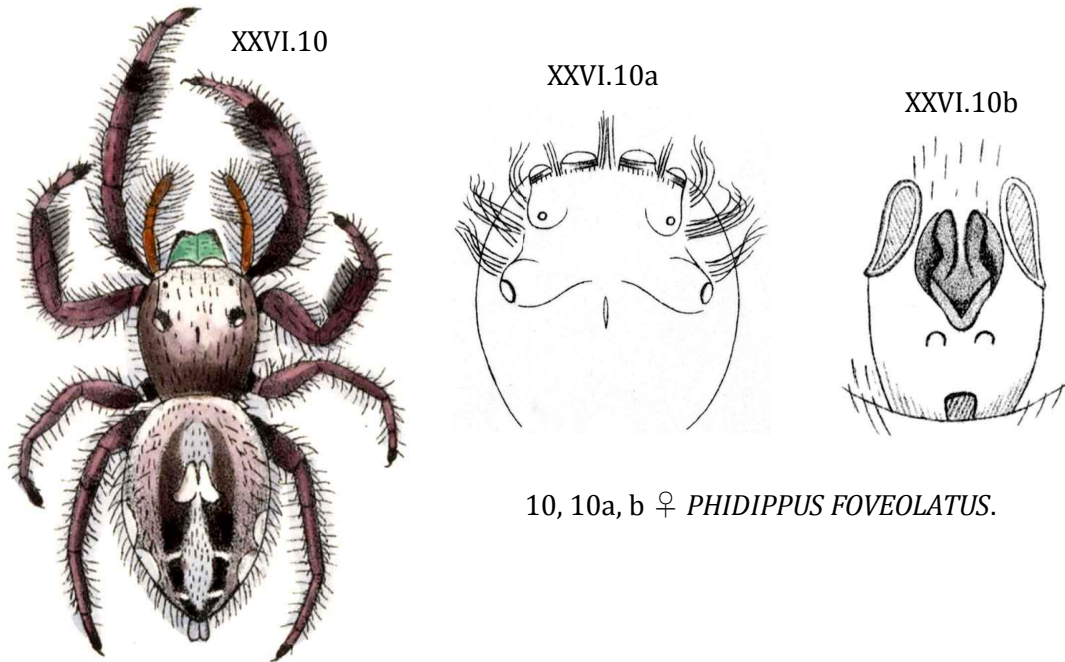


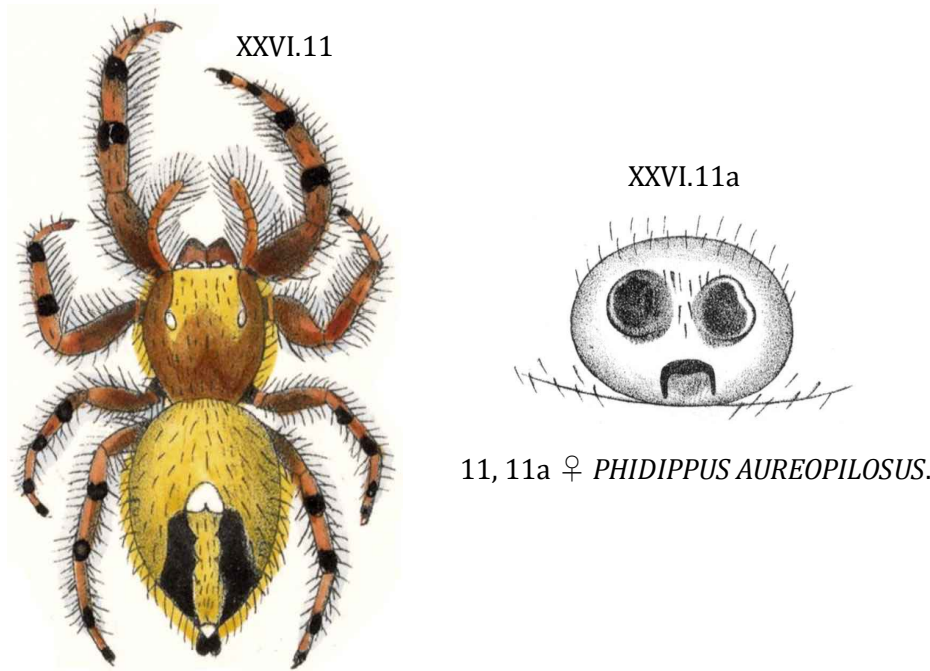
Plate XXVI. Fig. 10. *Phidippus foveolatus*, ♀ (13.5 mm): 10a, eyes from above; 10b, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 14 millim.

Carapace purple-brown, clothed in front and on the sides with grey hairs and scales (the cephalic area has been denuded of hairs). Abdomen deep purple-brown above, surrounded on the sides by silvery-grey hairs, forming a more distinct marginal band in front, followed by two indistinct pale spots towards the spinners; the central anterior dorsal area bears a patch of silvery-grey scales, followed by the normal median triangular white spot, then by a central elongate lanceolate band of silvery-grey metallic scales reaching to the spinners, flanked on each side by a larger and a smaller, slightly transverse, white spot; the ventral area has a broad brown band denuded of pale scales, but with two fine lines of pale hairs extending longitudinally from the genital rima to the middle only. Palpi pale red-brown, clothed with pale hairs, the two apical segments fringed with much longer hairs. Legs and sternum purple-brown, clothed throughout with grey scales and hairs, intermingled with longer black hairs, tibiae i. and ii. being clothed densely with black hairs beneath. Mandibles bright metallic green, with basal grey hairs. Vulva notched behind, consisting of a deep cavity having a short, narrow, central, anterior carina.

Hab. Mexico, Teapa (*H. H. Smith*).

3. *Phidippus aureopilosus*, sp. n. (Tab. XXVI. figg. 11, 11a, ♀.)



11, 11a ♀ *PHIDIPPUS AUREOPILOSUS*.

Plate XXVI. Fig. 11. *Phidippus aureopilosus*, ♀ (9.8 mm): 11a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 10 millim.

Carapace red-brown, clothed with golden-grey pubescence and long brown hairs, without any white bands. Abdomen ochreous-yellow, clothed with golden pubescence, with a pair of black bands on the apical half; sides and ventral area brown. Legs red-brown, the apex of all the segments annulated with black; palpi, legs, clypeus, and base of the mandibles clothed with scattered grey hairs. Posterior row of eyes much wider than the anterior; small eyes one-third only from the lateral anteriors; anterior row of eyes almost straight (very slightly recurved) by their posterior margins. Vulva consisting of a transverse circular-oval area, deeply and squarely notched in the middle of the posterior margin, with anteriorly a pair of deep closely adjacent concavities.

Hab. Panama, Bugaba (*Champion*).

4. *Phidippus tuberculatus*, sp. n. (Tab. XXVII. figg. 1, 1a—d, ♂; 2, 2a, b ♀.)

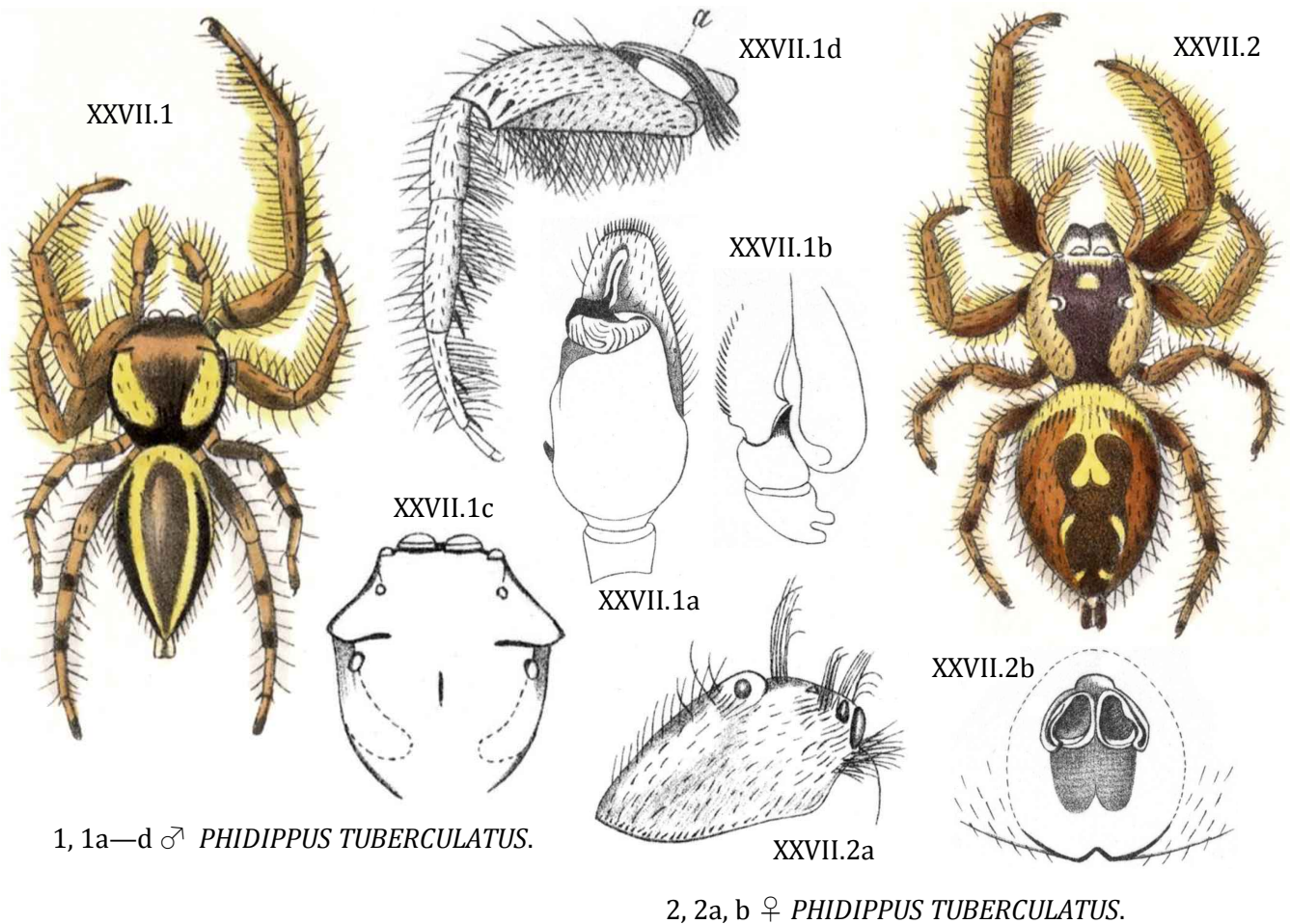


Plate XXVII. Fig. 1. *Phidippus tuberculatus*, ♂ (9.3 mm): 1a, palpus from beneath; 1b, ditto from the outer side; 1c, carapace from above; 1d, leg i. from in front. Fig. 2. *Phidippus tuberculatus*, ♀ (10.1 mm): 2a, carapace, lateral view; 2b, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 9, ♀ 10 millim.

♂. Carapace with stout conical tubercles at the sides of the cephalic region, and a pencil of long black hairs above, in front of the posterior lateral eyes; black or dark red-brown, clothed with brownish-yellow hairs and scales round the central anterior eyes, and black scales and short hairs behind, having a patch of white hairs just below and in front of the tubercle, and a short broad sulphur-yellow band extending posteriorly from behind the tubercle; the margins fringed with white hairs. Abdomen black, with a double

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

2 0 ≠ 2

band of sulphur-yellow hairs, the bands coalescent in front, narrowing behind, and almost united in the centre by the normal triangular patch, which is, in this case, yellow, extending almost to the spinners; there is also a paler whitish anterior marginal band extending scarcely one-third along the sides, coalescing with the yellow band in front; sides deep olive-brown, becoming streaked with white hairs below, longitudinally; ventral area black, with six or seven tufts of white hair extending transversely inwards; the anterior portion of the white lateral streaks bears some bright metallic-orange scales. Mandibles blue and green, metallic, with yellow hairs at the base above. Palpi red-brown; patella, tibia, and tarsus clothed with bright yellow scales above. Leg i. pale red-brown, clothed (except the femur) with yellow scales and fine black hairs above, and with very long yellow hairs beneath, especially on the tibia; femur i. clothed with bright yellow

hairs beneath, with a spot of white scales at the apex above, some yellow, brown, and white scales dorsally, and a long pencil of black hairs springing from the base of the dorsal ridge and curving over from behind forwards. Leg ii. as in i., but without the femoral black pencil. Legs iii. and iv. pale red-brown, with whitish scales and fine black hairs above. Sternum, coxae, and underside of legs iii. and iv. with shaggy white hairs.

♀. Carapace white in front, dull yellow at the sides, purple-brown above, with three transverse indistinct bands of dull yellow scales in the cephalic quadrangle. Abdomen similar to that of the male, but with the two central yellow lines which unite to form a triangular spot more conspicuous, but not meeting behind, with a pair of very small yellow spots between it and the spinners; sides and lower surface entirely clothed with dull white pubescence. Legs pale red-brown, i. and ii. clothed with yellow, iii. and iv. with yellow-white hairs. Mandibles metallic green, clothed with yellow hairs at the base. Palpi fringed with long yellow hairs.

Carapace of male tuberculate. Posterior eyes in both sexes set on strong tubercles; cephalic quadrangle much wider behind; central posterior eyes two-thirds of a diameter remote from the lateral posteriors.

Palpus of the male with the bulb bilobate, as usual; apical spine broad at the base transversely on the outer side, sinuous and very fine; tibial spur short, slightly curving downward. Mandibles normal, with one lower and two upper teeth.

Vulva of the female with a Λ -shaped notch behind and two reniform adjacent convergent cavities in front, remote from the posterior margin.

Hab. Mexico, Chilpancingo (*H. H. Smith*).

5. *Phidippus arizonensis*. (Tab. XXVII. fig. 3, ♂.)

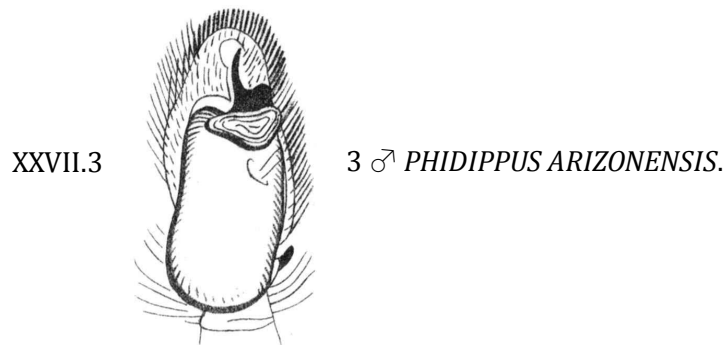


Plate XXVII. Fig. 3. *Phidippus arizonensis*, ♂, palpus from beneath. (After Emerton.)

Attus arizonensis, Peckh. Descr. of new or little-known Attidae of U. S. p. 13 (1883)¹.

Phidippus arizonensis, Peckh. Trans. Wisc. Acad. Sci. vii. p. 18, t. 1. fig. 10, t. 2. fig. 10 (♂) (1888)²; Banks, Proc. Calif. Acad. Sci. (3) i. p. 279 (♀)³.

Type, ♂, in coll. Peckham. Total length 11 millim.

Hab. North America, Arizona², Texas², Upper² and Lower³ California.—Mexico, Tepic³, Agua Caliente³.

This species would appear to be closely allied to *P. tuberculatus*; but Peckham makes no mention of any cephalic tubercles, merely remarking "cephalic part with sides very widely rounded," nor does he mention any pencil of hairs on femur i. The figure of the palpus is taken from his work.

6. *Phidippus cruentus*, sp. n. (Tab. XXVII. figg. 4, 4a, ♀)

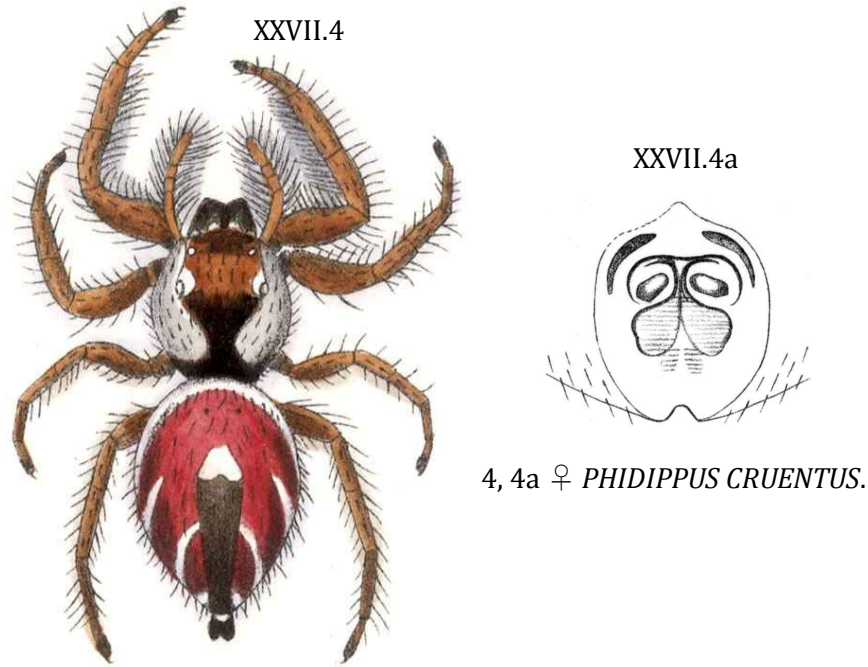


Plate XXVII. Fig. 4. *Phidippus cruentus*, ♀ (12.5 mm): 4a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 13 millim.

Hab. Mexico, Jalisco (*Höge*).

For a description of this species and its characteristic features, see the synoptical Table. The general dull crimson tint of the abdomen should enable it to be recognized.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., November 1901.

PHIDIPPUS.

285

7. *Phidippus georgii*. (Tab. XXVII. fig. 5, ♀.)

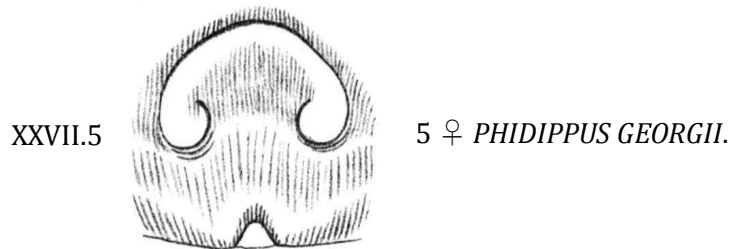


Plate XXVII. Fig. 5. *Phidippus georgii*, ♀, vulva. (After Emerton.)

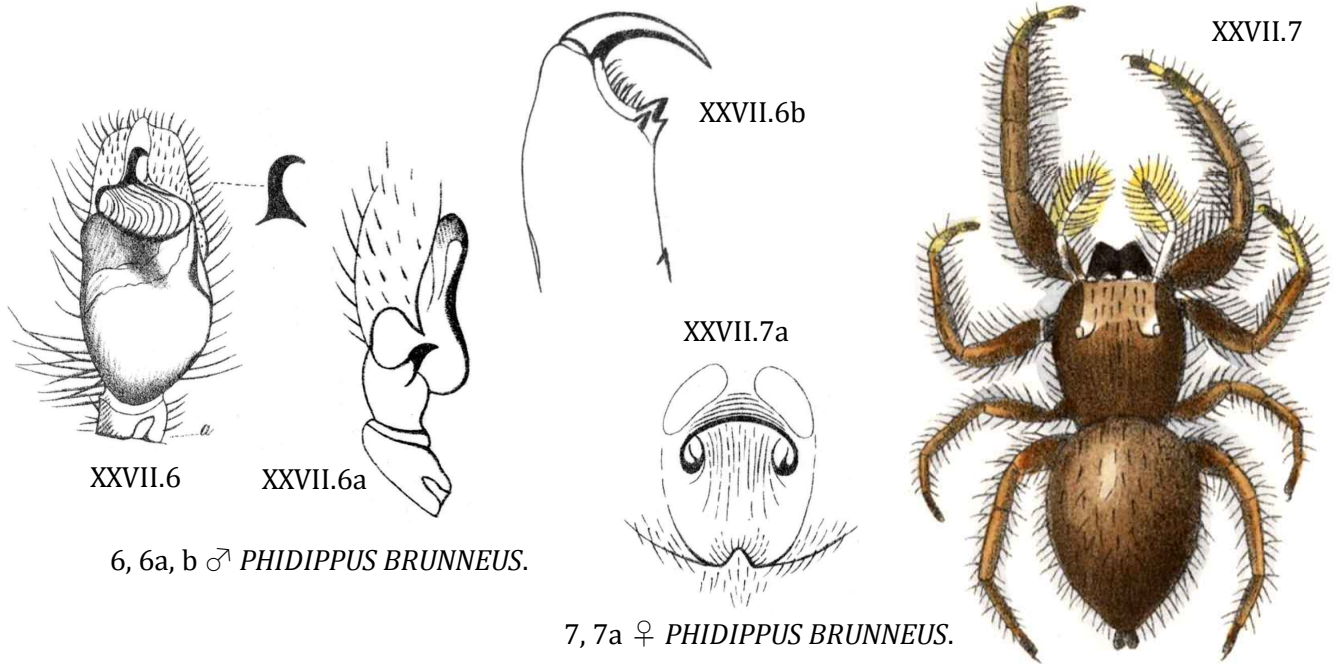
Phidippus georgii, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 34, t. 2. figg. 6, 6a (♀) (April 1896)¹; Banks, Proc. Calif. Acad. Sci. (3) i. p. 280, t. 17. fig. 23 (♀)².

Type, ♀, in coll. Peckham. Total length 17 millim.

Hab. Mexico, Tepic^{1 2}.

This species probably comes very close to *P. brunneus*, if it is not identical with it. The figure of the vulva is taken from Peckham's work.

8. *Phidippus brunneus*, sp. n. (Tab. XXVII. figg. 6, 6a, b, ♂; 7, 7a, ♀.)



6, 6a, b ♂ *PHIDIPPUS BRUNNEUS*.

7, 7a ♀ *PHIDIPPUS BRUNNEUS*.

Plate XXVII. Fig. 6. *Phidippus brunneus*, ♂, palpus from beneath; 6a, ditto from the outer side; 6b, mandible from beneath. Fig. 7. *Phidippus brunneus*, ♀ (11.9 mm): 7a, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 7.5, ♀ 12 millim.

♂. Carapace, abdomen, and legs entirely clothed with rich brown pubescence and with fine scattered black hairs, the abdomen sometimes bearing a row of indistinct pencils of white hairs, grouped together, on the dorsal area. Protarsi, except the apex, and tarsi pale red-brown or yellow; palpi pale, with dark hairs, the tarsus clothed above with bright yellow hairs. In less mature forms the entire legs, except the femora, are paler. Mandibles brown.

♀. Similar in colour to the male, but with the body and legs more or less clothed with pale hairs, giving it a dusty appearance, while the cephalic region and the dorsal area of the abdomen are set with isolated pencils of long pure white hairs. Clypeus fringed with dull ochre hairs; tibia and tarsus of palpus fringed with long yellow hairs. Mandibles brown-black. Ventral area unicolorous brown. The groups of white hairs on the abdomen are arranged in two rows on each side of the central posterior dorsal area, not conspicuous, but quite distinct in a dried example.

♂. Cephalic quadrangle much wider behind; central posterior eyes two-thirds more remote from the lateral posteriors than from the lateral anteriors. Mandibles normal. Palpus: bulb bilobate, the apical lobe terminating in a broad strongly curved black spine; tibial spur short, stout, and curving slightly downward.

♀. Eyes similar to those of the male. Vulva consisting of a small, but deep, semilunar, transverse, recurving cavity; the posterior margin notched.

Hab. Mexico, Chilpancingo (*H. H. Smith*).

9. *Phidippus howardi*. (Tab. XXVII. fig. 8, ♂.)

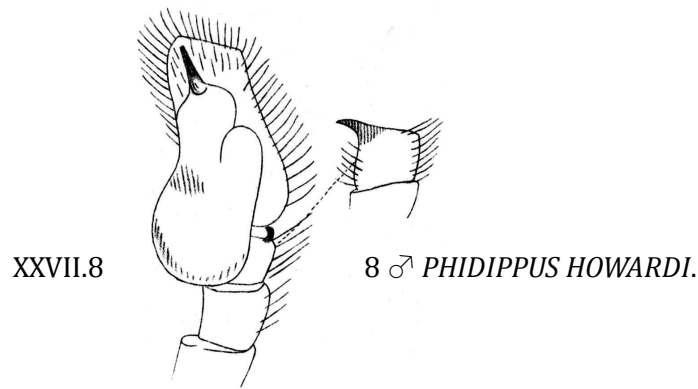


Plate XXVII. Fig. 8. *Phidippus howardi*, ♂, palpus. (After Emerton.)

Phidippus howardii, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 34, t. 2. figg. 7, 7a, b (♂) (April 1896)¹.

Type, ♂, in coll. Peckham. Total length 9 millim.

Hab. Mexico¹.

The transverse white band behind the cephalic area distinguishes this species from any others recorded from Central America. The mandibles are blue, iridescent, with green reflections. Legs rufous, barred with black. Abdomen with the central whitespot usual in this group of the genus. (Sec. Peckham's description. Our figure of the palpus is taken from his work.)

10. *Phidippus albulatus*, sp. n. (Tab. XXVII. figg. 9, 9a—f, ♂.)

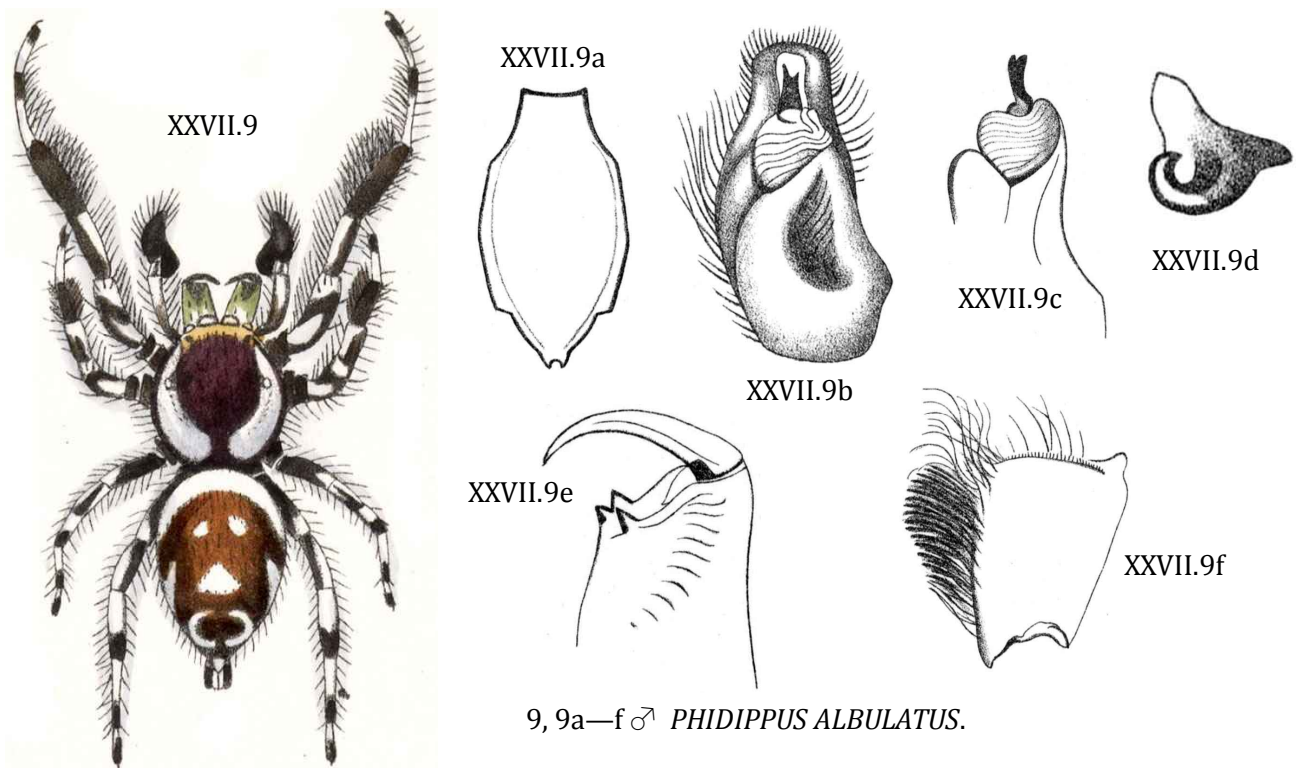


Plate XXVII. Fig. 9. *Phidippus albulatus*, ♂ (12.0 mm): 9a, sternum; 9b, palpus from beneath; 9c, apex of bulb enlarged; 9d, tibial spur of palpus; 9e, mandible from beneath; 9f, maxilla from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 12 millim. (variable).

♂. Carapace deep purple-black, with a marginal line of white scales extending from in front of the anterior

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

286

ARANEIDEA.

lateral eyes almost to the posterior angles, broader in front, narrowing as it touches the margin; the clypeus, though fringed with white and ochre hairs, is free from white scales; a very broad band of white scales extends from behind the anterior lateral eyes, curving round over three-fourths of the carapace, convergent but not meeting at the centre. Central anterior eyes surrounded with ochre hairs. Three spots of white hairs occupy the central ocular area between the central and lateral posterior eyes. Abdomen black or deep red-brown, clothed with scattered silvery or golden scales, having a broad anterior pure white marginal band, followed by an oblique white spot and a semicircular spot, on each side; viewed from above, the two semicircular spots form the boundaries of a parenthesis; the dorsal area has a large triangular central white spot, with a pair of smaller ones halfway between it and the anterior margin; ventral area entirely brown. Mandibles metallic green, clothed at their base above with pure white hairs, which become tawny at the sides. Femur of palpus entirely white above; patella margined with white scales; tibia and base of tarsus margined on the inner side with white scales, the tarsus otherwise black. Femur i. with a broad, white, oblique band at the base on the inner side; inner and upper apex clothed with white scales; patella i. margined with white; tibia i. almost entirely black; protarsus and tarsus i. with white hairs at their base. Legs ii., iii., and iv. similar, but ii. with the femoral spot smaller and the protarsus whiter, and iii. and iv. with the basal half of the tibia white. Underside of legs and sternum brown; tibia i. with dense black and some white hairs beneath. Palpus: bulb of the usual bilobate form; spine stout and bifid at its apex; tibial spur very strongly curved. Mandibles normal, with a pair of adjacent teeth on the upperside and a single rather larger tooth on the lower side opposite.

♀. The female examples received are not adult.

Hab. Mexico, Atoyac in Vera Cruz (*H. H. Smith*).

11. *Phidippus mexicanus*. (Tab. XXVII. fig. 10, ♂.)

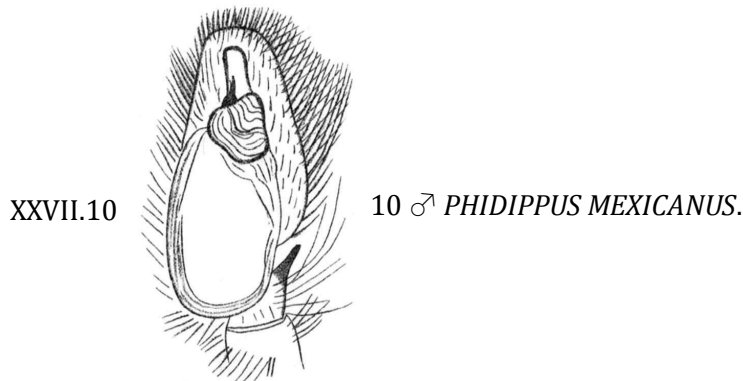


Plate XXVII. Fig. 10. *Phidippus mexicanus*, ♂, palpus from beneath.

Phidippus mexicanus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 23, t. 2. figg. 7 (♂), 18 (♀) (1888)¹; Banks, Proc. Calif. Acad. Sci. (3) i. p. 280 (♀)².

Hab. North America, Lower California, El Taste².—Mexico¹, Tepic².

This species is apparently very closely allied to *P. albulatus*, but the apical spine of the palpus is aculeate (not bifid), according to our figure, taken from Peckham's work.

12. *Phidippus bidentatus*, sp. n. (Tab. XXVII. figg. 11, 11a—d, ♂.)

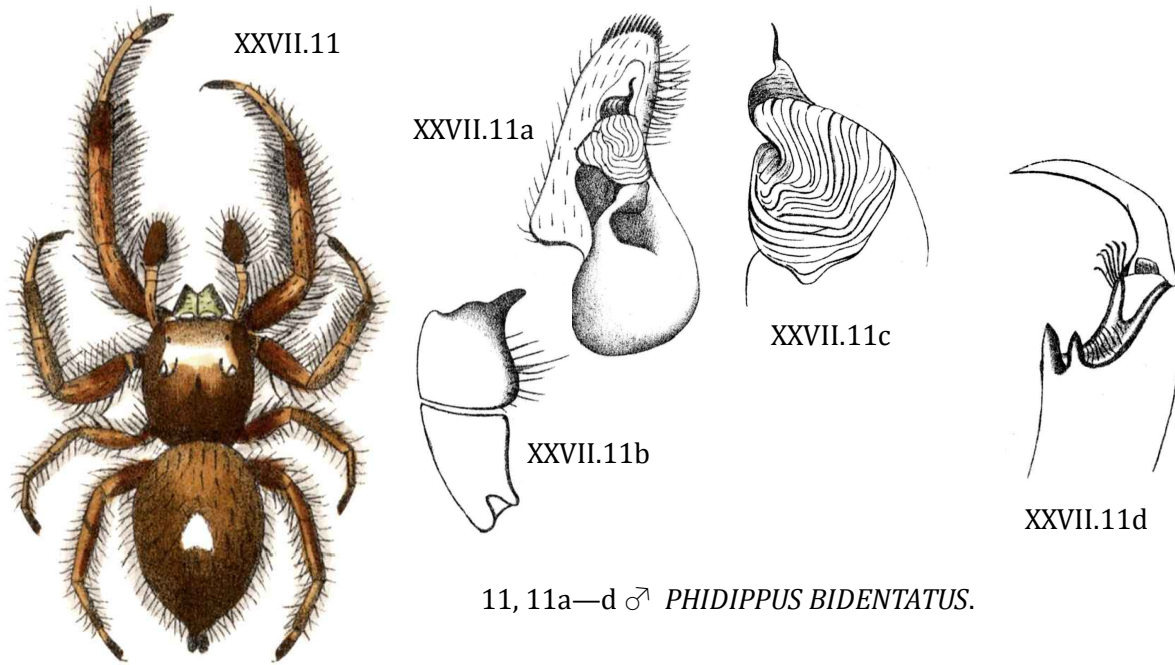


Plate XXVII. Fig. 11. *Phidippus bidentatus*, ♂ (10.2 mm): 11a, palpus from beneath; 11b, patella and tibia of palpus from the outer side; 11c, apex of bulb enlarged; 11d, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 10 millim.

(Carapace and abdomen accidentally devoid of hair and scales.) Legs red-brown, clothed with black hairs, especially beneath the femora and tibiae of i. and ii. Mandibles bright metallic green, with blue reflections, having a single large upper tooth (the third is almost obsolete) and a single smaller lower tooth. Palpus: bulb bilobate, much enlarged posteriorly, the apical lobe enlarged, terminating in a very fine slightly sinuous spine; tibial spur short, broad at the base and slightly curving downward. Cephalic quadrangle much wider behind; central posterior eyes two-thirds of a diameter remote from the lateral posteriors.

Hab. Mexico, Chiapas (*Höge*).

13. *Phidippus fulgidus*.

Phidippus fulgidus, C. L. Koch, Die Arachn. xiii. p. 153, fig. 1209 (♀)¹.

Hab. Mexico¹.

This and the following species are unknown to me.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., November 1901.

PHIDIPPUS.—PARNAENUS.

287

14. *Phidippus montivagus*.

Phidippus montivagus, Peckh. Trans. Wisc. Acad. Sci. xiii. p. 293, t. 24. figg. 3, 3a (♀)¹.

Type, ♀, in coll. Peckham. Total length 11 millim.

Hab. Mexico, Chihuahua (*Townsend*¹).

PARNAENUS.

Parnaenus, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 37 (April 1896).

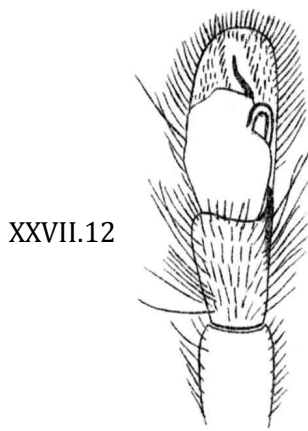
Type *Phidippus cyanidens*, C. L. Koch. South America.

The spiders here included under this genus differ from *Phidippus*, *Paraphidippus*, and *Metaphidippus* in the details connected with the position of the eyes and the form of the carapace: the posterior eyes are wide apart, situated almost on the margin of the carapace, and are seated on a distinct tubercle; while the carapace is inflated laterally in front of the posterior eyes, and slopes abruptly behind. The maxillae are rounded on the outer side at the apex. Whether these characters will prove of any value when more material comes to hand, one cannot say, but it is very doubtful.

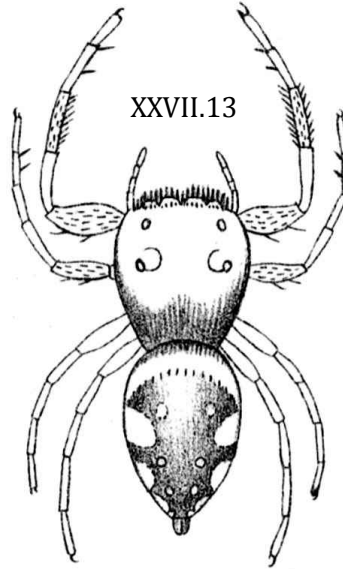
The males of the two species known to me, which have the same characteristics as those ascribed by Peckham to *P. cyanidens*, may be distinguished from one another, as well as from *P. cyanidens*, as follows:—

<i>Males.</i>		
1	I.	Apex of mandible blue, metallic; base not clothed with white hairs. <i>cyanidens</i> , Peckh.
	II.	Apex of mandible red-brown; base densely clothed with white hairs and pubescence. 2
2	A.	Mandible very long; teeth widely separate, the larger lower one about halfway between the base of the fang and the two upper smaller teeth, which are situated close together, the anterior being the largest. The upper apical angle of the basal segment bears a stout conspicuous cusp. Patella and tibia of palpus three times longer than broad, the latter with a long slender spur bent down and curling round the base of the bulb; apical spine of the bulb long, slender, sinuous. Lateral white band of the carapace attenuated and terminating beneath the small eyes, not continued round the clypeus <i>cuspidatus</i> , sp. n.
	B.	Mandible short; teeth close together, the lower tooth slightly larger and situated opposite the two small upper teeth, about one-third from the base of the fang. Upper apical angle of the basal segment without any cusp. Patella and tibia of palpus scarcely longer than broad, the spur on the latter slender and straight, not curved round the base of the bulb; apical spine of the bulb dilate at the base, filiform at the apex, straight, short. Lateral white band on the carapace extending entirely round over the clypeus. <i>fimbriatus</i> , sp. n.

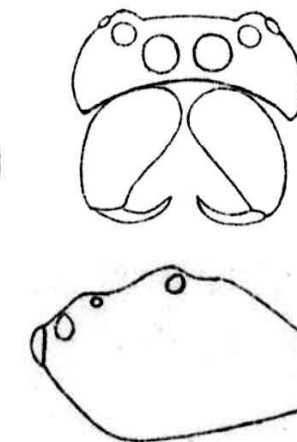
BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

1. *Parnaenus cyanidens*. (Tab. XXVII. figg. 12, ♂; 13, 13a, b, ♀.)

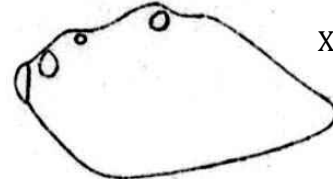
XXVII.12

12 ♂ *PARNAENUS CYANIDENS*.

XXVII.13



XXVII.13a



XXVII.13b

13, 13a, b ♀ *PARNAENUS CYANIDENS*.

Plate XXVII. Fig. 12. *Parnaenus cyanidens*, ♂, palpus from beneath. Fig. 13. *Parnaenus cyanidens*, ♀ (11.8 mm): 13a, eyes from in front; 13b, carapace, lateral view. (After Emerton.)

Phidippus cyanidens, C. L. Koch, Die Arachn. xiii. p. 156, fig. 1211¹.

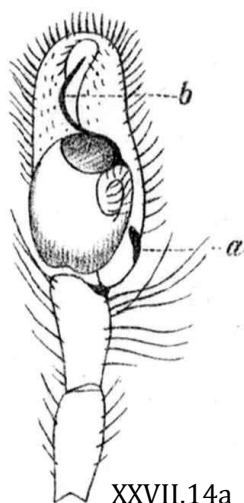
Parnaenus cyanidens, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 38, t. 3. figg. 2, 2a, b (♀), fig. 9c (♂) (April 1896)². *Trans. Wisc. Acad. Sci.* xiii. p. 301³. *

Hab. Guatemala¹. North America, Texas³.—Mexico³.—Brazil^{2 3}. *

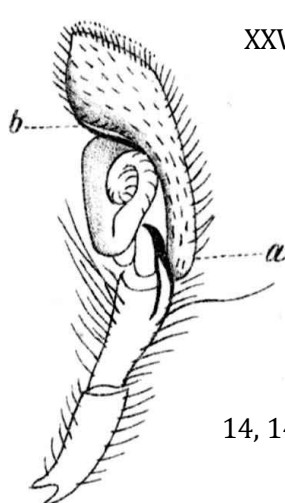
Our figures are copied from Peckham's work, and the characters given in the Table taken from his description.

2. *Parnaenus cuspidatus*, sp. n. (Tab. XXVII. figg. 14, 14a—d, ♂.)

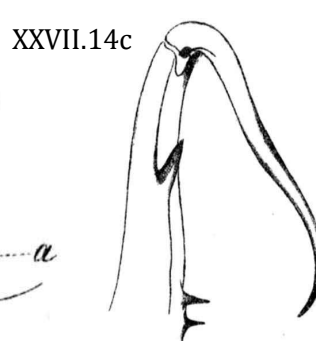
XXVII.14



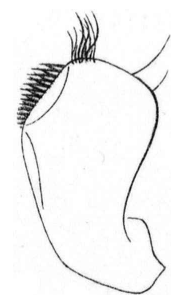
XXVII.14a



XXVII.14b



XXVII.14c



XXVII.14d

14, 14a—d ♂ *PARNAENUS CUSPIDATUS*.

Plate XXVII. Fig. 14. *Parnaenus cuspidatus*, ♂, dorsal view, legs removed (8.8 mm); 14a, palpus from beneath; 14b, ditto from the outer side; 14c, mandible from beneath; 14d, maxilla from above.

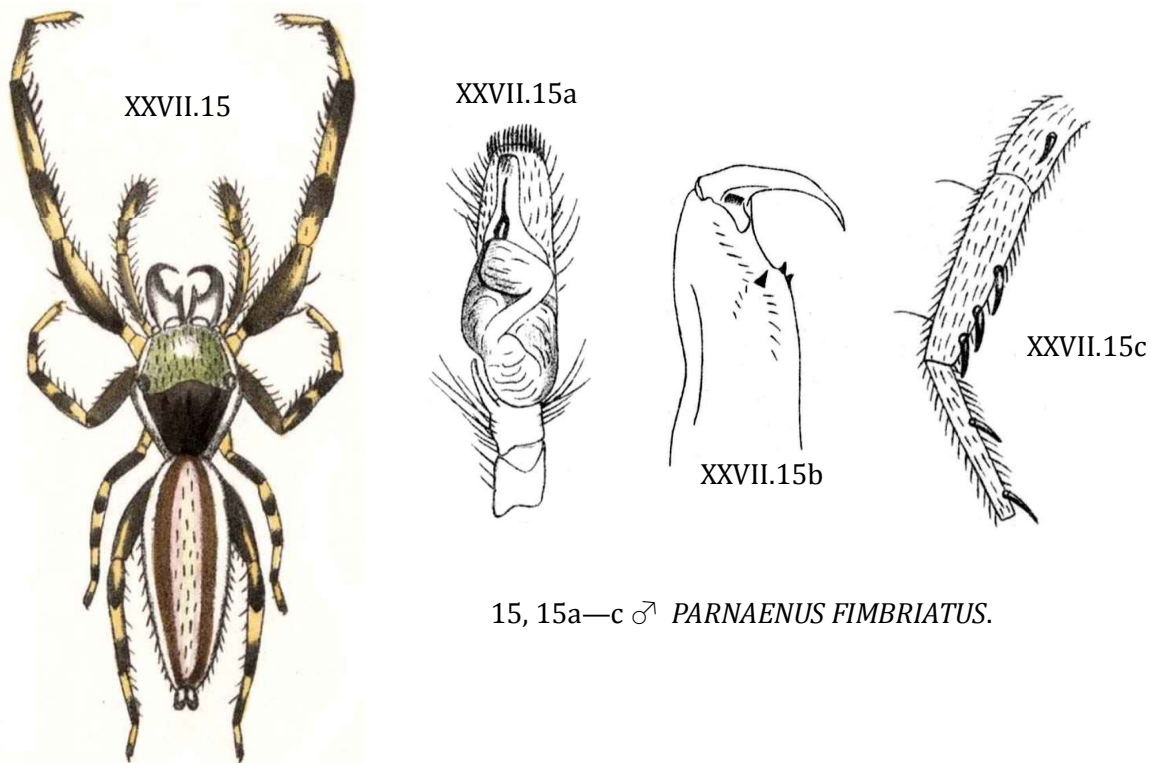
Type, ♂, in coll. Godman & Salvin. Total length 9 millim.

Dried example. Carapace deep brown, the cephalic area clothed with greenish scales and with a spot of pure white scales between the posterior lateral eyes; a broad lateral band of white scales, attenuated in front, runs from behind the lateral anterior eyes to the posterior margin. The clypeus, the base of the mandibles, and the anterior half of the marginal rim of the carapace clothed with pure white scales; the lower side of the marginal rim and the femur and patella of the palpus with white scales. Abdomen dull brown, clothed with golden-greenish scales, with a broad marginal band of white scales, meeting in front and extending almost to the spinners; sides with scattered white hairs and scales; ventral area brown, devoid of scales. Legs red-brown, annulated with bands of white scales; femora, and the bases of all the other segments also, including the tarsi, thinly clothed with white scales. Sternum, coxae, maxillae, and labium brown.

Cephalic quadrangle distinctly wider behind; the posterior lateral eyes set on conspicuous tubercles; the posterior centrals distinctly further from the posterior laterals than from the anterior laterals. Mandibles much developed, the basal segments strongly divergent, as long as the carapace, with a large, stout, straight tooth towards the insertion of the fang, and a second rather smaller tooth, and a third still smaller, very close together at the inner basal angle; the inner angle at the apex has a short stout cusp; fang very long, sinuous in the middle, and slightly curved from the base to the apex. Maxillae long, dilated at the apex, but not produced at the outer apical angle. Palpus bilobate, with a long, slender, sinuous spine springing from its outer side at the apex; tibial spur long, slender, and strongly curving downward.

Hab. Guatemala (*Sarg.*).

3. *Parnaenus fimbriatus*, sp. n. (Tab. XXVII. figg. 15, 15a—c, ♂.)



15, 15a—c ♂ *PARNAENUS FIMBRIATUS*.

Plate XXVII. Fig. 15. *Parnaenus fimbriatus*, ♂ (6.3 mm): 15a, palpus from beneath; 15b, mandible from beneath; 15c, leg i, tibia from the inner side.

Type, ♂, in coll. Godman & Salvin. Total length 6.5 millim.

Carapace brown or black, clothed with iridescent scales, with a central white cephalic spot and a very broad marginal band of white hairs, embracing the clypeus and the basal half of the mandibles. Abdomen brown, with iridescent scales and a broad marginal band of white hairs, broken in front and extending to the

spinners; lateral and ventral areas brown, separated by a pale line. Legs yellow-brown, the femora and the apex of the other segments annulated with black. Inner upper angle of the mandibles developed, bearing two small teeth, the lower angle having one small tooth (but very variable, see Plate). Palpal bulb elongate, developed behind, but not enlarged, anterior lobe bearing a straight, sharp, black spine, enlarged at the base, aculeate at the apex; tibial spur of the palpus about as long as the segment, slender, only very slightly curved.

Hab. Guatemala (*Sarg*).

* Reference and habitats added with 1905 corrections (x.).

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *November 1901.*

ZYGOBALLUS.

289

Group **HOMALATTEAE.**

The genera belonging to this group which are known to occur in Central America may be distinguished as follows:—

1	A.	Integument of abdomen not coriaceous on the dorsal area.	2
	B.	Integument of abdomen coriaceous over the entire, or part of the, dorsal area.	3
2	1.	Cephalic quadrangle of eyes wider behind (in the type-species, <i>Z. rufipes</i>).	<i>Zygoballus</i> , Peckh.
	2.	Cephalic quadrangle of eyes not wider behind (in the type-species, <i>B. magna</i>)	<i>Beata</i> , Peckh.
3	1.	Sternum not prolonged behind, between coxae iv.	<i>Homalattoides</i> , gen. nov.
	2.	Sternum produced and prolonged behind, between coxae iv.	<i>Coccorchestes</i> , Thor.

Note.—The characters given for the various genera of this group are usually based on differences in the position of the eyes and are far from satisfactory. A thorough revision of the whole group, as well as of the Phidippeae, is needed, but it cannot be undertaken unless the Salticidae of other districts are also studied.

ZYGOBALLUS.

Zygoballus, Peckham, Proc. Nat. Hist. Soc. Wisc. 1885, p. 81 (Dec.).

Type *Z. rufipes*, Peckham. Guatemala.

Carapace almost square, vertically depressed behind from the posterior row of eyes. Cephalic quadrangle of eyes broader than long, wider behind. Legs i. longest, all four pairs slender, the first, however, stouter than the others; tibia i. with 2—2—2 spines beneath, the first pair being subbasal; tibiae and protarsi iii. and iv. with a few spines.

This genus is very likely congeneric with *Rhanis*, C. L. Koch. The species known to me may be recognized from the following Table, the characters of the others (*Z. parvus*, Hentz, excepted) being added from Peckham's descriptions:—

<i>Males.</i>		
1	A. Mandibles much developed, directed obliquely forward, with a long sinuous fang, the basal segment bearing a long straight spur stretching forward above the fang, and another, more or less hammer-headed, opposite it below the fang.	2
	(not A.)	3
2	1. Basal segment of mandible with a longer or shorter (variable) curved cusp towards the apex above. Palpus and femur, trochanter, and coxa of leg i. red-brown. Legs ii., iii., and iv. yellow, with black slashes along the sides. Palpal bulb elongate-oval, without any visible spine at the apex (possibly not constant); tibial spur long, slender, and slightly sinuous. (Tibia i. six times as long as its diameter.)	<i>rufipes</i> , Peckh.
	2. Basal segment of mandible without cusp towards the apex above. Femur, protarsus, and apex of tibia of leg i. brown. Legs ii., iii., and iv. yellow, unicolorous. Palpal bulb broader oval, with a short slender sinuous black spine at the apex. (Drawn from Peckham's description and figures.)	<i>remotus</i> , Peckh.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., *November* 1901.

2 P‡

290

ARANEIDEA.

3	B. Mandibles not developed, stout, vertical, without either the long spur above or the apophysis below. Fang short.	4
4	1. Tibial spur very broad at its apex, viewed in profile. Tibia of palpus not longer than broad, patella broader than long, viewed from beneath. Spine at the apex of the bulb longer and much stouter. (Tibia i. incrassate, scarcely three times longer than its diameter.) Abdomen black, with three white spots on the dorsal margin on each side. Legs i. red-brown, protarsus and tarsus paler; ii., iii., iv. unicolorous yellow, femur iv. with an inner apical dusky brown spot. Carapace black, without marginal white band.	<i>tibialis</i> , sp. n.
	2. Tibial spur short, but sharp, its apex directed forward. Tibia of palpus twice longer than broad; spine at the apex of the bulb shorter and quite slender. Abdomen dark brown, with a white anterior marginal band and two faint white transverse dorsal bands, becoming obsolescent in the middle. Palpi and leg i. red-brown, protarsus and tarsus paler; legs ii., iii., and iv. reddish-brown above, yellowish beneath, the coxae and trochanters and the base of the femora iii. and iv. yellow. Carapace dark brown, with a white band round the lower margin and some other patches of white hairs. (These characters are all deduced from Peckham's description and figures.)	<i>minutus</i> , Peckh.
<i>Females.</i>		
1	A. Leg i. much less incrassate, tibia nearly four times longer than its diameter. (Vulva consisting of a pair of smaller oval orifices about three diameters apart, two diameters from the posterior margin, which is emarginate in the middle. Carapace and abdomen brown, the latter with a pair of parallel pale longitudinal lines on the anterior half, followed by a more or less dentated pale band, the dentations being usually continued as curving oblique slashes on the sides. Femur i. and all the other segments of legs i., ii., and iii. more or less slashed with a black line on the anterior side, and a narrow basal annulus. Femur and tibia iv. with a large black spot on the inner side at the apex.)	<i>rufipes</i> .
	B. Leg i. much more incrassate, tibia scarcely more than twice longer than its diameter.	2

2	1. Vulval area broader than long. (not 1.)	3
		4
3	a. Vulval area not much broader than long, transverse-oval; with a pair of much larger oval-triangular orifices, half a diameter apart, the same distance from the posterior margin, which is not emarginate, but has a low rounded prominence in the middle. (Characters taken from Emerton's drawing.)	<i>minutus.</i>
	b. Vulval area much broader than long, transverse-triangular, with a pair of much smaller orifices, three or four diameters apart, two or three from the posterior margin (variable), which is prominent in the middle, with a small central rounded cavity.	<i>tibialis.</i>

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

ZYGOBALLUS.

291

4	2. Vulval area longer than broad. (Vulva consisting of a pair of small orifices two and a half diameters apart and two diameters from the posterior margin, which is emarginate in the middle.)	<i>maculatus, sp. n.</i>
---	---	--------------------------

Note.—The coloration in the last three species is much the same. Legs i. brown, protarsus and tarsus paler; ii., iii., and iv. yellow, each segment tipped with black or brown at the apex; femur iv. with a larger spot of black at the apex on the inner, or upper, side. Abdomen brown or black, with spotted and streaked white pattern, which is very variable. In the only example we have of *Z. maculatus* the white pattern is almost obsolete, leaving three white marginal dorsal spots and four very indistinct central spots. If it were not for the difference in the position of the vulval orifices, I should not hesitate to regard both *Z. maculatus* and *Z. tibialis* as identical with *Z. minutus*, Peckh.

Z. parvus, Hentz, is unknown to me and cannot therefore be included in the Table.

1. *Zygoballus rufipes*. (Tab. XXVII. fig. 16, 16a—h, ♂, Tab. XXVIII. fig. 1, 1a, ♀.)

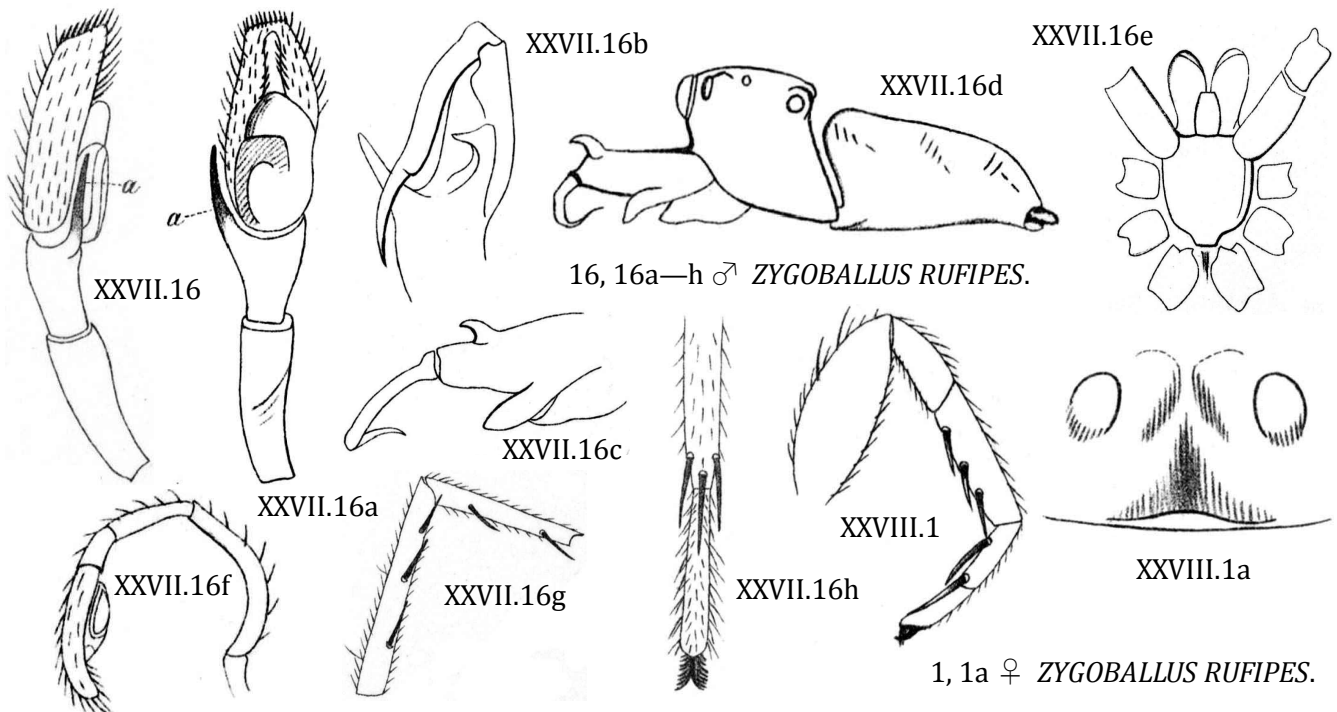


Plate XXVII. Fig. 16. *Zygoballus rufipes*, ♂, palpus from the outer side; 16a, ditto from beneath; 16b, mandible from beneath; 16c, ditto from outer side; 16d, spider, profile view; 16e, sternum; 16f, palpus from the inner side; 16g, leg i, tibia from the inner side; 16h, leg iv, protarsus from beneath. Plate XXVIII. Fig. 1. *Zygoballus rufipes*, ♀, leg i. from the outer side; 1a, vulva.

Zygoballus rufipes, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 82, t. 2. figg. 12, 12a, b (♂) ¹.

Rhane munda, O. P.-Cambr.Biol.Centr.-Amer., Arachn. Aran. i. p. 162, t. 19. figg. 17, 17a, b (♀) (March 1896) ².

Zygoballus strenuus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 92, t. 7. figg. 4, 4a (♀) (April 1896) ³.

Type, ♂, of *Z. rufipes*, of, ♀, *Z. strenuus*, in coll. Peckham; of ♂ of *R. munda*, and gynetype, ♀, in coll. Godman & Salvin. Total length, ♂ 4, ♀ 5 millim.

Hab. Mexico, Teapa (*H. H. Smith*²); Guatemala (*Sarg*), Eastern district ^{1 3}.

The non-incrassation of tibia i. in both sexes and other characters given in the Table will serve to distinguish this species from other Central-American forms known to me. I have not seen Peckham's type of *Z. strenuus*, but there can be little doubt as to its identity with the female of *R. munda*. The present species much resembles *Z. suavis*, Peckh., from Jamaica, especially in the armature of the mandibles (sec. Peckham's figure); but the tibial spur is much longer and the legs ii., iii., and iv. (instead of being brown) are yellow, with black slashes along the sides. *R. munda* is also identical with *Z. rufipes*, Peckh. (*cf.* the figures of the male).

2. *Zygoballus remotus*. (Tab. XXVIII. fig. 2, ♂.)

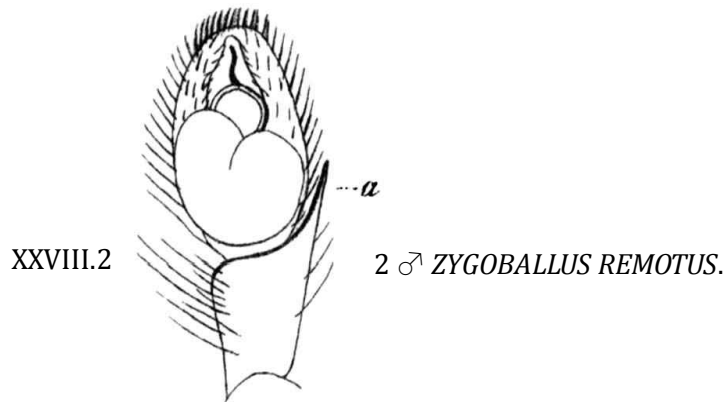


Plate XXVIII. Fig. 2. *Zygoballus remotus*, ♂, palpus from beneath.

Zygoballus remotus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 89, t. 7. figg. 2, 2a (♂) (April 1896) ¹.

Type, ♂, in coll. Peckham. Total length 4.3 millim.

Hab. Guatemala ¹.

Peckham ¹ makes no mention of any tooth, spur, or cusp on the basal segment of the mandible above, at the apex, so that one must conclude there is none present; and the absence of this will enable *Z. remotus* to be distinguished at once from the male of *Z. rufipes*. The legs ii., iii., and iv. in the present species, too, are unicolorous yellow (not slashed with black, as in *Z. rufipes*). Our figure of the palpus is taken from Peckham's work.

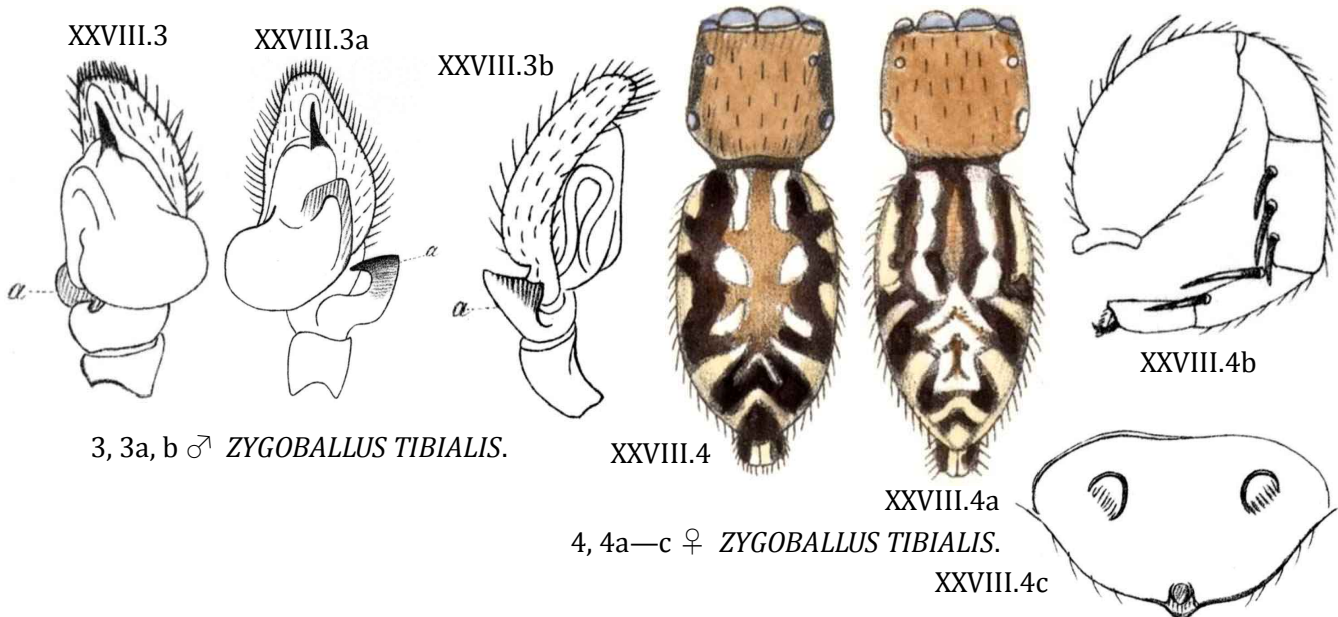
3. *Zygodallus tibialis*, sp. n. (Tab. XXVIII. figg. 3, 3a, b, ♂; 4, 4a—c, ♀.)

Plate XXVIII. Fig. 3. *Zygodallus tibialis*, ♂, palpus from beneath; 3a, ditto from the outer side; 3b, ditto, another view. Fig. 4. *Zygodallus tibialis*, ♀ (3.0 mm): 4a, ditto, variety (3.0 mm); 4b, leg i. from the outer side; 4c, vulva.

Type ♂, gynetype ♀, in coll. Godman & Salvin. Total length, ♂ 3, ♀ 4 millim.

Hab. Guatemala (*Sarg*).

The male can be at once recognized from other Central-American forms by the much enlarged tibial spur of the palpus. Legs ii., iii., and iv. are unicolorous yellow. In the female the legs are spotted with black at the apex of the segments, and the abdomen has a very striking dorsal pattern of white spots and bands. The latter sex can be known amongst closely allied forms by the shape of the vulva.

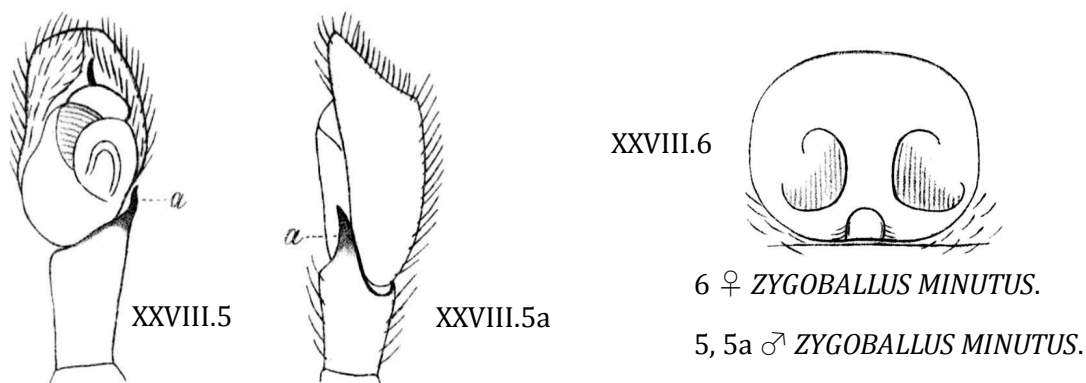
4. *Zygodallus minutus*. (Tab. XXVIII. figg. 5, 5 a, ♂; 6, ♀.)

Plate XXVIII. Fig. 5. *Zygodallus minutus*, ♂, palpus from beneath; 5a, ditto from the outer side. Fig. 6. *Zygodallus minutus*, ♀, vulva.

Zygodallus minutus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 90, t. 7. figg. 3, 3c (♀), 3a, b (♂) (April 1896)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 3.5, ♀ 4 millim.

Hab. Guatemala, Eastern district¹.

Very similar in general appearance to *Z. tibialis* and *Z. maculatus*, but recognizable by the form of the palpal organs and vulva, copies of the figures of which are here given from Peckham's work.

5. *Zygoballus maculatus*, sp. n. (Tab. XXVIII. figg. 7, 7a, ♀.)

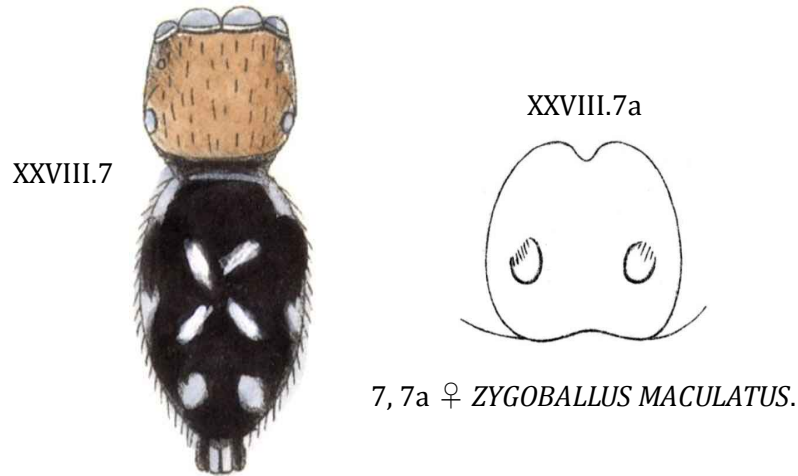


Plate XXVIII. Fig. 7. *Zygoballus maculatus*, ♀ (3.0 mm): 7a, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 3.5 millim.

Hab. Guatemala (*Sarg*).

This species is black, with a few white dorsal and marginal spots on the abdomen, and the legs i. brown, and ii., iii., and iv. yellow, annulated with black. It is probably recognizable by the form of the vulva only, for the coloration in these spiders is very variable, the general pattern being common to many of them.

6. *Zygoballus parvus*.

Attus parvus, Hentz, Spid. U. S., ed. by Burgess, p. 62, t. 8. fig. 17 (♀)¹.

Zygoballus parvus, Banks, Proc. Calif. Acad. Sci. (3) i. p. 288².

Hab. North America, North Carolina¹.—Mexico, Tepic².

Banks² records a few females from Tepic, without, however, giving any characters by which the species might be identified.

BEATA.

Beata, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. (3) p. 167 (Dec. 1895).

Type *B. magna*, Peckham. Colombia.

Very similar to *Homalattoides* in general characters, except that there is an entire absence of any coriaceous dorsal covering on the abdomen. The mandible is toothed in the same manner as in that genus.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

<i>Females.</i>			
1	A.	Size larger, length 5.5—7.5 millim. Cephalic quadrangle of eyes not wider behind; posterior eyes not set on the margin. Tibia i. more incrassate. Maxillae much dilated at their apex. Tibia and protarsus iv. spined, the former with two spines, the latter with four, at the apex beneath.	<i>magna</i> , Peckh.
	B.	Size smaller, length 4 millim. Cephalic quadrangle of eyes distinctly wider behind; posterior eyes set on the margin and on distinct inflations or tubercles. Tibia i. less incrassate. Maxillae only normally dilated at their apex. Tibia and protarsi iv. without spines beneath.	<i>cephalica</i> , sp. n.

1. *Beata magna*. (Tab. XXVIII. figg. 8, 8a—f, ♀.)

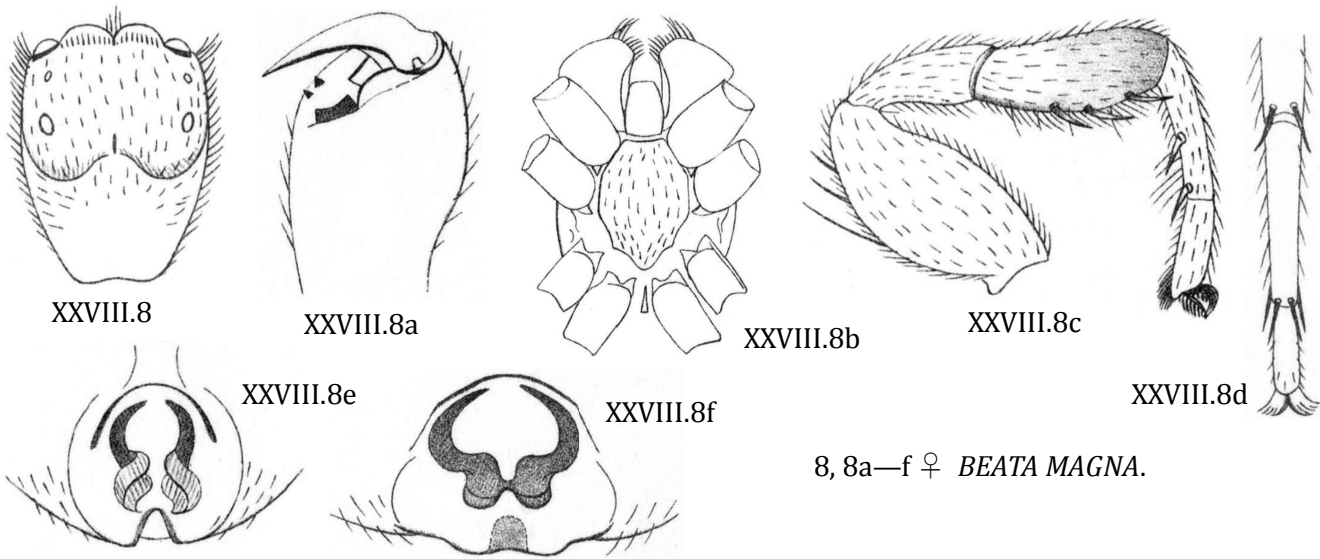


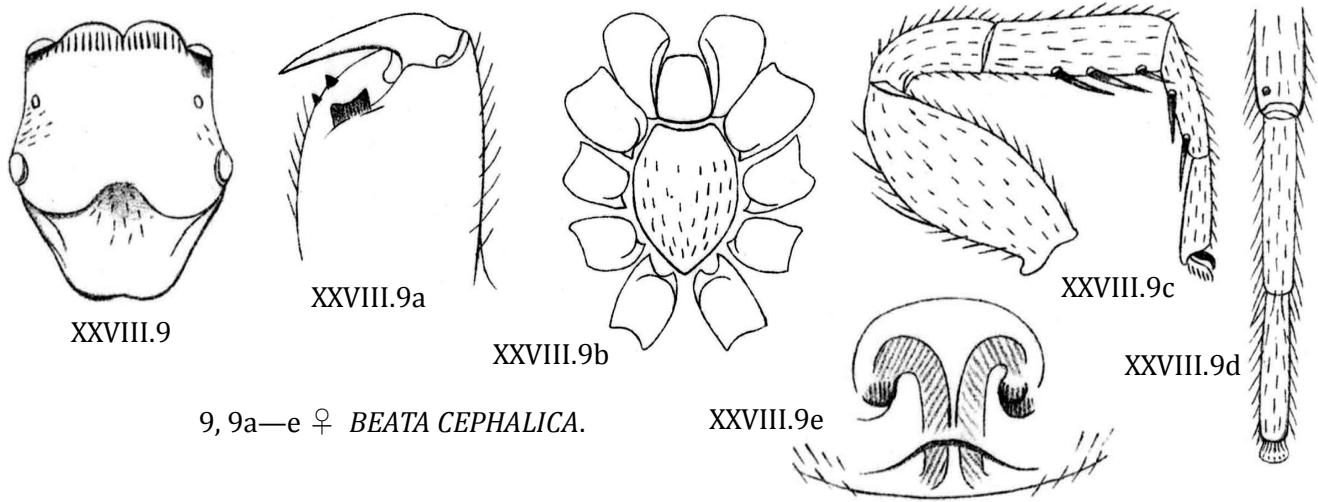
Plate XXVIII. Fig. 8. *Beata magna*, ♀, carapace from above; 8a, mandible from beneath; 8b, sternum; 8c, leg i. from the outer side; 8d, protarsus iv. from beneath; 8e, vulva; 8f, ditto, variety.

Beata magna, Peckh. Proc. Nat. Hist. Soc. Wisc. ii. 3, p. 168, t. 15. figg. 9, 9a—c (♀)¹; Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 13 (♀)².

Type. ♀, in coll. Peckham. Total length 5.5 millim.

Hab. Guatemala (*Sarg*); Panama, Bugaba (*Champion*); Central America¹.—South America, Colombia².

2. *Beata cephalica*, sp. n. (Tab. XXVIII. figg. 9, 9a—e, ♀.)



9, 9a—e ♀ *BEATA CEPHALICA*.

Plate XXVIII. Fig. 9. *Beata cephalica*, ♀, carapace from above; 9a, mandible from beneath; 9b, sternum; 9c, leg i. from the outer side; 9d, protarsus iv. from beneath; 9e, vulva.

Type, ♀, in coll. Godman & Salvin. Total length 4 millim.

Hab. Panama, Bugaba (*Champion*).

HOMALATTOIDES, gen. nov.

Typo *H. roseus*, sp. n., ♂. Panama.

Leg i. incassate in both sexes, but more strongly so in the male than in the female; tibia scarcely twice longer than broad, with 2—2—2 spines in the apical half. Protarsi and tarsi in the female incassate; protarsus and tarsus i. longer in the male than in the female. Tibiae and protarsi iii. and iv. almost devoid of spines, with one or more at the apex only. Carapace square, convex, abruptly inclined behind the posterior row of eyes, somewhat excavated. Cephalic quadrangle of eyes much broader than long, wider behind. Small eyes one-third from the anterior laterals. Sternum twice as long as broad, oval, pointed behind, not produced between the coxae of the fourth pair of legs. Abdomen in both sexes coriaceous.

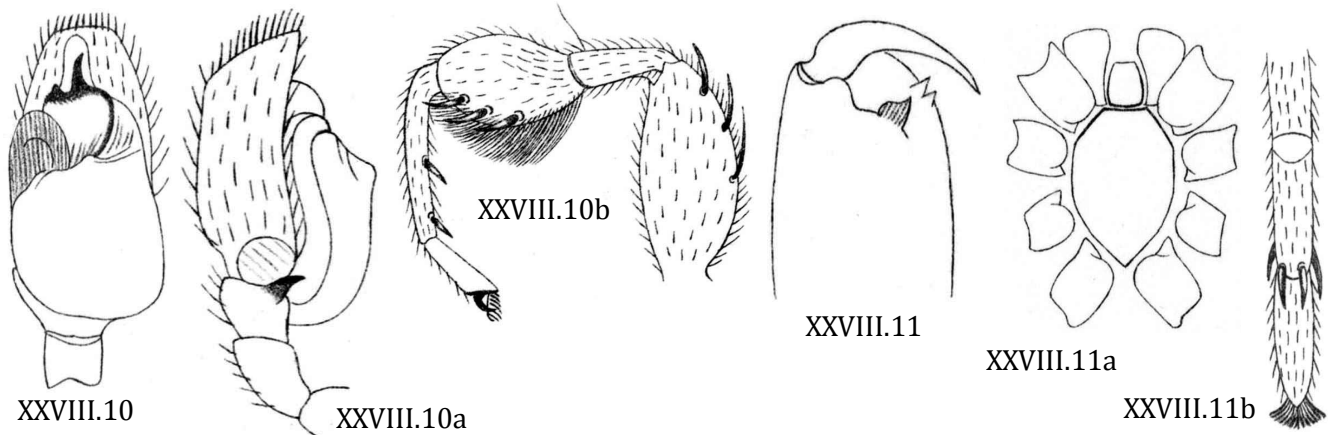
It is possible that the species referred to this genus are congeneric with *Homalattus*, Adam White, Ann. & Mag. Nat. Hist. vii. p. 476 (1841), of which the type is *H. pustulatus*, White, from Sierra Leone. But for the present I have thought it better to describe the Central-American forms under another generic name. The three known to me may be distinguished as follows:—

<i>Males.</i>		
1	A. Tibia i. not or scarcely more than twice as long as broad; carapace and abdomen clothed with violet iridescent scales, the abdomen coriaceous over the entire dorsal area.	2
	(not A.)	3
2	1. Tibia i. scarcely longer than broad, with 2—2—2 conspicuous spines beneath. Carapace margined with a white band. Lower tooth of mandible broad, but no large cusp. Apical spine of palpal bulb bifid, a longer inner spine and a shorter adjacent outer cusp.	<i>roseus</i> , sp. n.

2	2. Tibia i. rather more than twice as long as broad, almost devoid of spines. Carapace not margined with white. Mandible with a large conical cusp beneath. Apical spine of palpal bulb single, short, stout, curving inward.	<i>alboguttatus</i> , sp. n.
3	B. Tibia i. over three times as long as broad, with 2—2—2 spines in the apical half. Carapace red-brown, abdomen <i>whity</i> -brown, both clothed with white scales, the latter with a coriaceous plate on the anterior dorsal area only. Apical portion of palpal bulb forming two subequal conspicuous cusps.	<i>longipes</i> , sp. n.

Note.—*H. phoeniceus* (Simon) is not known to me, and it cannot therefore be included in the Table.

1. *Homalattoides roseus*, sp. n. (Tab. XXVIII. figg. 10, 10a, b, ♂; 11, 11a, b, ♀.)



10, 10a, b ♂ *HOMALATTOIDES ROSEUS*.

11, 11a, b ♀ *HOMALATTOIDES ROSEUS*.

Plate XXVIII. Fig. 10. *Homalattoides roseus*, ♂, palpus from beneath; 10a, ditto from the outer side; 10b, leg i. from the inner side. Fig. 11. *Homalattoides roseus*, ♀, mandible from beneath; 11a, sternum; 11b, protarsus iv. from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

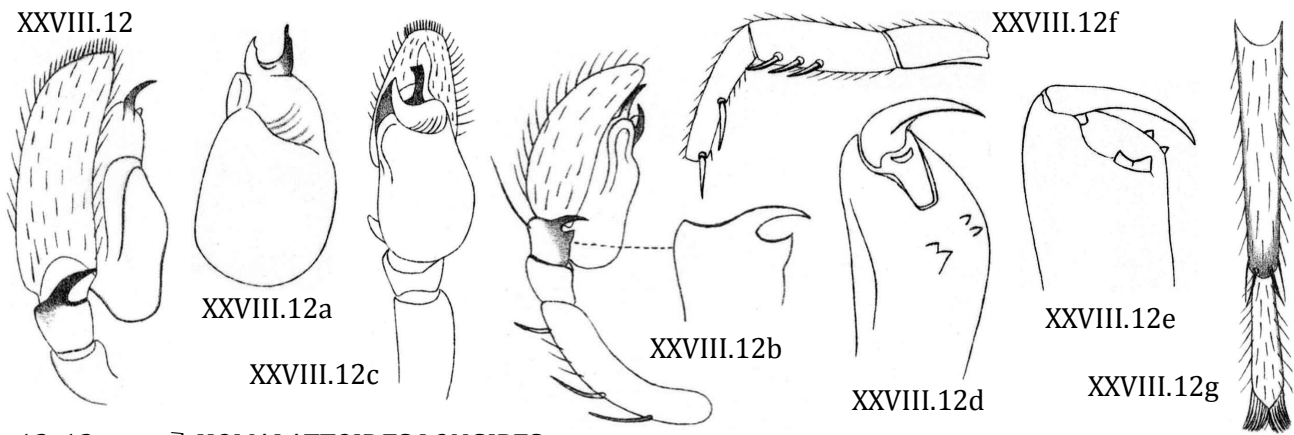
Carapace and abdomen red-brown, with violet-pink iridescent reflections; the clypeus and lateral margins of the cephalic area clothed with white hairs. Abdomen glabrous, shiny. Leg i. incrassate, the tibia strongly so, and heavily fringed with black hairs beneath, the three pairs of spines situated in the anterior half; the tibia and patella of all four pairs of legs with a narrow band of white scales on the inner side; leg i. brown, with white scales; ii. with the protarsi yellow in the basal two-thirds; iii. and iv. brown, with the protarsi yellow, except at the apex. Mandibles and tarsus of palpus with a band of white hairs across the middle. Tibial spur of palpus short, sharp, slightly curved, directed downward. Apex of bulb with a longer black spine and on the outer side of it a shorter black cusp.

Female similar to the male. Leg i. incrassate. Carapace clothed with scattered azure scales (these are possibly worn off in the male). Mandibles with two small teeth above and one large tooth below. Protarsus iv. scarcely longer than the tarsus.

Hab. Panama, Bugaba (*Champion*).

A single adult male and an immature female are all that have come to hand of this beautiful species.

2. *Homalattoides longipes*, sp. n. (Tab. XXVIII. figg. 12, 12a—g, ♂.)



12, 12a—g ♂ *HOMALATTOIDES LONGIPES*.

Plate XXVIII. Fig. 12. *Homalattoides longipes*, ♂, palpus from the outer side; 12a, ditto, bulb from beneath; 12b, ditto from the outer side, another view; 12c, ditto from beneath, variety; 12d, mandible from beneath; 12e, ditto, another view; 12f, leg i. from the inner side; 12g, protarsus iv. from beneath.

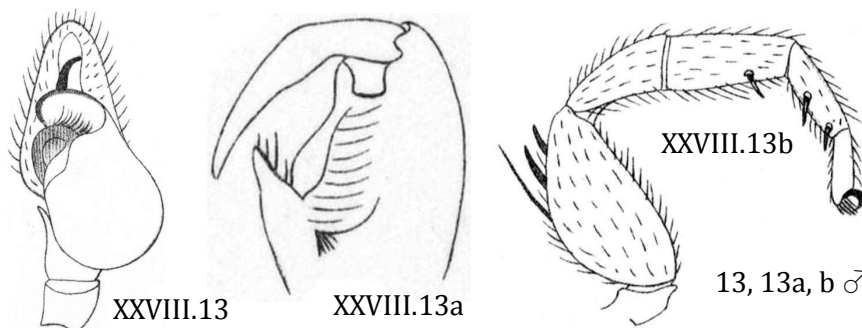
Type, ♂, in coll. Godman & Salvin. Total length 4.5 millim.

Carapace black-brown, clothed with scattered white scales, but without a decided white band round the margins. Abdomen whitish-brown, clothed with white scales, with an oval coriaceous plate on the anterior dorsal area. Legs red-brown, clothed with scattered white scales (probably worn off in many places). Protarsi and tarsi of legs ii., iii., and iv. yellow. Palpi brown, the femur clothed with white scales. Mandibles unicolorous dark red-brown. Tibia i. three times as long as its diameter, with 2—2—2 spines in the apical half. Mandibles with two small teeth above, and one large bifid tooth below.

Palpal bulb with a pair of subsimilar spines at the apex. Protarsus iv. nearly twice as long as the tarsus.

Hab. Panama, Bugaba (*Champion*).

3. *Homalattoides alboguttatus*, sp. n. (Tab. XXVIII. figg. 13, 13a, b, ♂.)



13, 13a, b ♂ *HOMALATTOIDES ALBOGUTTATUS*.

Plate XXVIII. Fig. 13. *Homalattoides alboguttatus*, ♂, palpus from beneath; 13a, mandible from beneath; 13b, leg i. from the outer side.

Type, ♂, in coll. Godman & Salvin. Total length 3.5 millim.

Carapace red-brown, piceous, the abdomen red-olive-brown, both clothed with green and pink iridescent scales; the clypeus and lateral margins of the cephalic area thinly clothed with white scales. Legs i. red-brown, ii., iii., iv. brown, with the base of the protarsus and the whole of the tarsus yellow; tibiae with a spot of white scales on the dorsal side towards the apex; patellae with a slight fringe of white hairs on the anterior margin. Mandibles and palpi brown, without any white transverse bands.

Leg i. incrassate; tibia with one pair of spines at the apex only, not fringed with hairs beneath. Mandibles very stout, with a large bluntly pointed apophysis towards the base of the basal segment.

Apex of palpal bulb with a single stout curving spine.

Hab. Mexico, Amula (*H. H. Smith*).

4. *Homalattoides phoeniceus*.

Homalattus phoeniceus, E. Simon, Ann. Soc. Ent. Fr. 1888, p. 203 (♂ ♀)¹.

Hab. Mexico¹.

This species is unknown to me.

COCCORCHESTES.

Coccorchestes, Thorell, Ann. Mus. Civ. Stor. Nat. Genova, xvii. p. 671 (1881).

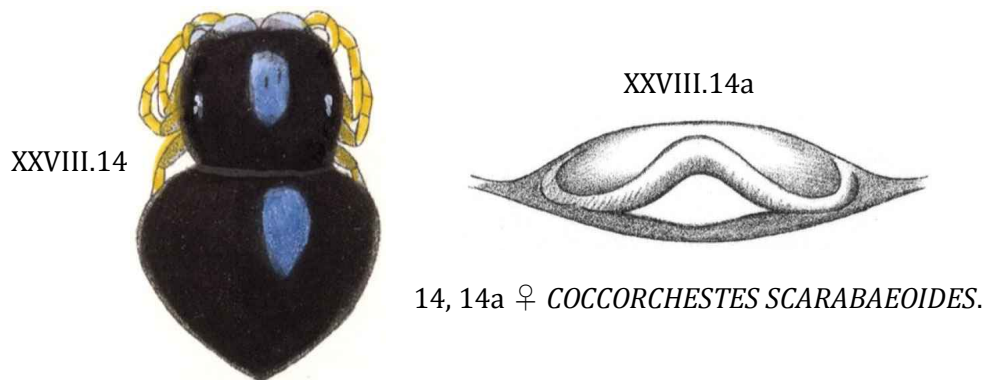
Type *C. rufipes*, Thorell. Malay Archipelago.

General characters very like those of *Homalattoides*, the integument of the abdomen being coriaceous; but the sternum is produced behind between coxae iv. Tibia i. with 1—1 spines on the outer side beneath and one on the inner side; protarsus i. with 2—2 spines beneath. Tibia ii. with one basal spine beneath; protarsus ii. with one spine beneath; no other spines on the legs. Tarsi i., ii., iii., iv. as long as or longer than the protarsi (not shorter than the protarsi). Anterior row of eyes straight by their centres.

<i>Males.</i>		
1	A. Carapace and abdomen with deep blue reflections.	<i>scarabaeoides</i> , O. P.-Cambr.
	B. Carapace and abdomen with deep green reflections.	<i>adjacens</i> , O. P.-Cambr.
<i>Females.</i>		
1	A. Carapace and abdomen with deep blue reflections. Vulva with a triangular pale area near the posterior margin, but without any square central chitinous piece.	<i>scarabaeoides</i> .
	B. Carapace and abdomen with deep green reflections. Vulva with a triangular pale area near the posterior margin, which bears a central square chitinous piece.	<i>adjacens</i> .

Note.—The females of both species are here described for the first time.

1. *Coccorchestes scarabaeoides*. (Tab. XXVIII. figg. 14, 14a, ♀.)



14, 14a ♀ COCCORCHESTES SCARABAEOIDES.

Plate XXVIII. Fig. 14. *Coccorchestes scarabaeoides*, ♀ (1.8 mm): 14a, vulva.

Coccorchestes scarabaeoides, O. P.-Cambr. Biol. Centr.-Amer., Arachn. Aran. i. p. 121, t. 15. figg. 8, 8a—g (♂)¹.

Type ♂, deuterotype ♀, in coll. Godman & Salvin. Total length, ♂ 1.25, ♀ 1.75 millim.

Colour the same in both sexes, black, with brilliant shiny blue reflections.

Hab. Mexico, Teapa (*H. H. Smith*); Panama, Bugaba (*Champion*¹).

2. *Coccorchestes adjacens*. (Tab. XXVIII. figg. 15, 15a—d, ♀.)

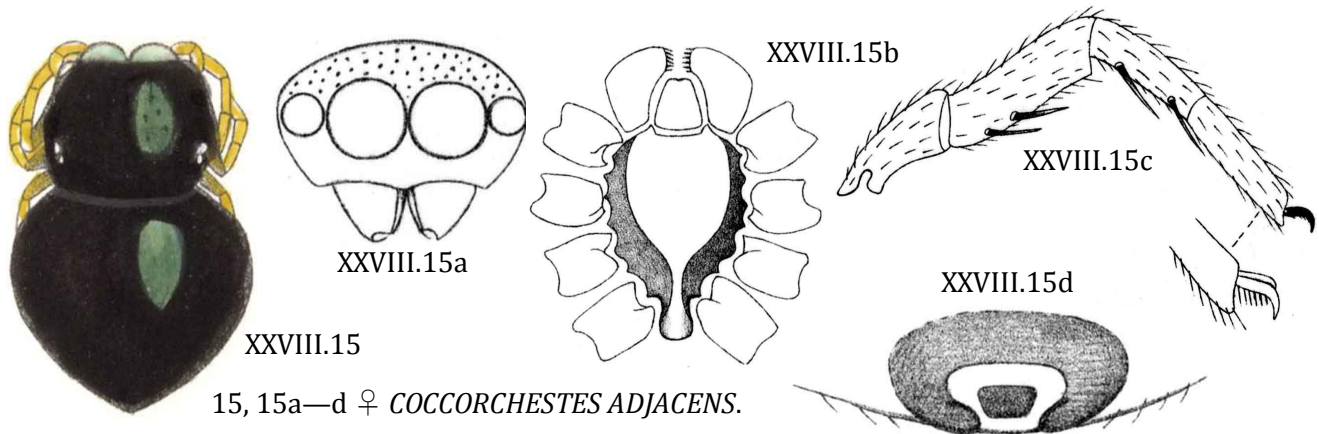


Plate XXVIII. Fig. 15. *Coccorchestes adjacens*, ♀ (1.8 mm): 15a, eyes from in front; 15b, sternum; 15c, leg i. from the outer side; 15d, vulva.

Coccorchestes adjacens, O. P.-Cambr. loc. cit. p. 162, t. 20. figg. 4, 4a—d (♂)¹.

Type ♂, deuterotype ♀, in coll. Godman & Salvin. Total length, ♂ 1.25, ♀ 2 millim.

Colour brown in the male, black in the female; both sexes with brilliant shiny green reflections.

Hab. Mexico, Teapa (*H. H. Smith*¹); Costa Rica (*Sarg*).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

296

ARANEIDEA.

The following genus was not detected in the collection till it was too late for insertion in the proper place in the group Amyceae (*anteà*, p. 187):—

TOMIS, gen. nov.

Type *T. palpalis*, sp. n. Mexico.

The type-species resembles *Titanattus* in the strong recurvature of the anterior row of eyes, but the clypeus is much less than one-third of the diameter of an anterior central eye. The genus enters the synoptic table on p. 187, which must be thus modified for it's reception:—

These changes have also been added (in red text) to the table that begins on page 187.

2	B.—i. Mandibles in both sexes with from 2—5 or 6—5 teeth, or 4 on upper margin only.	3
3	a. Anterior row of eyes strongly recurved.	10
	b. Anterior row of eyes only slightly recurved, by their posterior margins. (Small eyes nearer the anterior laterals. Cephalic area in the male with a tuft of hairs in front, behind and between the central and lateral anteriors; the area itself is flat in both sexes, viewed in profile. Leg i. longest in the male, leg. ii. longest in the female. Bulb of palpus not produced basally beyond the apex of the tibia; palpal spine stout, springing from the inner side of the bulb and curving round towards the apex, with its point directed across the tarsus outwards.)	<i>Amycus</i> , C. L. Koch.
10	a'. Clypeus in the male not less than one full diameter of an anterior central eye.	<i>Titanattus</i> , Peckh.
	b'. Clypeus in the male less than one-third the diameter of an anterior central eye.	<i>Tomis</i> , gen. nov.

1. *Tomis palpalis*, sp. n. (Tab. XXIX. figg. 1, 1a, b, ♂.)

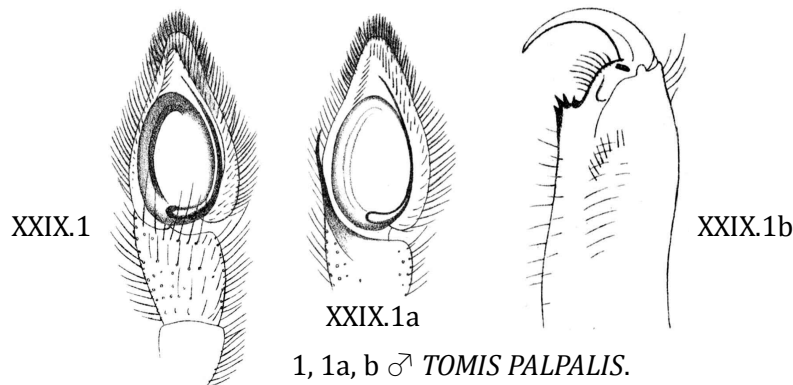


Plate XXIX. Fig. 1. *Tomis palpalis*, ♂, palpus from beneath; 1a, ditto, showing tibial spur; 1b, mandible from beneath.

Type, ♂, in coll. Godman & Salvin. Total length 6 millim.

Small eyes midway between the lateral anteriors and lateral posteriors. Mandibles with four teeth forming a coalescent group on the upper margin; no teeth on the lower margin. Tibiae i. and ii. with 2—2—2 spines beneath; protarsi i. and ii. with 2—2 spines beneath, iii. and iv. with two ring-like clusters of spines, a basal and an apical group. Palpus very broad and compressed; bulb with a spine springing from near the base on the outer side, its apex reaching the apical portion of the tarsal sheath; tibia with a short sharp spur at its outer apex. Carapace clothed with orange-brown and white hairs, with a more distinct marginal and central posterior band of grey hairs. Abdomen clothed with orange-brown and white hairs, with a more conspicuous anterior central dorsal dentated band, followed by three or four ^-shaped bars of grey hairs, and a large lateral grey blotch towards the apex on each side; ventral area fawn-colour. Legs yellow-brown, more or less suffused with black. Palpi margined with black, and clothed with orange-brown hairs.

Hab. Mexico, Teapa (*H. H. Smith*).

This species is related to the group containing *Titanattus*, *Sidusa*, and *Amycus* (*antea*, pp. 191-219), but its generic position is very difficult to determine precisely.

The following genera and species of Salticidae are not represented in our collection, so that it is difficult to assign them with certainty to their correct systematic position. Copies of figures of the essential specific characters of several of them have been taken from Emerton's figures, published by Peckham:—

HASARIUS.

Hasarius, E. Simon, Ann. Soc. Ent. Fr. 1871, p. 329.

Type *H. adansonii* (Aud. in Savigny). Egypt.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., November 1901.

HASARIUS.—NAGAINA.

297

Hasarius bellicosus.

Hasarius bellicosus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 56, t. 5. figg. 2, 2a (♀)¹.

Type, ♀, in coll. Peckham. Total length 9 millim.

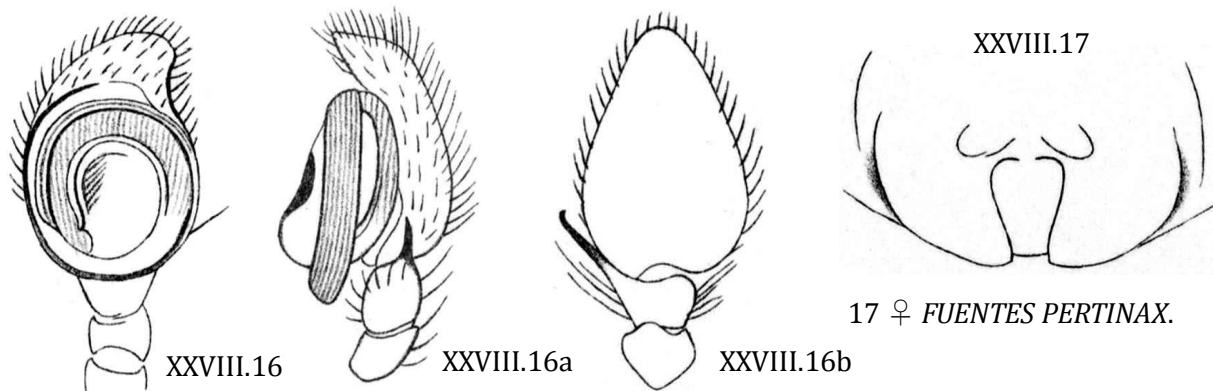
Hab. Guatemala, eastern part¹.

FUENTES.

Fuentes, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 113 (1894).

Type *F. pertinax*, Peckh. British Honduras.

Fuentes pertinax. (Tab. XXVIII. figs. 16, 16a, b, ♂; 17, ♀.)



16, 16a, b ♂ *FUENTES PERTINAX.*

Plate XXVIII. Fig. 16. *Fuentes pertinax*, ♂, palpus from beneath; 16a, ditto from the outer side; 16b, ditto from above. Fig. 17. *Fuentes pertinax*, ♀, vulva.

Fuentes pertinax, Peckh. loc. cit. ii. 2, p. 113, t. 11. figg. 4, 4a—c (♀), 4 d—f (♂)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 5.5, ♀ 7.5 millim.

Hab. British Honduras, Belize¹.

This species, distinguishable by the two white lines down the darker abdomen which terminate in a few chevrons at the apex, evidently belongs to the group Marpisseae, but the generic characters are not sufficiently clear from the description to enable one to place it satisfactorily.

BALMACEDA.

Balmaceda, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. ii. 2, p. 100 (1894).

Type *B. picta*, Peckh. Guatemala.

The two species referred to this genus apparently both belong to the group Marpisseae.

Balmaceda picta. (Tab. XXVIII. figg. 18, 18a, b, ♂; 19, 19a, ♀.)

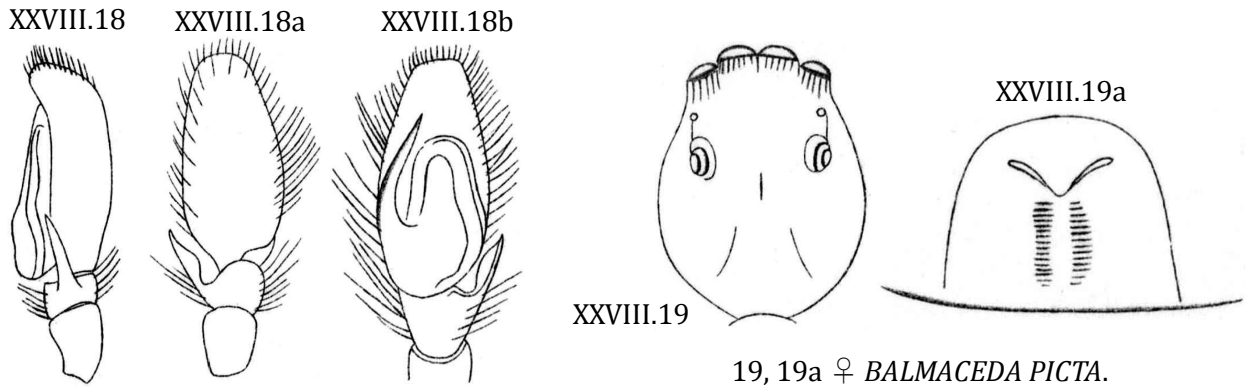


Plate XXVIII. Fig. 18. *Balmaceda picta*, ♂, palpus from the outer side; 18a, ditto from beneath; 18b, ditto from above. Fig. 19. *Balmaceda picta*, ♀, carapace from above; 19a, vulva.

Balmaceda picta, Peckh. loc. cit. p. 101, t. 10. figg. 1, 1a—c (♀), 1d—f (♂)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 6, ♀ 6.8 millim.

Hab. Guatemala, east coast¹.

Balmaceda punctata. (Tab. XXIX. figg. 2, 2a. ♂; 3, ♀.)

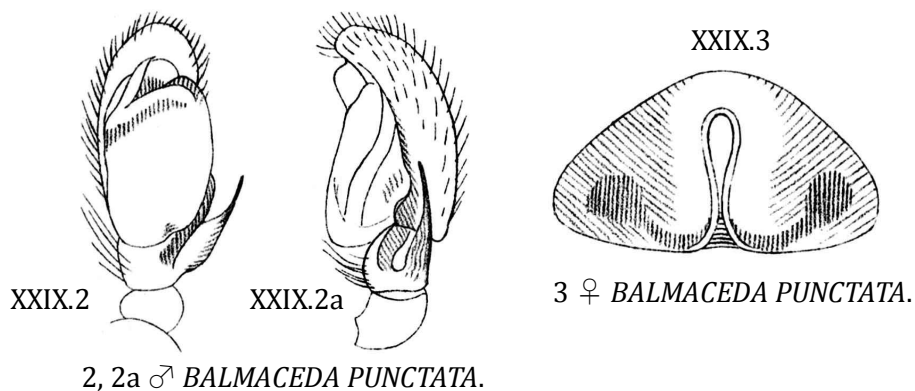


Plate XXIX. Fig. 2. *Balmaceda punctata*, ♂, palpus from beneath; 2a, ditto from the outer side. (After Emerton.) Fig. 3. *Balmaceda punctata*, ♀, vulva. (After Emerton.)

Balmaceda punctata, Peckh. loc. cit. p. 102, t. 8. figg. 8, 8a (♀), 8b, 8c (♂)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 5, ♀ 6 millim.

Hab. Central America¹.

NAGAINA.

Nagaina, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p 54 (April 1896).

Type *N. incunda*, Peckh. Guatemala.

Peckham places this genus near *Dendryphantes*, so that it probably belongs somewhere near *Metaphidippus* or the group here called Phidippeae.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

2 Q‡

298

ARANEIDEA.

***Nagaina incunda*. (Tab. XXIX. fig. 4, ♀.)**

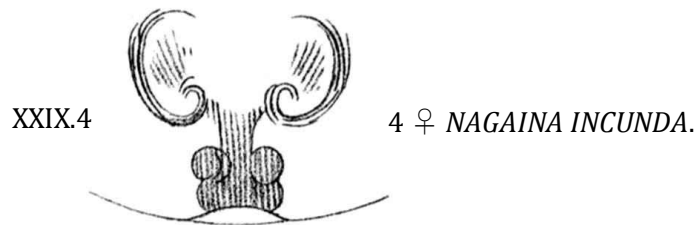


Plate XXIX. Fig. 4. *Nagaina incunda*, ♀, vulva. (After Emerton.)

Nagaina incunda, Peckh. loc. cit. p. 55, t. 4. figg. 10, 10a—c (♀)¹.

Type, ♀, in coll. Peckham. Total length 4 millim.

Hab. Guatemala¹.

BAGHEERA.

Bagheera, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 88 (April 1896).

Type *B. kiplingi*, Peckh. Guatemala.

This genus is said by Peckham to be allied to *Anoka*, which I have placed in the group Phidippeae.

***Bagheera kiplingi*. (Tab. XXIX. figg. 5, 5a, b, ♂.)**

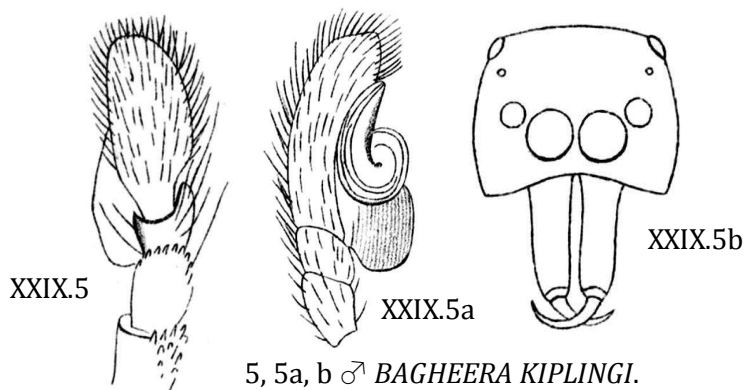


Plate XXIX. Fig. 5. *Bagheera kiplingi*, ♂, palpus from above; 5a, ditto from the outer side; 5b, eyes and mandibles from in front. (After Emerton.)

Bagheera kiplingii, Peckh. loc. cit. p. 88, t. 7. figg. 1, 1a—d (♂)¹.

Type, ♂, in coll. Peckham. Total length 4.4 millim.

Hab. Guatemala, eastern district¹.

SHIRA.

Shira, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 85 (April 1896).

Type *S. designata*, Peckh. Panama.

Peckham regards this genus as allied to *Anoka* and *Ashtabula*; it probably belongs, therefore, to the group Phidippeae.

Shira designata. (Tab. XXIX. fig. 6, ♀.)

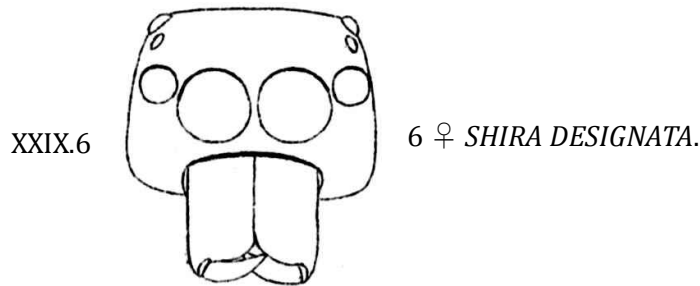


Plate XXIX. Fig. 6. *Shira designata*, ♀, eyes and mandibles from in front. (After Emerton.)

Shira designata, Peckh. loc. cit. p. 86, t. 6. fig. 12 (♀)¹.

Type, ♀, in coll. Peckham. Total length 6.9 millim.

Hab. Panama¹.

AVITUS.

Avitus, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 57 (April 1896).

Type *A. dioleni*, Peckh. Panama.

Peckham states that this genus belongs to Simon's group "Diolenii" (Compt. Rend. Soc. Ent. Belg. 1884, p. ccxxv).

Avitus dioleni. (Tab. XXIX. figg. 7, 7a, ♂.)

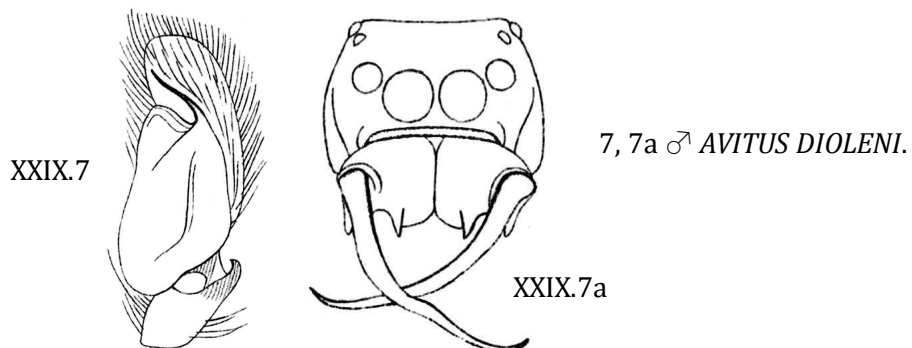


Plate XXIX. Fig. 7. *Avitus dioleni*, ♂, palpus from the outer side; 7a, eyes and mandibles from in front. (After Emerton.)

Avitus diolenii, Peckh. loc. cit. t. 5. figg. 3, 3a—c (♂)¹.

Type, ♂, in coll. Peckham. Total length 7 millim.

Hab. Panama¹.

BIOL. CENTR.-AMER., *Arachn. Aran.*, Vol. II., *December 1901.*

AKELA.—COTINUSA.

299

AKELA.

Akela, Peckham, *Occas. Papers Nat. Hist. Soc. Wisc.* iii. 1, p. 94 (April 1896).

Type *A. charlottae*, Peckh. Guatemala.

This genus belongs, according to Peckham, to the group Homalatteae.

Akela charlottae. (Tab. XXIX. figg. 8, 8a, ♂.)

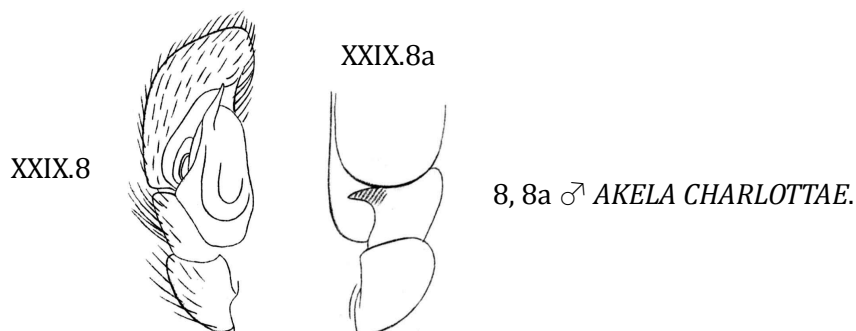


Plate XXIX. Fig. 8. *Akela charlottae*, ♂, palpus from the inner side; 8a, ditto from the outer side. (After Emerton.)

Akela charlottae, Peckh. loc. cit. p. 95, t. 7. figg. 7, 7a—d (♂)¹.

Type, ♂, in coll. Peckham. Total length 3.8 millim.

Hab. Guatemala¹.

TULPIUS.

Tulpius, Peckham, *Occas. Papers Nat. Hist. Soc. Wisc.* iii. 1, p. 86 (April 1896).

Type *T. hilarus*, Peckh. Guatemala.

Peckham refers this genus to the Homalatteae, but says that it most closely resembles *Sadala* (*Cotinusa*, Simon).

Tulpius hilarus. (Tab. XXIX. fig. 9, ♂.)

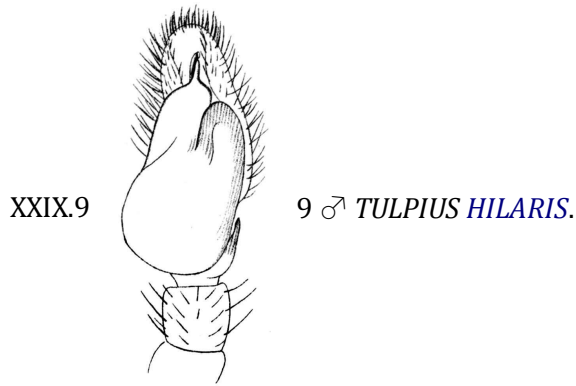


Plate XXIX. Fig. 9. *Tulpius hilarus*, ♂, palpus from beneath. (After Emerton.)

Tulpius hilarus, Peckh. loc. cit. p. 87, t. 6. fig. 10 (♀), t. 6. fig. 10a, t. 7. figg. 10, 10a (♂)¹.

Type ♂, gynetype ♀, in coll. Peckham. Total length, ♂ 4, ♀ 4 millim.

Hab. Guatemala¹.

MESSUA.

Messua, Peckham, Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 93 (April 1896).

Type *M. desidiosa*, Peckh. Panama.

According to Peckham, this genus belongs to the Homalatteae.

Messua desidiosa. (Tab. XXIX. fig. 10, ♀.)

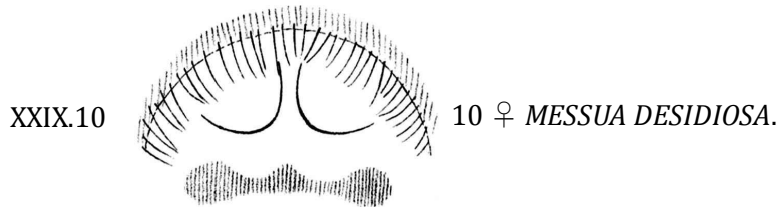


Plate XXIX. Fig. 10. *Messua desidiosa*, ♀, vulva. (After Emerton.)

Messua desidiosa, Peckh. loc. cit. p. 94, t. 6. figg. 9, 9a, t. 7. figg. 5, 5a (♀)¹.

Type, ♀, in coll. Peckham. Total length 5 millim.

Hab. Panama¹.

COTINUSA.

Sadala, Peckham, Trans. Wisc. Acad. Sci. vii. p. 52 (1888) (nomen praeocc.).

Cotinusa, E. Simon, Ann. Soc. Ent. Belg. 1900, p. 389 (Oct. 20).

Type *C. bisetosa*, Simon. Venezuela.

Cotinusa distincta. (Tab. XXIX. fig. 12, ♂^{*}.)

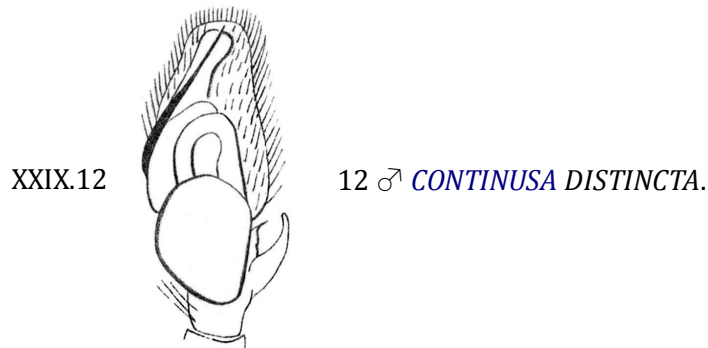


Plate XXIX. Fig. 12. *Cotinusa distincta*, ♂, palpus from beneath. (After Emerton.)

Sadala distincta, Peckh. Trans. Wisc. Acad. Sci. vii. p. 53, t. 1. fig. 70 (♂), t. 6. fig. 76 (♂)¹.

Type, ♂, in coll. Peckham. Total length 5.3 millim.

Hab. Mexico¹.

* The generic name is incorrectly written *Continusa* on the Plate.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

2 Q# 2

300

ARANEIDEA.

EPIBLEMUM.

Epiblemum, Hentz, Amer. Journ. Sci. (1) xxi. p. 108 (1832).

Type *E. faustum*, Hentz. N. America.

Epiblemum albocinctum. (Tab. XXIX. fig. 13, ♀.)

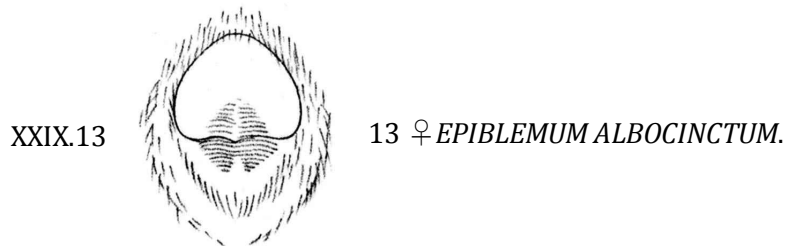


Plate XXIX. Fig. 13. *Epiblemum albocinctum*, ♀, vulva. (After Emerton.)

Epiblemum albocinctum, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 84, t. 6. figg. 8, 8a (♀) (April 1896)¹.

Type, ♀, in coll. Peckham. Total length 4.9 millim.

Hab. North America, Texas, La Blanca¹.—Mexico, Refugio (*Townsend*¹); Central America¹.

EUOPHRYS.

Euophrys, C. Koch, in Herr.-Schäff. Deutschl. Ins. Heft 123.

Type *E. frontalis* (Walck.). Europe.

Euophrys newtoni. (Tab. XXIX. fig. 14, ♀.)

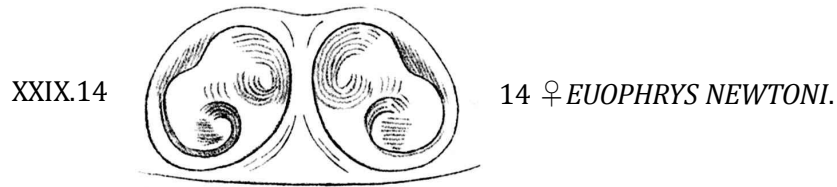


Plate XXIX. Fig. 14. *Euophrys newtoni*, ♀, vulva. (After Emerton.)

Euophrys newtonii, Peckh. loc. cit. p. 64, t. 5. figg. 10, 10a (♀)¹.

Type, ♂, in coll. Peckham. Total length 6.5 millim.

Hab. Central America¹.

Euophrys ysabali. (Tab. XXIX. fig. 15, ♂.)

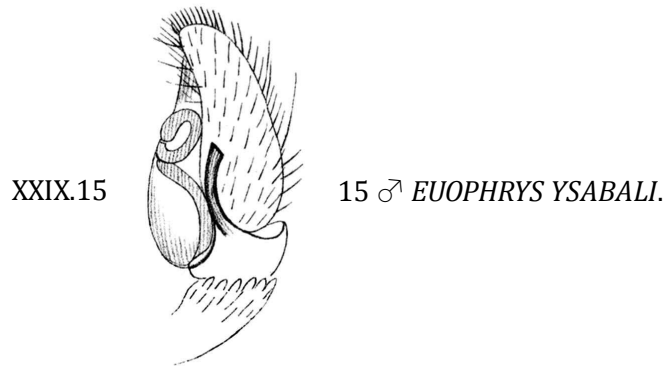


Plate XXIX. Fig. 15. *Euophrys ysabali*, ♂, palpus from the outer side.

Euophrys ysobolii (sic), Peckh. loc. cit. p. 65, t. 5. figg. 11, 11a (♂)¹.

Type, ♂, in coll. Peckham. Total length 5 millim.

Hab. Guatemala, Yzabal¹.

ERIS.

Eris, C. L. Koch, Die Arachn. xiii. p. 189 (1846).

Eris (?) *barbipes*. (Tab. XXIX. figg. 11, 11a, ♀.)

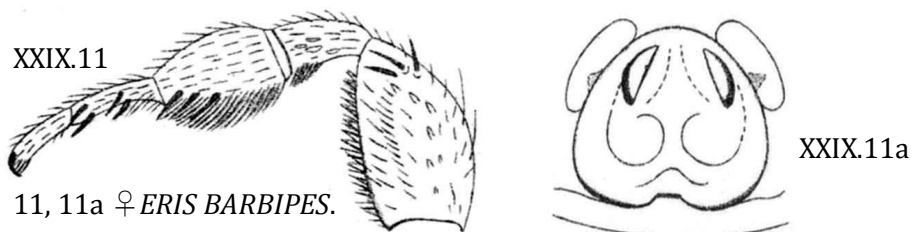


Plate XXIX. Fig. 11. *Eris barbipes*, ♀, leg i. from the outer side; 11a, vulva. (After Emerton.)

Eris (?) *barbipes*, Peckh. Trans. Wisc. Acad. Sci. vii. p. 55, t. 4. figg. 38, 38a (♀) (1888)¹.

Type, ♀, in coll. Peckham. Total length 6.8 millim.

Hab. Mexico¹.

Peckham quotes this species as doubtfully belonging to the genus *Eris*, this latter being placed by him, in 1895, amongst the Homalatteae.

ATTUS.

Attus, Walckenaer, Tabl. des Aran. p. 22 (1805).

Attus infuscatus.

Attus infuscatus, Peckh. Occas. Papers Nat. Hist. Soc. Wisc. iii. 1, p. 73, t. 6. figg. 5, 5 a (♀) (1896)¹.

Type, ♀, in coll. Peckham. Total length 6 millim.

Hab. Panama¹.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

ATTUS.

301

Attus cautus.

Attus cautus, Peckh. Trans. Wisc. Acad. Sci. vii. p. 92 (♂) (1888)¹.

Type, ♂ juv., in coll. Peckham. Total length 4.5 millim.

Hab. Mexico¹.

No figure is given of this species, which is based upon a young male.

Attus aurantius.

Salticus aurantius, Lucas, Ann. Soc. Ent. Fr. ii. p. 480, t. 18. fig. 3 (♀) (1833)¹.

Attus aurantius, Walck. Ins. Apt. iv. p. 420².

Hab. North America².—Mexico²; Guatemala^{1 2}.

The figure given by Lucas perhaps represents the variety of *Paraphidippus chrysis*, which has an orange continuous marginal border.

Attus limbatus.

Salticus limbatus, Lucas, Ann. Soc. Ent. Fr. ii. p. 481 (♀) (1833)¹.

Attus limbatus, Walck. Ins. Apt. iv. p. 416 (♂)².

Hab. Guatemala^{1 2}.

Attus fuscipes.

Attus fuscipes, Walck. Ins. Apt. iv. p. 428¹.

Phidippus fuscipes, C. L. Koch, Die Arachn. xiii. p. 153, fig. 1209 (♂)².

Hab. Mexico^{1 2}.

Attus amabilis.

Attus amabilis, Walck. Ins. Apt. iv. p. 428¹.

Alcmena amabilis, C. L. Koch, Die Arachn. xiii. p. 178, fig. 1228 (♂)².

Hab. Mexico^{1 2}.

Attus strenuus.

Attus strenuus, Walck. Ins. Apt. iv. p. 428¹.

Hyllus strenuus, C. L. Koch, Die Arachn. xiii. p. 164, fig. 1218 (♂)².

Hab. Mexico^{1 2}.

Attus pugnax.

Attus pugnax, Walck. Ins. Apt. iv. p. 428¹.

Hyllus pugnax, C. L. Koch, Die Arachn. xiii. p. 168, fig. 1221 (♂)².

Hab. Mexico^{1 2}.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

302

ARANEIDEA.

Attus nitens.

Phidippus nitens, C. L. Koch, Die Arachn. xiii. p. 154, fig. 1210 (♂)¹.

Attus nitens, Walck. Ins. Apt. iv. p. 428².

Hab. Mexico^{1 2}.

PLEXIPPUS.

Plexippus, C. L. Koch, Die Arachn. xiii. p. 93 (1846).

Plexippus taeniatus.

Plexippus taeniatus, C. L. Koch, loc. cit. p. 121, fig. 1182¹.

Hab. Mexico¹.

HABROCESTUM.

Habrocestum, E. Simon, Arachn. Fr. iii. p. 131 (1876).

***Habrocestum dorsale*.**

Habrocestum dorsalis, Banks, Proc. Calif. Acad. Sci. (3) i. p. 287, t. 7. fig. 12 (♂)¹.

Hab. Mexico, Hermosillo in Sonora¹.

Judging from the figure of the palpus, one would suspect that this spider does not belong to the genus *Habrocestum*.

MAEVIA.

Maevia, C. L. Koch, Die Arachn. xiv. p. 69 (1848).

***Maevia coronigera*.**

Euophrys coronigera, C. L. Koch, Die Arachn. xiii. p. 221, fig. 1266 (♀)¹.

Maevia coronigera, Peckh. Trans. Wisc. Acad. Sci. xiii. p. 344².

Type, ♀, in Mus. Berol. Total length 4 millim.

Hab. Guatemala².—Guiana, Cayenne²; Trinidad²; Antilles.

AMYCUS (*anteà*, p. 191).

***Amycus flavolineatus*.**

Attus flavolineatus, Walck. Ins. Apt. iv. p. 428¹.

Amycus flavolineatus, C. L. Koch, Die Arachn. xiii. p. 185, fig. 1234 (♂) (1846)².

Hab. Mexico^{1 2}.

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

HABRONATTUS.—HOMALATTUS.

303

HABRONATTUS (*anteà*, p. 241).

***Habronattus simplex*.**

Pellenes simplex, Peckh. Bull. Wisc. Nat. Hist. Soc. (4) i. p. 220, t. 1. fig. 12 (♀) (June 1901)¹.

Type, ♀, in coll. Peckham. Total length 5.5 millim.

Hab. Mexico, Vera Cruz¹.

Habronattus placidus.

Pellenes placidus, Peckh. loc. cit. p. 223, t. 1. fig. 18 (♀)¹.

Type, ♀, in coll. Peckham. Total length 7 millim.

Hab. Mexico, Chihuahua¹.

HOMALATTUS.

Homalattus, White, Ann. & Mag. Nat. Hist. vii. p. 476 (1841).

Type *H. pustulatus*, White. Sierra Leone.

Homalattus hispidus.

Homalattus hispidus, Peckh. Bull. Wisc. Nat. Hist. Soc. (4) i. p. 229, t. 2. figg. 5, 5a (♀) (June 1901)¹.

Type, ♀, in coll. Peckham. Total length 7 millim.

Hab. Mexico, San Rafael (*Townsend*¹).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., December 1901.

This completes the species accounts for the Salticidae. The next section was added as a key to the families of the Araneida, after completion of all species accounts.

PRONOUS.—WITICA.

The enumeration of the species of Araneidea contained in the collections before me being now concluded, I am able to give a complete Synopsis of the whole of the families represented in the Central-American fauna, the arrangement adopted differing somewhat from that followed in the preceding pages.

1	Sect. MYGALOMORPHAE (p. 4). The plane of the articulation of the mandibles vertical. Pulmonary sacs four in number.	2
	(ARACHNOMORPHAE)	5
2	A. Tarsi without claw-tufts; inferior claw nearly always distinct.	3
	(not A.)	4
3	a. Base of mandible without a rastellum at the apex. Spinning-mammillae long, slender, widely separate at the base.	Dipluridae (p. 34).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1904.

3	b.	Base of mandible with a more or less well-developed rastellum at the apex. Spinning-mammillae short, stout, and closely situated at the base.	Ctenizidae (p. 5).
4	B.	Tarsi with claw-tufts; inferior claw seldom present (sometimes in immature forms and in some males on tarsi iv.).	Theraphosidae (p. 13).
5		Sect. ARACHNOMORPHAE (p. 42). The plane of the articulation of the mandibles horizontal. Pulmonary sacs two in number (except in <i>Hypochilus</i>), the second pair replaced by tracheal tubes.	6
6	A.	Cribellum and calamistrum present.	7
	B.	Cribellum and calamistrum absent.	13
7	a.	Tracheal stigmata situated midway between the genital rima and the spinners. Mandibles soldered together at their base.	Filistatidae (p. 45).
	b.	Tracheal stigmata situated immediately in front of the spinning-mammillae. Mandibles not soldered together basally.	8
8	i.	Tarsal claws 3.	9
	ii.	Tarsal claws 2.	12
9	a ¹ .	Ungual tufts present on the tarsi.	Psechridae (p. 356).
	b ¹ .	No unguual tufts on the tarsi.	10
10	a ² .	Central anterior eyes abnormally large.	Deinopidae (p. 359).
	b ² .	Central anterior eyes normal in size.	11
11	a ³ .	Anal tubercle elongate, conical.	Uloboridae (p. 360).
	b ³ .	Anal tubercle short, semicircular.	Dictynidae (p. 357).
12	a ⁴ .	Tarsi i. and ii. not scopulate. Ungual tuft present.	Acanthoetenidae (p. 354).
	b ⁴ .	Tarsi i. and ii. densely scopulate beneath. Ungual tuft absent.	Zoropsidae (p. 353).
13	a.	Tracheal stigmata (or second pair) widely separate, not migrant, situated close to the first pair (whether pulmonary or tracheal).	14
	b.	Tracheal stigmata (or second pair) coalescent, migrant, more or less remote from the genital rima.	16
14	a ¹ .	The first pair of stigmata opening on to pulmonary sacs.	15
	b ¹ .	The first pair of stigmata (as well as the second) opening on to tracheal tubes.	Caponiidae (p. 48).
15	a ² .	Colulus present.	Dyseridae (p. 42).
	b ² .	Colulus absent.	Oonopidae (p. 44).
16	aa.	Eyes 8.	17
		(not aa.)	37
17	I.	Tarsus iv. without serrate bristles or single series of serrate spines.	18
		(not I.)	33
18	a ³ .	Posterior pair of spinning-mammillae absent or much shorter than the anterior pair.	Zodariidae (p. 53).
	b ³ .	Posterior pair of spinning-mammillae not shorter than the anterior pair.	19

19	a ⁴ .	Posterior spinning-mammillae very long, flagelliform, tapering, attenuate.	Hersiliidae (p. 350)
	b ⁴ .	Posterior spinning-mammillae not abnormally long or flagelliform.	20
20	*	Tarsal claws 2. Ungual tufts present.	21
	**	Tarsal claws 3.	28
21	a ⁵ .	Anterior pair of spinning-mammillae set wide apart at their base.	Gnaphosidae (p. 54).
	b ⁵ .	Anterior pair of spinning-mammillae set close together at their base.	22
22	a ⁶ .	Apex of protarsi without a hard chitinous rim, but furnished with a trilobate membrane.	Heteropodidae (p. 118).
	b ⁶ .	Apex of protarsi with a hard chitinous rim, not furnished with a trilobate membrane.	23
23	a ⁷ .	Eyes situated in an almost straight transverse row.	Selenopidae (p. 115).
	b ⁷ .	Eyes situated in two or three transverse rows.	24
24	a ⁸ .	Legs iii. and iv. very much shorter than i. and ii. Mandibles weak, sometimes with very small teeth.	Thomisidae (p. 127).
	b ⁸ .	Legs iii. and iv. not much shorter than i. and ii. Mandibles strong, with stout teeth.	25
25	a ⁹ .	Central anterior eyes very large. Eyes of posterior row widely separate, forming a large quadrangle.	Salticidae (p. 166).
	b ⁹ .	Central anterior eyes not or scarcely enlarged. Eyes of posterior row not widely separate, forming a transverse row.	26
26	a ¹⁰ .	Eyes situated in two transverse rows.	27
	b ¹⁰ .	Eyes situated in three, or four, transverse rows.	Ctenidae (p. 107).
27	a ¹¹ .	Tracheal stigmata more or less remote from the spinning-mammillae.	Anyphaenidae (p. 92).
	b ¹¹ .	Tracheal stigmata set immediately in front of the spinning-mammillae.	Clubionidae (p. 61).
28	a ¹² .	Tibia of male palpus with an apical external spur.	29
		(not a ¹² .)	31
29	a ¹³ .	Protarsi i. and ii. without a central apical spine beneath.	Senoculidae (p. 349).

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., September 1904.

29	b ¹³ .	Protarsi i. and ii. with a central apical spine beneath.	30
30	a ¹⁴ .	Eyes in two rows.	Agelenidae (p. 332).
	b ¹⁴ .	Eyes in three rows.	Pisauridae (p. 303).
31	b ¹² .	Tibia of male palpus without an apical external spur.	32
32	a ¹⁵ .	Eyes of anterior row subequal or centrals sometimes larger. Labium and maxillae shorter in proportion.	Lycosidae (p. 314).
	b ¹⁵ .	Central eyes of anterior row much smaller. Labium and maxillae longer in proportion.	Oxyopidae (p. 338).
33	II.	Tarsus iv. set with numerous serrate bristles, or with a single series of serrate spines beneath.	34
34	a ¹⁶ .	Tarsus iv. set with a single series of stout, curved, serrate spines beneath.	Theridiidae (p. 371).
	b ¹⁶ .	Tarsus iv. set with numerous serrate bristles.	35
35	a ¹⁷ .	Tibias and protarsi i. and ii. furnished with a series of widely separate, very long spines, the interspaces being set with a row of shorter curved spines, increasing in length distally.	Mimetidae (p. 409).
	b ¹⁷ .	Tibias and protarsi not so furnished.	36

36	a ¹⁸ .	Legs shorter and stouter. Maxillae not inclined over labium.	Argyropidae (p. 412).
	b ¹⁸ .	Legs very long and slender. Maxillae inclined over labium.	Pholcidae (p. 365).
37	bb.	Eyes 6.	38
38	a ¹⁹ .	Mandibles not soldered together at their base. Fang of mandible long and slender.	Leptonetidae (p. 45).
	b ¹⁹ .	Mandibles soldered together at their base. Fang of mandible short, but weak. Colulus present or absent.	Scytodidae (p. 48).

The following genera or species have been added to the Mexican or Central-American fauna during the course of publication of the present volume, or have been accidentally omitted in our enumeration:—

BIOL. CENTR.-AMER., Arachn. Aran., Vol. II., *September* 1904.

ARANEIDEA.

545

SALTICIDAE.

Dendryphantes ruber, Peckh. Proc. Nat. Hist. Soc. Wisc. 1885, p. 66 (*Philaeus*); Occas. Papers Nat. Hist. Soc. Wisc. iii. p. 47.—Guatemala.

Ashtabula glauca, Simon, Ann. Soc. Ent. Belg. xvi. p. 31 (1902).—Mexico, Cuernavaca, Guanajuato.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., *November* 1904.

4 A‡

INDEX.

587

INDEX.

[Names in small capitals refer to Families, &c.; those in roman type to the chief reference to each species included in the work; those in italics to species incidentally mentioned, synonyms, &c.] **Only names applicable to the Salticidae are shown here. In this version, separation of chief and incidental references has been indicated the separation of respective columns, and not by the use of capitals or italics as in the original text. Only genera and species are italicized, per current practice.**

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Akela</i>		299	
-----	<i>charlottae</i>	299	
<i>Alcmena</i>			247
-----	<i>amabilis</i>		301
-----	<i>pallida</i>		247

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., *January* 1905.

4 F‡ 2

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
Amyceae		187	178
<i>Amycus</i>		191, 302	187, 296
-----	<i>benignus</i>	193	191, 192, 194
-----	<i>fallax</i>	195	193, 194
-----	<i>flavolineatus</i>	302	
-----	<i>hieroglyphicus</i>	194	193, 195
-----	<i>longipalpus</i>	195	192, 193
-----	<i>marjorii</i>		193, 194
-----	<i>pacatus</i>	195	193
-----	<i>palpinalis</i>	195	193
-----	<i>quadriguttatus</i>	194	191, 193, 195
-----	<i>spectabilis</i>		191
-----	<i>spiralifer</i>	196	
<i>Anoka</i>		255	253, 256, 298
-----	<i>fimbriata</i>	256	
-----	<i>grenada</i>	256	255
-----	<i>moneagua</i>		256
-----	<i>parallela</i>		256
-----	<i>vernalis</i>		255
<i>Araneus</i>	<i>scenicus</i>		172

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Asamonea</i>			186
-----	<i>flava</i>		186
<i>Asemonea</i>		186	179
-----	<i>flava</i>	186	
-----	<i>puella</i>		186
-----	<i>tenuipes</i>		186
<i>Ashtabula</i>		256	253, 298
-----	<i>dentata</i>	257	
-----	<i>glauca</i>	545	
-----	<i>nigricans</i>	257	
-----	<i>zonura</i>		256, 257
<i>Attus</i>		300	172
-----	<i>aestivalis</i>		273
-----	<i>agrestis</i>		247
-----	<i>amabilis</i>	301	
-----	<i>arizonensis</i>		284

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>aurantius</i>	301	
-----	<i>branickii</i>		247
-----	<i>capitatus</i>		272
-----	<i>cautus</i>	301	
-----	<i>chrysis</i>		276, 277
-----	<i>coecatus</i>		246
-----	<i>dybowskii</i>		239
-----	<i>familiaris</i>		250
-----	<i>flavolineatus</i>		302
-----	<i>fuscipes</i>	301	
-----	<i>infuscatus</i>	300	
-----	<i>iris</i>		277
-----	<i>limbatus</i>	301	
-----	<i>militaris</i>		279
-----	<i>multicolor</i>		278
-----	<i>nitens</i>	302	
-----	<i>nubilus</i>		272
-----	<i>parvus</i>		273, 292
-----	<i>paykulli</i>		240, 241
-----	<i>puerperus</i>		246, 247
-----	<i>pugnax</i>	301	
-----	<i>retiarius</i>		272
-----	<i>strenuus</i>	301	
-----	<i>sylvanus</i>		247
-----	<i>taeniola</i>		252
-----	<i>viridipes</i>		244
<i>Avitus</i>		298	
-----	<i>dioleni</i>	298	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

590

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Bagheera</i>		298	
-----	<i>kiplingi</i>	298	
<i>Balmaceda</i>		297	
-----	<i>picta</i>	297	
-----	<i>punctata</i>	297	
<i>Bavia</i>	<i>ornata</i>		248
<i>Beata</i>		292	289
-----	<i>cephalica</i>	293	
-----	<i>magna</i>	293	289, 292

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Bocus</i>			168
<i>Chapoda</i>			196
-----	<i>festiva</i>		196, 208
-----	<i>sulphurea</i>		196
<i>Cheliferooides</i>		254	253, 256
-----	<i>segmentatus</i>	254	
<i>Chirothecia</i>			254
<i>Cobanus</i>		188	187
-----	<i>extensus</i>	190	189
-----	<i>flavens</i>	190	189
-----	<i>mandibularis</i>	190	189
-----	<i>perditus</i>	191	189
-----	<i>subfuscus</i>	191	189
-----	<i>unicolor</i>	190	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

591

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Cobanus</i>	<i>unicolor</i>		189
<i>Coccorchestes</i>		296	289
-----	<i>adjacens</i>	295	
-----	<i>rufipes</i>		295
-----	<i>scarabaeoides</i>	295	
<i>Colonus</i>		246	188
-----	<i>crucifer</i>	247	
-----	<i>puerperus</i>	246	247
<i>Continusa</i>			299
<i>Cotinusa</i>		299	
-----	<i>bisetosa</i>		299
-----	<i>distincta</i>	299	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

592

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Cyrba</i>			252
-----	<i>taeniola</i>		252
<i>Cyrene</i>		222	188, 221, 240, 241
-----	<i>albosignata</i>	235	228, 229, 237, 238
-----	<i>aprica</i>	239	222, 223, 228, 229, 236
-----	<i>bicavata</i>	235	228, 229, 237

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>bicuspidata</i>	238	224, 227, 229, 235, 237
-----	<i>bifida</i>	233	224
-----	<i>bifurcata</i>	234	225
-----	<i>bilobata</i>	230	224
-----	<i>bisignata</i>	236	222, 228, 229
-----	<i>bulbosa</i>	231	224
-----	<i>curvispina</i>	231	224, 234
-----	<i>decorata</i>		222
-----	<i>delecta</i>	238	222, 223, 228, 229, 233 236, 239
-----	<i>dybowskii</i>	239	225, 226, 229
-----	<i>elegans</i>	238	227, 229, 237
-----	<i>emarginata</i>	235	226, 229, 231
-----	<i>flava</i>	236	226, 229
-----	<i>flavescens</i>	239	225, 228, 229
-----	<i>fusca</i>	238	222, 228, 229, 236
-----	<i>geminata</i>	240	228
-----	<i>grisea</i>	233	224
-----	<i>hieroglyphica</i>	236	225, 229
-----	<i>infuscata</i>	235	227, 229
-----	<i>interrupta</i>	239	222, 228, 229
-----	<i>laticava</i>	237	227, 229
-----	<i>longispina</i>	230	224
-----	<i>maculatipes</i>	234	225
-----	<i>mediocava</i>	236	227, 229
-----	<i>minuta</i>	233	225
-----	<i>niveoguttata</i>	240	222, 223, 226, 229
-----	<i>pallida</i>	237	227, 229
-----	<i>pratensis</i>	232	223, 226, 229, 230, 231
-----	<i>prominens</i>	231	224, 227, 229, 235, 237, 238
-----	<i>regia</i>	229	222, 224, 226, 230, 231, 235
-----	<i>rustica</i>	233	225, 228, 229, 234
-----	<i>sanguinea</i>	230	225
-----	<i>simplicicava</i>	237	227, 229

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

593

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Dendryphantes</i>			190, 258, 297
-----	<i>capitatus</i>		272
-----	<i>centralis</i>		269
-----	<i>dubitabilis</i>		267

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>felix</i>		273
-----	<i>hondurensis</i>		272
-----	<i>laetabilis</i>		267
-----	<i>nitidus</i>		263
-----	<i>nubilus</i>		272
-----	<i>retiarius</i>		272
-----	<i>ruber</i>	545	
-----	<i>vegetus</i>		273
<i>Descanso</i>			168
<i>Dynamius</i>			196
-----	<i>opimus</i>		215, 219

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

4 G‡

594

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Epiblemum</i>		300	
<i>Epiblemum</i>	<i>albocinctum</i>	300	
-----	<i>faustum</i>		300
<i>Epinga</i>		248	222, 247
-----	<i>chapoda</i>		248
-----	<i>ornata</i>	248	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

595

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Erica</i>		175	168, 172
-----	<i>eugenia</i>	175	
<i>Escambia</i>			196, 219
-----	<i>alacris</i>		216
-----	<i>conspecta</i>		196, 216
-----	<i>parvula</i>		215
<i>Euophrys</i>		300	
-----	<i>coronigera</i>		302
-----	<i>frontalis</i>		300
-----	<i>newtoni</i>	300	
-----	<i>ysabali</i>	300	
-----	<i>ysobolii</i>		300

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

4 G‡ 2

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Fuentes</i>		297	
-----	<i>pertinax</i>	297	
<i>Habrocestum</i>		302	214
-----	<i>aztecanum</i>		246
-----	<i>belligerum</i>		244
-----	<i>coecatum</i>		246
-----	<i>dorsale</i>	302	
-----	<i>latens</i>		245
-----	<i>mexicanum</i>		243
-----	<i>paratum</i>		245
-----	<i>viridipes</i>		244
<i>Habronattus</i>		241, 303	188, 240
-----	<i>aztecanus</i>	246	243
-----	<i>belligerus</i>	244	243, 245
-----	<i>coecatus</i>	246	243
-----	<i>latens</i>	245	243
-----	<i>mexicanus</i>	243	241, 242, 244, 245, 246
-----	<i>paratus</i>	245	242
-----	<i>perfidus</i>	245	242
-----	<i>placidus</i>	303	
-----	<i>simplex</i>	303	
-----	<i>viridipes</i>	244	242, 243
-----	<i>zebraneus</i>	245	243
<i>Hamillus</i>			220
-----	<i>radians</i>		220
-----	<i>sylvestris</i>		220
<i>Hasarius</i>		296	240, 241
-----	<i>adansoni</i>		240, 241, 296
-----	<i>bellicosus</i>	297	
-----	<i>paykulli</i>		240

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Heraclea</i>			222, 241
-----	<i>paradoxa</i>		230
-----	<i>regia</i>		222, 229
-----	<i>rustica</i>		233
-----	<i>sanguinea</i>		230
<i>Hermosa</i>			168

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
Homalatteae		289	178
<i>Homalattoides</i>		293	289, 292, 295
-----	<i>alboguttatus</i>	294	
-----	<i>longipes</i>	294	
-----	<i>phoeniceus</i>	295	294
-----	<i>roseus</i>	294	293
<i>Homalattus</i>		303	293
-----	<i>hispidus</i>	303	
-----	<i>phoeniceus</i>		295
-----	<i>pustulatus</i>		293, 303
<i>Hyllus</i>	<i>pratensis</i>		232
-----	<i>pugnax</i>		301
-----	<i>strenuus</i>		301
<i>Iola</i>			168
<i>Janigena</i>			169
<i>Janus</i>			169
-----	<i>melanocephalus</i>		169
<i>Jelskia</i>			179
-----	<i>longipes</i>		179
<i>Jotus</i>			196
-----	<i>opimus</i>		196, 215, 219
<i>Keyserlingella</i>		177	168, 176
-----	<i>cara</i>	177	
-----	<i>perdita</i>		177

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

598

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Leptorchestes</i>			168
Lyssomaneae		178	
<i>Lyssomanes</i>		179	168, 178, 186
-----	<i>blandus</i>	186	182
-----	<i>deinognathus</i>	182	180, 183
-----	<i>elegans</i>	186	181
-----	<i>gracilis</i>	186	182
-----	<i>jemineus</i>	184	181
-----	<i>mandibulatus</i>	186	181
-----	<i>pachygnathus</i>	182	180
-----	<i>patens</i>	185	181, 184
-----	<i>placidus</i>	185	181
-----	<i>protarsalis</i>	183	180

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>reductus</i>	183	180
-----	<i>remotus</i>	185	181
-----	<i>simplicipes</i>	183	180

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

599

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Lyssomanes</i>	<i>simplicipes</i>	183	180
-----	<i>spinifer</i>	184	181
-----	<i>spiralis</i>	183	180, 184
-----	<i>trifurcatus</i>	184	181, 182, 185, 186
-----	<i>viridans</i>		179
-----	<i>viridis</i>		179
<i>Marengo</i>			168
<i>Maroussa</i>			179
-----	<i>antillanus</i>		179
<i>Marpissa</i>		248	247, 249, 251, 252, 253
-----	<i>familiaris</i>	250	249
-----	<i>magna</i>	250	249
-----	<i>melanognatha</i>	250	248, 249
<i>Marpissa</i>	<i>melanura</i>	251	249
-----	<i>minor</i>	250	249
-----	<i>muscosa</i>		248, 252
<i>Marpisseae</i>		247	
<i>Marptusa</i>			247, 248
-----	<i>familiaris</i>		250
-----	<i>magna</i>		250
-----	<i>melanognatha</i>		250
<i>Marptuseae</i>			178, 247
<i>Martella</i>			168, 172, 175
-----	<i>lineatipes</i>	175	174
-----	<i>pottsi</i>	174	
<i>Menemerus</i>			241
-----	<i>bicolor</i>		241
-----	<i>fannae</i>		241
-----	<i>melanognathus</i>		250
-----	<i>paykulli</i>		240
-----	<i>semilimbatus</i>		241
<i>Messua</i>		299	
<i>Messua</i>	<i>desidiosa</i>	299	
<i>Metacyrba</i>		252	248, 251

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>taeniola</i>	252	
<i>Metaphidippus</i>		258	253, 287, 297
-----	<i>apicalis</i>	265	259, 261
-----	<i>bicavatus</i>	270	261, 264
-----	<i>bicuspidatus</i>	269	260
-----	<i>bispinosus</i>	266	259, 261
-----	<i>capitatus</i>	272	260, 262
-----	<i>centralis</i>	269	260, 262
-----	<i>cupreus</i>	270	261
-----	<i>dentiger</i>	264	259
-----	<i>digitatus</i>	269	260

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

600

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Metaphidippus</i>	<i>dubitabilis</i>	267	262
-----	<i>expallidatus</i>	270	261
-----	<i>felix</i>	273	260, 264
-----	<i>flavolineatus</i>	268	260
-----	<i>furcatus</i>	267	260
-----	<i>furcillatus</i>	267	260
-----	<i>globosus</i>	265	259
-----	<i>houdurensis</i>	272	
-----	<i>hondurensis</i>		260, 262
-----	<i>inflatus</i>	271	262
-----	<i>iridescens</i>	271	262
-----	<i>laetabilis</i>	267	259, 260
-----	<i>lanceolatus</i>	266	259, 267, 268
-----	<i>levispinus</i>	267	259
-----	<i>longipalpus</i>	264	259
-----	<i>mandibulatus</i>	262	258
-----	<i>maxillosus</i>	265	259
-----	<i>momus</i>	271	262
-----	<i>nigropictus</i>	269	260
-----	<i>nitidus</i>	263	258
-----	<i>nubilus</i>	272	262
-----	<i>ochraceus</i>	272	262
-----	<i>octonotatus</i>	263	258, 261
-----	<i>ovatus</i>	271	262
-----	<i>pallens</i>	272	262
-----	<i>pallidatus</i>	270	261

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>pernix</i>	264	258
-----	<i>quadrinotatus</i>	271	262, 272
-----	<i>retiarius</i>	272	262
<i>Metaphidippus</i>	<i>tridentatus</i>	263	258, 268
	<i>variegatus</i>	268	260, 261
	<i>vegetus</i>	273	262

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

601

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Nagaina</i>		297	
-----	<i>incunda</i>	298	297

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

4 H#

INDEX.

603

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Pachomius</i>	<i>dybowski</i>		239
-----	<i>flavescens</i>		239
<i>Paradamoetas</i>		177	168, 176
-----	<i>formicina</i>	177	
<i>Paramarpissa</i>		252	248, 251
-----	<i>tibialis</i>	252	
<i>Paraphidippus</i>		273	254, 258, 274, 280, 287
-----	<i>asinarius</i>		275
-----	<i>aureus</i>	279	275
-----	<i>chrysis</i>	276	274, 275, 277, 278, 301
-----	<i>disjunctus</i>	277	274, 275, 278
-----	<i>fertilis</i>	278	275
<i>Paraphidippus</i>	<i>funnebris</i>	275	274, 276
-----	<i>inermis</i>	275	274
-----	<i>laniipes</i>	275	273, 274
-----	<i>limbatus</i>	278	274
-----	<i>luteus</i>	278	274
-----	<i>marmoratus</i>	277	275, 278
-----	<i>mexicanus</i>	279	275
-----	<i>militaris</i>	279	274, 275
-----	<i>multicolor</i>	278	275
-----	<i>nigropilosus</i>	279	274
-----	<i>tricolor</i>	279	275

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>trimaculatus</i>	278	274
<i>Pardessus</i>		221	188
-----	<i>gratiosus</i>	221	222
-----	<i>mimicus</i>	221	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

4 H# 2

604

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Parnaenus</i>		287	254
-----	<i>cuspidatus</i>	288	287
-----	<i>cyanidens</i>	288	287
-----	<i>fimbriatus</i>	288	287
<i>Pellenes</i>	<i>placidus</i>		303
-----	<i>simplex</i>		303
<i>Pensacola</i>		220	188
-----	<i>radians</i>	220	
-----	<i>signata</i>	220	
-----	<i>sylvestris</i>	220	
<i>Phanias</i>		251	248
-----	<i>flavostriatus</i>	251	
<i>Phiale</i>	<i>gratiosus</i>		221
Phidippeae		253	178
<i>Phidippus</i>		280	241, 254, 273, 287
-----	<i>albulatus</i>	285	280, 281, 286
-----	<i>arizonensis</i>	284	280, 282
-----	<i>aureopilosus</i>	283	282
-----	<i>bidentatus</i>	286	281
-----	<i>brunneus</i>	285	281, 282
-----	<i>carneus</i>	283	281
-----	<i>cruentus</i>	284	282
-----	<i>cyanidens</i>		287, 288
-----	<i>disjunctus</i>		277
-----	<i>foveolatus</i>	283	282
-----	<i>fulgidus</i>	286	282
-----	<i>funnebris</i>		275
-----	<i>fuscipes</i>		301
-----	<i>georgii</i>	285	282
-----	<i>howardi</i>	285	281
-----	<i>mexicanus</i>	286	281, 282
-----	<i>montivagus</i>	287	282
-----	<i>nigropilosus</i>		279

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>nitens</i>		302
-----	<i>orichalceus</i>		276
-----	<i>tuberculatus</i>	283	280, 282, 284
-----	<i>variegatus</i>		280
<i>Philaeus</i>	<i>chrysis</i>		276
-----	<i>fartilis</i>		278
-----	<i>limbatus</i>		278
-----	<i>luteus</i>		278
-----	<i>mexicanus</i>		279
-----	<i>militaris</i>		279
-----	<i>multicolor</i>		278
-----	<i>ruber</i>		545
-----	<i>trimaculatus</i>		278
<i>Plexippus</i>		302	
-----	<i>aureus</i>		277, 279
-----	<i>mimicus</i>		221

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

605

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Plexippus</i>	<i>orichalceus</i>		276
-----	<i>puerperus</i>		247
-----	<i>seladonicus</i>		277
-----	<i>taeniatus</i>	302	
-----	<i>tricolor</i>		279
<i>Rhane</i>	<i>munda</i>		291
<i>Rhanis</i>			289
<i>Rudra</i>		254	253, 256
-----	<i>geniculata</i>	255	254
-----	<i>polita</i>	255	
<i>Sadala</i>			299
-----	<i>distincta</i>		299
Salticidae		166	543, 545
Salticinae		177	167
<i>Salticus</i>			172
-----	<i>aurantius</i>		301
<i>Salticus</i>	<i>centralis</i>		173
-----	<i>formicarius</i>		172
-----	<i>limbatus</i>		301
-----	<i>melanognathus</i>		250
-----	<i>nigrolimbatus</i>		250

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>scenicus</i>		172
-----	<i>vaillanti</i>		240
<i>Sarinda</i>			168

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

606

INDEX.

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Semosa</i>			168
<i>Shira</i>		298	
-----	<i>designata</i>	298	
<i>Sidusa</i>		196	187, 188, 197, 210, 219, 296
-----	<i>alacris</i>	216	206, 208
-----	<i>albicincta</i>	215	198, 199, 206, 208, 217, 218
-----	<i>albida</i>	213	202, 208
-----	<i>binotata</i>	219	200, 208
-----	<i>brevispina</i>	217	199, 204, 208
-----	<i>circumcincta</i>	216	205, 208
-----	<i>conspecta</i>	216	198, 199, 206, 208, 219
-----	<i>cristata</i>	213	197, 198, 208, 214
-----	<i>denticheles</i>	212	202, 208
-----	<i>excavata</i>	219	201, 208
-----	<i>festiva</i>	208	200, 201, 207, 209, 210, 211
-----	<i>flavida</i>	219	199, 204, 208, 215, 218
-----	<i>fulvoguttata</i>	214	205, 208, 219
-----	<i>gratiosa</i>		196
-----	<i>inermis</i>	209	200, 208
-----	<i>lutea</i>	217	199, 208
-----	<i>marmorea</i>	211	207, 208
-----	<i>maxillosa</i>	210	201, 206, 208
-----	<i>minuta</i>	212	202, 208
-----	<i>murcida</i>	214	205, 208
-----	<i>nigrina</i>	213	202, 203, 208
-----	<i>nigriventer</i>	214	201, 207, 208
-----	<i>nigropicta</i>	212	201, 208
-----	<i>olivacea</i>	211	202, 208
-----	<i>opima</i>	219	
-----	<i>pallida</i>	211	203, 208
-----	<i>parvula</i>	215	217, 218
-----	<i>penicillata</i>	212	202, 203, 208
-----	<i>quadriguttata</i>	216	204, 205, 208
-----	<i>recondita</i>	210	196, 200, 207, 208

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
-----	<i>spiralis</i>	217	199, 208
-----	<i>spirorbis</i>	214	198, 208
-----	<i>sulphurea</i>	218	200, 203, 208, 219
-----	<i>vittata</i>	213	203, 208, 211
-----	<i>voluta</i>	218	204, 208, 215
<i>Simonella</i>		169	168, 170, 171
-----	<i>americana</i>	170	169, 171
-----	<i>bicolor</i>	171	169, 170
-----	<i>decipiens</i>	171	169, 170

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

607

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
Synageleae		175	168
<i>Synageles</i>		176	168
-----	<i>variegata</i>	176	
-----	<i>venator</i>		176
<i>Synemosyna</i>			168, 169
-----	<i>formica</i>		169
Synemosyneae		168	

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

INDEX.

609

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Thotmes</i>		240	188, 241
-----	<i>bicolor</i>	241	
-----	<i>fannae</i>	241	
-----	<i>paykulli</i>	240	
<i>Titanattus</i>		191	187, 296
-----	<i>saevus</i>	191	209
Toxaeae		171	168
Toxeinae		167	
<i>Toxeus</i>		172	168, 171
-----	<i>centralis</i>	173	174
-----	<i>championi</i>	174	173
-----	<i>formicarius</i>		171
-----	<i>maxillosus</i>		172
<i>Triptolemus</i>	<i>benignus</i>		193

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

4 1†

Genus or Group	Species	Chief Reference Page (s)	Incidental Reference Page (s)
<i>Tulpius</i>		299	
-----	<i>hilaris</i>	299	
<i>Zuniga</i>			168
<i>Zygoballus</i>		289	
-----	<i>maculatus</i>	292	291
-----	<i>minutus</i>	292	290, 291
-----	<i>parvus</i>	292	289, 291
-----	<i>remotus</i>	291	289
-----	<i>rufipes</i>	291	289, 290
-----	<i>strenuus</i>		291
-----	<i>suavis</i>		291
-----	<i>tibialis</i>	292	290, 291

The identity of the printer is shown here for historical purposes only, and is not applicable to this digital edition:

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

BIOL. CENTR.-AMER., Arachn. Aran. & Opil., Vol. II., January 1905.

Plates and figure captions, incorporated into the preceding text, originally appeared at the end of the volume, with each plate, and each corresponding set of figure captions, on a separate sheet. The header and footer for sheets associated with Plate XI (only) are shown here:

Header and caption format for figure caption sheet associated with Plate XI:

ARACHNIDA.—ARANEIDEA.

Vol. II.

PLATE XI.

Fig. 1. (text of caption for Fig. 1)
 2. (text of caption for Fig. 2)
 (etc.)

Header for Plate XI:

Biol Centr. Am.

Arachnida Araneida. Vol. II Tab. 11.

Footer for Plate XI:

F. O. Pickard Cambridge, del.

E Wilson, Cambridge

Figure numbers, gender, and species were also presented at the bottom of each plate, and these have been moved to the text to accompany respective figures. The same information was presented in the figure captions, with more detail. Although each plate was labeled as a "Table" (*e. g.*, *Tab. 11*), these were called "Plates" in the text, and each use of "Table" in the text was a reference to one of the *keys* presented therein.