

A CONTRIBUTION TO THE KNOWLEDGE OF THE ORTHOPTERA OF SOUTH
AND CENTRAL FLORIDA.

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The material on which the following study is based is almost entirely the property of the junior author, the greater portion having been collected by him on trips taken in the months of January and February, 1903 and 1904. The localities represented are Tampa, Hillsboro county; Chokoloskee and Key West, Monroe county; and Miami, Dade county.

The specimens examined number 783, the species seventy-eight, of which seven are new, and several Cuban types are here recorded from the United States for the first time. A very representative series of the material has been presented to the Academy.

The field notes given after the species are entirely the work of the junior author, and are followed by the initial of his name. The brief descriptions of the localities visited, with other facts of interest from the standpoint of this paper, are also by him.

TAMPA, HILLSBORO COUNTY, FLORIDA.

During my brief stay in Tampa (January 16 and 17, 1904) I had time for only a few expeditions, and found that from the Tampa Bay Hotel good collecting grounds were not easy to reach. Chilly weather also hampered me decidedly, as in South Florida the weather had been so cool that Orthoptera was scarce, except in the most sheltered places. There are many marshy spots along the shore of Tampa Bay, and in these few specimens of Orthoptera were to be found. In the driftwood along the shore I also captured a few Forficulids and Blattids, and noticed a small cricket of a pale straw color which I was unable to capture. Back from the bay the country is flat, and for the greater part open with frequent shallow ponds, around the edges of which the grasses grow rank, and in these I took numerous specimens. The occasional woods of scattering pines proved unproductive at this time of year, but along their borders the dead pine stumps yielded a number of *Eurycotis floridana*. A vacant lot near the hotel yielded in addition a few specimens of *Nemobius*.

KEY WEST, MONROE COUNTY, FLORIDA.

I arrived at Key West on January 18, at 4 P.M., and left on the 20th, but during this time I collected every spare moment, and although the Key was dry and a high wind kept the white coquina dust flying in clouds, collecting proved quite productive. During the fall months the collecting must be of the best.

Key West is one of the numerous small islands off the Florida coast, and is situated on the edge of the Gulf Stream, ninety miles northeast of Havana, Cuba. The surface of the Key is composed almost wholly of coquina and is perfectly flat. The greater part is covered with a dense scrub growing to a height of from fifteen to twenty feet, in which very few Orthoptera could be found. The lagoons extending along parts of the shore were also unproductive, but there are a few portions of the island near the city where the country is more open and the scrub is interspersed with occasional gumbo-limbo trees, and in such location the collecting was excellent. Here not only was Acrididæ abundant in the grass, but I also found the Blattidæ and Forficulidæ abundantly represented under the loose chunks of coquina.

I noticed many immature *Gonatista grisca* scurrying about on the gumbo-limbo trees, and at their roots captured several *Anisomorpha buprestoides*. Here and there are small shallow ponds, around the edges of which peculiar weeds flourish on the bare coquina.

MIAMI, DADE COUNTY, FLORIDA.

I spent several weeks in Miami in the winter of 1903, but did not collect of any importance in Orthoptera until February, 1904, when I was there from February 5 to February 9, and found Orthoptera plentiful. Near the town there are four different localities in which to collect: the thick jungle or "hammock," the open pine woods, the salt marshes, and the Everglades. In the "hammock" most insects are abundant, but Orthoptera are scarce. I took several species here on the weeds, under the bark of the oaks, and in the small open spaces. The open pine woods are filled with Orthoptera, and many species were to be found among the low vegetation and pine needles.

The dead pine logs, upon their bark being peeled off, also disclosed several interesting species. These pine woods extend along Biscayne Bay between the Everglades and the "hammocks" along the shore. The salt marshes are to be found here and there along the shore of the bay, but are quite distant from the hotel, and owing to the shortness of my stay I was unable to visit them. The Everglades are so difficult

to penetrate that I found it impossible to collect there. Along their edge no Orthoptera could be found. Many species of Orthoptera were to be heard in the grounds of the Hotel Royal Palm after dark, and I made a number of interesting captures there.

During the summer of 1903, Mr. W. S. Dickinson collected for me in this locality and reported Orthoptera to be scarce in most places.

The material from Chokoloskee, Monroe county, was purchased, and therefore I can give no notes for it.

Family FORFICULIDÆ.

Iabidura bidens (Olivier).

A single small male of this species is contained in the Miami collection, taken July 11, 1903. It is considerably smaller and lighter than males from Thomasville, Georgia, and has the anal segment almost unarmed.

Anisolabis maritima (Bon.).

A female of this species from Key West, taken January 19, 1904, and another from Miami, taken February 9, 1904, have been examined.

Key West.—This specimen was taken from under a coquina boulder, which also disclosed a number of *Anisolabis annulipes*. (H.)

Miami.—Taken from a stone wall. (H.)

Anisolabis annulipes (H. Lucas).

A series of fifty-three specimens from Miami taken during the summer of 1903, and a Key West series of nineteen taken January 19, 1904, represent this species. Considerable variation exists in the width and intensity of the femoral annuli, and in some specimens they are almost wholly lacking.

Key West.—All of these specimens were taken from under coquina boulders along a new road being built on the outskirts of the town. They were found several at a time, often in company with one or two large scorpions. (H.)

Labia burgessii Scudder.

Nine specimens from Tampa, taken January 17, 1904, and fourteen from Miami, taken February 6, 1904, are identical with specimens from Thomasville, Georgia.

Specimens from both localities were taken from under the bark of dead pine logs, those from Miami all being taken from the same log. (H.)

Labia guttata Scudder.

A single female of this species was taken at Tampa, January 17, 1904.

Taken from under a sign on an oak in company with a number of *Periplaneta australasiæ*. (H.)

Family **BLATTIDÆ**.

Blattella germanica (Linnæus).

Four specimens of this species from Miami have been examined.

Blattella adpersicollis (Stål).

Four specimens of this West Indian and tropical American species have been examined from Miami, taken February 6, 1903, and February 7, 1904. This is the first record of the species within the United States.

The specimen captured on February 6, 1903, I took on the porch of the Hotel Royal Palm in the early morning. All the others were found under signs on the pine trees in the town. (H.)

Ceratinoptera lutea Saussure and Zehntner.

An adult was taken at Tampa, in the driftwood along the shore of Tampa Bay, on January 17, 1904, and one in Key West on January 20, 1904. The specimen taken at Tampa was so recently emerged from the larval state that it had not then become hardened. (H.)

Temnopteryx deropeltiformis Brunner.

An adult female of this species was taken at Miami on the 5th of August, 1903. This record considerably extends the range of the species, Indiana being the only State from which it has previously been recorded. Brunner's original description merely credited the species to North America.

Eurycotis floridana (Walker).

This ill-smelling species is represented by a series of twenty-eight individuals in all stages of development, thirteen being adult. Tampa specimens were taken January 16, 1904; Key West individuals on January 18 and 19, 1904; and Miami representatives on February 6, 1904, and July 1 and August 11, 1903.

The greater portion of the immature individuals are of the *sabaliana* type, with the lateral margins light-colored. In some specimens this is quite marked, in others very obscure, and in a number absent; two adults are noteworthy as retaining indistinct traces of this early color pattern.

I found this species moderately common under the bark of dead pine stumps and logs both at Tampa and Miami. In Key West it fairly swarmed under the coquina boulders in the woods, one rock often disclosing a dozen, the greater part immature but ranging from tiny

young to huge females bearing large oöthecæ. All would immediately scuttle away, making a rustling sound in the loose pebbles. When seized these insects emit a vile-smelling oily fluid. The females always produced far more of this than the males. (H.)

Periplaneta americana (Linnæus).

This species is represented by an adult female and four immature individuals taken at Tampa, January 17, 1904.

Periplaneta australasiæ (Fabricius).

Three adults from Miami, taken July 11 and 21 and August 23, 1903, and three adults and seven nymphs taken at Tampa, January 17, 1904, represent this species.

All the specimens from Tampa were taken from under a tin sign on an oak tree. (H.)

Pycnoscelus surinamensis (Linnæus).

This tropical species is represented by a series of sixty-four adult and immature specimens. But one specimen was taken at Tampa, a nymph, on January 17, 1904, and it would appear from this that the species is not so common that far north. Miami is represented by specimens taken in January, February and during the summer, while Key West individuals were all (fourteen in number) taken January 19 and 20, 1904.

I have always found this species plentiful at Miami under stones and rubbish. In Key West it was very abundant under coquina boulders in the woods. I have noticed that they usually attempt to escape by burrowing. (H.)

Plectoptera poeyi (Saussure).

This Cuban type is represented by a series of eight specimens taken at Key West on January 19, 1904. These specimens are the first of the species with exact data recorded from the United States.

Family MANTIDÆ.

Stagmomantis carolina (Johannson).

One immature female, beaten from scrub at Key West on January 20, 1904, belongs to this species. Several males were taken at Miami on February 4, 1903, attracted to light.

• *Gonatista grisea* (Fabricius).

Six immature individuals from Key West, January 19, 1904, and one from Miami, February 6, 1904, are referable to this species.

Key West.—The immature specimens of this species were abundant upon the trunks of the gumbo-limbo trees. They ran about with

great swiftness, but when resting pressed themselves close to the bark, which they exactly resembled.

Miami.—I found a few immature specimens on the trunk of a tree in a swampy spot near the Miami river. (H.)

Thesprotia graminis (Scudder).

This species is represented by an immature specimen from Tampa, taken January 17, 1904, another from Key West, taken January 18, 1904, and six mature or nearly mature individuals from Miami, taken in February, March, July and August.

I have usually found this species in the pine straw of the pine woods, which it so closely resembles as to be invisible when stationary. (H.)

Family PHASMIDÆ.

Anisomorpha buprestoides (Stoll).

Three specimens of this species were taken at Key West on January 19, 1904, and one adult has been examined from Miami, taken August 5, 1903.

Specimens from Key West were taken from among the roots of gumbo-limbo trees. A pair taken on January 19 were in coitu. (H.)

Family ACRIDIDÆ.

Apotettix minutus n. sp. (Pl. I, figs. 3 and 4).

Type: ♂; Miami, Dade county, Florida. February 6, 1904. Collected by Morgan Hebard.

Allied to *A. rugosus* (Scudder), but very considerably smaller, with the median carina of the pronotum very slightly depressed between the humeral angles, the margins of the median femora scarcely undulate and the pulvilli of the caudal metatarsi of subequal length.

Size small; form robust; surface finely tuberculate. Head small; occiput ascending; vertex not elevated above the level of the eyes; fastigium subtruncate, very slightly wider than one of the eyes, distinctly excavated laterad, cephalic margin distinctly carinate and rounded in toward the median carina; median carina of fastigium distinct, extending back to the middle of the eyes and projecting cephalad beyond the margin of the fastigium; frontal costa slightly and regularly divergent to the median ocellus, ventrad of which it is absent; eyes moderately prominent, slightly ovate in outline. Pronotum produced, surpassing the tips of the caudal femora; median carina distinct, slightly elevated and arcuate, very slightly depressed between the humeral angles; anterior margin subtruncate; caudal process very slightly subulate; humeral angle not strongly marked, scapular area

very narrow; cephalic angle of the lateral lobes distinct, obtuse-angulate; caudal angle of the lateral lobes somewhat recurved, elytral and ventral sinus deep and angulate. Tegmina elliptical, the apex acute. Wings extending beyond the caudal process of the pronotum a distance equal to the length of the cephalic femora. Cephalic femora with the dorsal carina quite distinct but not very high, the lower margin slightly arcuate, but not undulate. Median femora with the margins very slightly undulate, the dorsal more so than the ventral. Caudal femora quite robust, inflated, femoral lobe rectangulate and not elevated, external pagina and dorso-lateral face with strong diagonal folds; tibiæ slightly shorter than the femora; metatarsi with the pulvilli of equal length.

General color clove brown becoming somewhat lighter laterad, the dorsal aspect of the caudal femora obscurely russet; eyes black.

Measurements.

Length of body,	6.75 mm.
Length of pronotum,	8.2 “
Greatest width of pronotum,	2.2 “
Length of caudal femora,	4.2 “

The type is the only specimen of the species which has been examined.

This specimen was taken near the south bank of the Miami river, in a damp spot in the “hammock.” The exact locality is about one hundred yards downstream from the first bridge. (H.)

Tettigidea lateralis (Say).

This species was taken at Miami, February 6, 1903.

Radinotatum brevipenne (Thomas).

This species apparently does not occur on Key West, as no specimens were taken. Tampa is represented by sixteen specimens taken on January 17, 1904, while thirteen specimens from Miami were taken on January 29 and 31 and February 3, 1903, February 6 and 9, 1904, and July 28, 1904. Several of the adult females are of very large size. The usual color forms are represented in the series.

Specimens from Tampa were all taken in the grasses bordering the shallow ponds. Those from Miami were taken in the wire-grass and undergrowth of the pine woods. (H.)

Truxalis brevicornis (Johannson).

A single male from Chokoloskee represents this species.

Syrbula admirabilis (Uhler).

A single female of this species was taken at Miami on September 1, 1903. It is very much larger than specimens from the Northern States, measuring forty-five millimeters in length of body.

Macneillia obscura (Scudder).

A series of eighteen specimens—six adult males, six adult females, six nymphs—from Miami were taken February 6 and 9, 1904. They represent both color phases, the green and the brown, the latter predominating, and including all except one adult female and one nymph. The green female has the dorsal half of the latter lobes of the pronotum, the face except the costal region and the dorsal face of the caudal femora grass green, the remainder of the surface being colored much as in the brown phase.

Five nymphs from Tampa, taken on January 17, 1904, were also examined.

I found these specimens in the wire-grass of the pine woods, over a mile from town on the Everglades road. All the specimens were taken within a few yards of each other, and diligent search failed to reveal others in the surrounding woods. The females were easily captured, but the males sprang about with alacrity. (H.)

Amblytropidia occidentalis (Saussure).

Thirteen specimens of this species have been examined: three taken at Miami, February 7 and 9, 1904; eight at Cape Florida, Biscayne Key, February 8, 1904; one at Tampa, January 17, 1904, and one at Chokoloskee.

Orphulella pratorum Scudder.

A series of twenty-two specimens from Key West, taken January 18, 19 and 20, 1904, and seven individuals from Miami, taken in July and August, 1903, represents this species.

Dichromorpha viridis (Scudder).

Eight Tampa specimens, taken January 16 and 17, 1904, and one Chokoloskee individual represent this species. Both color phases are present.

Taken in a vacant field at Tampa. (H.)

Clinocephalus pulcher n. sp. (Pl. I, figs. 1 and 2).

Types: ♂ and ♀; Miami, Dade county, Florida. July 20 (♂) and 16 (♀), 1903. Collected by Dickinson. Hebard collection.

Allied to *C. elegans* Morse, but readily distinguished by the larger size, longer tegmina and more brilliant coloration in the green phase.

Size large (for the genus); form moderately slender. Head with the

occiput with a hardly perceptible elevation; vertex sloping very slightly toward the fastigium, interocular space almost twice as wide as the frontal costa in the male and about once and a half the width in the female; fastigium moderately produced, rectangulate, with a distinct semicircular excavation, margins distinctly elevated, no median carina present; face distinctly retreating; frontal costa slightly and gradually expanding, reaching to the clypeus, sulcate through the entire length; eyes ovoid, in the male very decidedly longer than in infra-ocular portion of the genæ, in the female slightly longer than the same; antennæ distinctly longer (σ^7) or considerably shorter (♀) than the head and pronotum. Pronotum subequal in the male, slightly expanding caudad in the female, lateral carinæ very slightly constricted mesad; median carina as distinct as the lateral; cephalic margin rotundato-truncate, caudal margin very broadly obtuse-angulate, more rounded in the male than in the female; transverse sulcus severing the median carina distinctly behind the middle; lateral lobes of the pronotum with the ventral margin very broadly obtuse-angulate. Tegmina falling slightly short of the apex of the abdomen, apex slightly narrowed and rotundato-truncate; costal area with the proximal lobe very prominent, ulnar area of the male with about eight distinct transverse veins. Abdomen with the subgenital plate of the male produced into a distinct tubercle; cerci straight, simple, tapering. Cephalic and median femora of the male somewhat inflated. Caudal femora exceeding the apex of the abdomen by nearly the length of the head, moderately robust, distal portion slender with the genicular region enlarged; tibiæ with thirteen or fourteen spines on the lateral margin in the male and sixteen in the female.

Male above apple green; sides and limbs cinnamon, shading to wood brown on the lower surface, eyes and a distinct brownish-black post-ocular streak which also suffuses the base of the tegmina; tegmina (except for the green anal area) pale drab; antennæ cinnamon, slightly infuscate apically; dorsal carina of the lateral face of the caudal femora olive; lateral carinæ of the pronotum narrowly lined with cinnamon.

Female with the sides, face and limbs apple green; postocular streak as in the male; head above centrally apple green, flanked by bars of vinaceous-rufous; pronotum above vinaceous-rufous; tegmina with the costal area apple green, the continuations of the postocular streak (reaching to the apex of the tegmina and including the whole discoidal field) brownish-black, angle of the anal vein and adjoining portion of

the anal field salmon buff, margin of the anal field obscurely blackish-brown. Antennæ and limbs marked as in the male.

Measurements.

	♂	♀
Length of body,	20.5 mm.	28 mm.
Length of pronotum,	4.5 "	5.5 "
Caudal width of pronotum,	2.5 "	3.5 "
Length of tegmina,	12.5 "	17.8 "
Length of caudal femora,	12.5 "	17.5 "

A series of five males and three females of this beautiful species have been examined, all taken at Miami on July 20, 1903, except the female type. The males are all uniformly colored except for the presence of a median broad blackish longitudinal bar on the head, a character not noticeable in the type, very distinct in two and faintly indicated in two others. The females, however, exhibit a great color diversity, the type representing one form; another is dull brown with little or no contrasts, in fact resembling the coloration of *Amblytropidia occidentalis*; the third is cinnamon-rufous on the head and pronotum, with the usual postocular streak, while the tegmina are a very delicate pinkish without any longitudinal bar.

Arphia granulata Saussure.

This quite distinct species is represented by a series of four from Chokoloskee, two from Miami, taken February 6, 1903, and February 7, 1904, and four from Key West, taken January 20, 1904. Three of this series are females, and two of them from Chokoloskee are of a decided blackish hue.

Key West.—I found this species in a few sunny openings in the scrub at the eastern end of the Key.

Miami.—Specimens were taken in pine woods near the town. (H.)

Chortophaga viridifasciata (DeGeer).

A series of thirty-seven specimens represents this common and widely distributed species. Miami specimens were taken in January, February and July; Key West individuals on the 18th and 19th of January, 1904; Tampa is represented by three specimens taken January 16 and 17, 1904. Four specimens are from Chokoloskee.

Dissosteira carolina (Linnæus).

One female from Chokoloskee.

Scirtetica picta (Scudder).

This beautiful species is apparently rather common at Miami in July, sixteen specimens taken on the 20th having been examined.

Two specimens taken there on February 6, 1904, were also studied. The hoary suffusion so noticeable in the species of this genus is limited in some individuals, and more general in others, very much as in the closely related *S. marmorata*.

In a few places in the pine woods this species was plentiful, but specimens were hard to capture on account of their extreme shyness. (H.)

Psinidia fenestralis (Serville).

This sand-loving species is represented by a series of sixteen specimens, taken at Chokoloskee, and Miami on February 6, 1904, and July 20, 1903. As a rule they are darker than northern specimens, and have the transverse bars on the lateral aspects of the caudal femora more pronounced.

Dietyophorus guttatus (Stoll).

This striking species is represented by four specimens taken at Miami on July 11, 1903, and June 2, 1899, the latter collected by Dr. H. A. Pilsbry, and in the collection of the Academy. A number of specimens have also been examined from Chokoloskee, Tarpon Springs, Hillsboro county (November, 1903), and Goodall, Volusia county (August).

Pseudopomala brachyptera (Scudder).

A single adult female of this species from Chokoloskee has been examined. This is the first record of this species from the Southern States.

Stenacris chlorizans Walker.

This water-loving species is represented by a single individual from Miami, taken January 30, 1903. A specimen from St. Augustine, in the collection of the Academy, has also been examined.

Leptysmia marginicollis (Serville).

This elusive species is no doubt of regular occurrence in suitable localities, ten specimens having been examined from Chokoloskee, Tampa (January 17, 1904), Miami (January 16, 23, and February 2, 1899; S. N. Rhoads), and De Funiak Springs, Walton county (February 20; C. W. Johnson). All the specimens have the lateral lines distinct.

Specimens from Tampa were taken in the marshy places along the bay. (H.)

Schistocerca americana (Drury).

This powerful species is represented by a series of thirteen Key West specimens taken on January 18 and 19, 1904, two females from Cape Florida, February 8, 1904, a single Chokoloskee individual and a series

of ten from Miami taken in July, 1903, and February, 1904. January specimens from Miami are also in the Academy collection.

Schistocerca damnifica (Saussure).

A male from Miami taken February 6, 1904, and a female from Chokoloskee represent this species.

Schistocerca alutacea (Harris).

Three males, two from Key West, January 20, 1904, and one from Chokoloskee, represent this species. The Key West individuals are rather uniformly colored, while the Chokoloskee specimen is striped.

Key West.—These specimens were taken in the open bush near the city. (H.)

Schistocerca obscura (Fabricius).

One male from Miami taken August 12, 1903, is referred to this species.

Melanoplus puer (Scudder).

Twenty-nine specimens represent this peculiar species, several being immature and the adults all larger than Scudder's measurements. One individual is from Tampa, while the remainder are from Miami, taken February 6, 7 and 9, 1904. The species was previously known only from Fort Reed, Orange county, and Jacksonville, Duval county.

Tampa.—The specimen from Tampa was taken in a grassy spot near the railroad.

Miami.—These specimens were taken in the undergrowth of the pine woods both to the north and the west of the town. (H.)

Melanoplus keeleri (Thomas).

A series of twenty-six individuals, evenly divided between the sexes, represent this species. All are from Miami, taken in July and August, 1903.

Some of the male specimens have the cerci typical of *keeleri*, while others might with justice be referred to *deletor*, and it appears very possible that the two species are identical. The series examined cannot be separated by the cerci into two forms, one extreme running into the other, while in all other characters no difference exists. The series exhibits a considerable amount of color variation, and in size both sexes are larger than Scudder's measurements.

Paroxya floridiana (Thomas).

A male and a female from Miami, taken July 17, 1903, and January 23, 1899, and three females from Chokoloskee represent this species.

Paroxya atlantica Scudder.

A series of fifty-five males and twenty-six females represents this

species. Miami individuals were taken in February, July and August; Cape Florida specimens (two) on February 8, 1904; Tampa individuals (two) on January 17, 1904, and the Key West series on January 19, 1904. Chokoloskee is represented by a number of specimens without data. Many of the males are extremely small, and the Key West series (twenty-six in number) is remarkable on account of the distinct bars on the posterior femora, a feature not very marked on specimens from other localities. The same series appears somewhat smaller than the mainland representatives, especially the females, and possibly may be an insular race worthy of separation.

Those taken in Tampa and Miami were found in marshy spots, while those from Cape Florida and Key West were found on dry ground among weeds. (H.)

Aptenopedes clara Rehn.

This beautiful species is represented by a series of forty-one specimens exhibiting a great amount of variation in size, and considerable in color. A topotypic series from Miami were taken on February 6 and 7, 1904, and in July, 1903, while Key West is represented by twelve specimens indistinguishable from the types, and taken on January 19 and 20, 1904. Several individuals from Cape Florida, Key Biscayne, taken February 8, 1904, are of enormous size, but cannot be separated otherwise from the types. Eight specimens from Tampa, taken January 16 and 17, 1904, have the cerci slightly shorter and less falcate than in Miami specimens, but the furcula are as in true *clara*, and the tendency toward *sphenarioides* is extremely slight. The range in total length of adult males is from 19 millimeters in Miami specimens to 26.5 in the Cape Florida type, in adult females from 24 in small Miami specimens to 34 in the largest Cape Florida representatives.

The brown phase of coloration has been noticed in the female only, the male presenting little else than variation in the intensity of the green phase of coloration.

The specimens from Tampa were taken in marshy spots along the bay. In Key West I found the species among the low, dry herbage near the city, and on Cape Florida in a dense tangle of vines and grasses. Those from Miami were captured in the undergrowth of the pine woods. (H.)

Aptenopedes aptera Seudder.

Four males of this species taken at Miami, February 7, 1904, have been examined. The caudal femora of this species appear heavier than in any of the other species of the genus.

These specimens were taken in the wire-grass of the pine woods to the north of Miami. Specimens were very hard to find here, and none were taken to the west of the town where, otherwise, the best collecting was secured. (H.)

Family **TETTIGONIDÆ.**

Stilpnochlora marginella (Serville).

A single female specimen of this neotropical species from Chokoloskee has been examined. It is slightly smaller than a Nicaraguan female in the Academy collection, but can without hesitancy be referred to this species. Seudder has recorded it from the Florida Keys.

Soudderia curvicauda (DeGeer).

A single female of this species was taken at Miami on July 20, 1903.

Soudderia cuneata Morse.

A pair of this southern species was taken at Miami on August 21 (♂) and 23 (♀), 1903.

Amblycoorypha floridana n. sp. (Pl. I, fig. 5).

Types: ♂, Chokoloskee, Monroe county, Florida [A. N. S. Phila.]; ♀, Miami, Dade county, Florida, July 20, 1903 [Hebard collection].

Allied to *A. oblongifolia*, but differing in the straighter ovipositor and less angulate lateral angles of the disk of the pronotum. From *A. huasteca*, which it resembles in the latter respect, it can be separated by the very much shorter ovipositor.

Size medium; form slender, elongate. Head short, rather broad; vertex very strongly declivent; fastigium of the vertex very broad, about equal to the length of one of the eyes, truncate, broadly touching the frontal fastigium; eyes elliptical; antennæ reaching to the tips of the wings. Pronotum depressed above, distinctly expanding posteriorly; lateral margins of the disk rounded rectangulate, rather obsolete cephalad; cephalic margin with a broad slight median emargination, caudal margin broadly rotundate; lateral lobes slightly deeper than long. Tegmina not quite four times as long as broad, costal margin evenly arcuate, apex rounded; radial rami bifurcate, the branches reaching the anal margin cephalad of the apex; costal region irregularly reticulate. Wings extending beyond the tegmina a distance slightly less than the length of the pronotum. Mesosternal lobes somewhat produced, rounded mesad, an angle developed latero-caudad; metasternal lobes each subcircular. Subgenital plate of the male carinate mesad, distad with a narrow V-shaped median emargination; styles very short, tapering. Ovipositor considerably longer than the

pronotum, moderately curved, distal two-thirds of the dorsad and distal one-third of the ventral margins serrato-dentate, apex moderately acute. Cephalic tibiae with the auricle elongate-elliptical. Caudal femora elongate, considerably inflated proximad, external margin unarmed, internal margin with nine spines; tibiae very slightly longer than the femora.

General color (specimens discolored) straw yellow, traces of the original apple green visible on the tegmina; tympanum of male heavily marked with black.

Measurements.

	♂	♀
Length of body,	24.5 mm.	21 mm.
Length of pronotum,	7 "	7 "
Caudal width of pronotum,	4.5 "	4.5 "
Length of tegmina,	c. 33 "	32.5 "
Greatest width of tegmina,	9 "	9 "
Length of caudal femora,		28.5 "
Length of ovipositor,		11 "

This interesting species is represented by a series of five specimens, three females, two males, all of which are in bad condition, three having lost the caudal limbs. The specimens other than the types are all from Chokoloskee, Florida.

Microcentrum laurifolium (Linnaeus).

Two specimens, male and female, from Miami represent this species in the Hebard collection. They were taken on February 5 and September 12. A single female, in the collection of the Academy, was taken at Miami on February 1, 1899, by S. N. and M. C. Rhoads, and another male at Braidentown, Manatee county.

Many specimens of this species could be heard stridulating in the trees after dark, but were difficult to capture. (H.)

Microcentrum rostratum n. sp. (Pl. I, figs. 6 and 7).

Type: ♀; Miami, Dade county, Florida. March 16, 1903. [Hebard collection.]

Allied to *M. lucidum* Brunner, from Brazil, from which it differs in the triangularly produced meso- and metasternal lobes, and the less rotundate character of the tegmina. The new form can readily be distinguished from the other North American species by its much smaller size and the peculiar fastigium.

Size small; form as usual in the genus. Head but slightly punctate dorsad; occiput and vertex deplanate, moderately declivent; fasti-

gium of the vertex narrow, produced, distinctly sulcate, apically rounded and not as wide as the proximal joint of the antennæ; frontal fastigium much narrower than the fastigium of the vertex and touching the same; eyes subspherical, moderately prominent, slightly depressed, separated from one another by a space equal to the length of one of them; antennæ with the proximal joint subquadrate in section, rather small. Pronotum strongly punctate, depressed above, the lateral angles distinct, rectangulate, more apparent cephalad than caudad; cephalic margin very broadly and shallowly emarginate, caudal margin strongly arcuate; lateral lobes distinctly deeper than long, the ventral margin with an oblique cephalic sinuosity, a distinct humeral sinus present. Tegmina of the type usual in the genus, strongly punctate and coriaceous, the veins not pronounced; anterior ulnar vein becoming obsolete distad, the median vein reaching the sutural margin proximad of the apex, mediastine vein very short; apex narrowly rounded. Wings extending beyond the tegmina a distance slightly less than the length of the pronotum. Mesosternal and metasternal lobes produced caudad, the angles sharp. Cephalic femora with the ventral cephalic margin distinctly spined; tibiæ unspined above. Median femora armed as with the cephalic pair. Caudal femora short, hardly exceeding the tip of the ovipositor, ventral margins spined; tibiæ slightly exceeding the femora in length, slightly bent; tarsi rather small and weak. Ovipositor strongly bent dorsad at the base, the apex broad and bluntly rounded, apical margins serrato-dentate; subgenital plate triangular, produced, compressed.

General color apple green, suffused with yellowish on the abdomen; eyes ceru drab, tarsi and tip of ovipositor burnt umber.

Measurements.

Length of body,	26	mm.
Length of pronotum,	5	"
Caudal width of pronotum,	3.7	"
Length of tegmina,	31	"
Greatest width of tegmina,	8	"
Length ^v of caudal femora,	16.1	"
Length ^f of caudal tibiæ,	17.2	"
Length ^v of ovipositor,	5.5	"

A single specimen of this species, the type, has been examined.

Belocephalus subapterus Scudder.

Two females, one from Miami, August 19, 1903, and the other from Chokoloskee, represent this species. The Chokoloskee specimen is

smaller than the Miami individual, but has the ovipositor longer. Both are of a brownish color, which apparently is the natural coloration. The tegmina and wings are present as very small pads.

***Pyrgocorypha uncinata* (Harris).**

This striking species is represented by four specimens, two from Miami, one taken July 11, 1903 (immature), the other without date, and two from Chokoloskee. They agree very well with Mexican specimens.

***Conocephalus mexicanus* Saussure.**

Three specimens represent this species, one from Tampa, taken January 15, 1904, the others from Miami, taken February 5, 1903, and February 6, 1904.

Tampa.—I took this specimen in a marshy spot on the shore of Tampa Bay.

Miami.—One specimen was captured in a bush about 9 P.M. It was making a deafening noise. I saw and heard several other specimens, but all these when approached flew swiftly away.

***Conocephalus lyristes* n. sp. (Pl. I, figs. 8 and 9).**

Type: ♂, Chokoloskee, Monroe county, Florida. [Hebard collection.]

Apparently allied to *Conocephalus truncatirostris* Redtenbacher from Brazil, *C. exiliscanorus* Davis from Staten Island, and *C. bruneri* Blatchley from Indiana. From the former it can readily be distinguished by the slenderer head and smaller size, while the shape of the fastigium will separate it from the latter species.

Size medium; form rather slender and moderately compressed. Head with the occiput and vertex horizontal, the rostrum elongate and produced into a rather slender, bluntly rounded process which is distinctly longer than the interspace between the eyes, ventral surface with a blunt basal tooth; frontal fastigium produced, but not quite touching the process of the rostrum; eyes rounded ovate in outline, not very prominent. Pronotum deplanate dorsad; lateral angles not distinct cephalad, distinct but rounded caudad; cephalic margin subtruncate, caudal margin broadly arcuate; lateral lobes equally long and broad, the ventral margin obtuse-angulate, humeral sinus rather broad and shallow. Tegmina long and narrow, very considerably surpassing the caudal femora. Cerci thick, heavy and parallel, apically with a strong, recurved, aculeate spine on the internal margin, dorsad of which is placed another of similar character but smaller size; subgenital plate with a broad apical V-shaped emargination and with short but distinct

styles. Cephalic femora unarmed, tibiae with the perforation a mere slit on each face. Median limbs slightly larger than the cephalic pair. Caudal femora no longer than the body, slender, genicular lobes spiniform, the internal more distinctly produced than the external, distal portion of the ventral margins spined; tibiae heavy, straight and rather strongly spined.

General color tawny olive; head with a lateral line on the rostrum, the ocelli and a narrow postocular line ochre yellow, eye drab, ventral surface of the rostrum black; pronotum with the lateral angles marked with ochre yellow, another bar of the same color and a continuation of the postocular line crosses the lateral lobes; tegmina with the radial veins and the sides of the tympanum marked with blackish, a number of rather faint maculations of the same color being distributed over the tegmina, lateral margins of the tympanum external to the blackish bar striped with ochre yellow; limb with the ventral surfaces blackish, rather weak on the cephalic pair, very distinct and extending on to the lateral aspects of the tibiae on the caudal pair.

Measurements.

Length of body,	30.5 mm.
Length of head (dorsal),	6 "
Length of rostrum from eyes,	3.1 "
Length of pronotum,	7.6 "
Greatest width of pronotum,	4.9 "
Length of tegmina,	39.2 "
Greatest width of tegmina,	5 "
Length of caudal femora,	21 "

The type is the only adult specimen examined. An immature female from Chokoloskee appears to belong to this species. The ovipositor is very considerably longer than the body, slightly decurved with an acute apex.

Conocephalus hoplomachus n. sp. (Pl. I, figs. 10 and 11).

Type: ♀; Chokoloskee, Monroe county, Florida. May. [Hebard collection.]

Apparently allied to *C. ensifer* Bolivar from Peru, but differing in the short and acuminate tegmina and wings. The blunt, broad fastigium short, sublanceolate tegmina, and straight elongate ovipositor will at once distinguish this species.

Size large; form robust, limbs short. Head somewhat depressed, subdeplanate dorsad, occiput and vertex horizontal; rostrum moderately produced, extending beyond the cephalic margin of the eyes a

distance slightly less than the interocular space, apex rotundato-truncate, rounded and with no distinct angles; frontal fastigium broadly touching the blunt ventral process of the rostrum; eyes subovate, small, not prominent. Pronotum broad, rather deplanate dorsad, no distinct lateral angles, a slightly marked shoulder developed over the humeral sinus; cephalic margin truncate with a very faint median emargination; caudal margin truncate; lateral lobes distinctly longer than deep, ventral margin rounded with a faint median obtuse angle, humeral sinus distinct but not deep. Tegmina not reaching the apex of the abdomen, sublanceolate, the apex very narrowly rounded; longitudinal veins indistinct and almost lost in the irregular, reticulate character of the cross veins, mediastine veins extending almost half the length of the tegmen, median vein closely pressed to the posterior radial vein and extending to the extreme apex, anterior ulnar vein distinctly longitudinal in disposition and distad parallel and placed close to the median vein. Wings considerably shorter than the tegmina. Ovipositor very long, broad and with a hardly perceptible curve, the length being almost equal to that of the body and nearly twice that of the caudal femora, apex very acute; subgenital plate narrowed toward the apical margin, apex triangularly emarginate. Cephalic femora short, with two spines on the distal portion of the interno-ventral margin, tibiæ with the aperture slit-like. Median limbs about equal to the cephalic in size. Caudal femora slightly exceeding the apex of the abdomen, apical portion not very slender, both ventral margins spined distad, genicular lobes distinctly spined.

General color cinnamon, two faint longitudinal lines of umber present on the sides of the disk of the pronotum.

Measurements.

Length of body,	43 mm.
Length of rostrum from eyes,	2.7 “
Length of pronotum,	10 “
Caudal width of pronotum,	6.2 “
Length of tegmina,	23 “
Length of ovipositor,	38.5 “
Length of caudal femora,	24 “

The type only has been examined.

Conocephalus retusus Scudder.

A single female from Chokoloskee is referred to this species. This species has never before been recorded south of Georgia.

Orohelimum vulgare Harris.

A pair of this species from Chokoloskee has been examined.

Orchelimum concinnum Scudder.

A female from Chokoloskee is the most southern record for this species, whose general range is more western.

Orchelimum nitidum Redtenbacher.

A male individual from Chokoloskee probably belongs to this species, differing from the description in several details, which, however, appear to be unimportant.

Xiphidion gracillimum Morse.

A series of fourteen specimens, nine males and five females, represents this beautiful species. Miami adult specimens were taken on January 30, July 17-20 and September 12, 1903, immature specimens on February 6 and 8, 1904. A single immature male from Tampa was taken January 16, 1904. Considerable variation is exhibited in the intensity of the dorsal stripe. The type series of the species was taken at Capron and Biscayne Bay.

All specimens of this species which I captured were found among dense weeds. (H.)

Xiphidion brevipenne Scudder.

This widely distributed species is represented by one female taken at Chokoloskee.

Atlantiscus sp.

Fourteen immature specimens belonging to a species of this genus were taken at Miami on February 6 and 9, 1904, and at Tampa on January 17, 1904. They apparently are not *gibbosus*, but are quite different from the other species of the genus.

Ceuthophilus latibuli Scudder.

A series of eleven specimens of both sexes represents this richly colored species. They were taken at Enterprise, Volusia county, April 18, 1903, by Mr. Philip Laurent. The species was described from Crescent City, Florida, and Georgia.

Mr. Laurent informs me that this species is found abundantly in gopher holes. In one hole which he dug out the whole of the bottom of the burrow was covered with them. (H.)

Family **GRYLLIDÆ**.***Mogoplistes slossoni*** Scudder.

A female specimen of this species, which is considerably smaller than the type measurements and apparently immature, was taken at Miami, February 6, 1904. The antennæ have four distinct blackish annuli on a chestnut ground.

I took this specimen under a sign on an oak tree in the "hammock" just across the river from Miami. One other specimen was noticed, but escaped by springing from the tree. Great difficulty was experienced in capturing the specimen without rubbing off its silver scales. (H.)

Liphoplus krugii Saussure.

This species was originally described from Cuba, and has never since been recorded outside of that island. Seven specimens, one male, six females, taken at Key West, January 19, 1904, appear to be referable to this form.

These specimens were taken from *Ilex cassine* by beating, in company with *Plectoptera poeyi* and *Cyrtoxipha delicatula*. The specimens were all secured with little difficulty. (H.)

Liphoplus zebra n. sp. (Pl. I, fig. 12).

Type: ♂; Miami, Dade county, Florida. February 6, 1904. (Morgan Hebard.) [Hebard collection.]

Distinguished from *L. krugii* by the apparent tegmina, the smaller size and peculiar coloration.

Size very small; form depressed; surface partially, and probably wholly in the perfect unabraded insect, covered with minute scales of a silvery-white color. Head depressed, the front with a distinct longitudinal median incision, narrow but distinct; eyes reniform in outline, subvertical; antennæ considerably exceeding the body in length. Pronotum scutellate, equal to half the length of the body, moderately arched, the lateral portions deflected toward the median line; cephalic portion considerably narrower than the caudal portion, the margin truncate; caudal margin very distinctly rotundate; lateral margins straight. Tegmina visible only as a projecting fringe around the caudal portion of the pronotum, the structure apparently being a fan-like set of radiating veins, margined apically by a narrow deflected subcoriaceous area. Abdomen short, thickly covered with scales. Limbs heavily scaled; cephalic and median pair very short; caudal femora strongly inflated, supplied with a number of long hairs, tibiæ shorter than the femora and narrowed somewhat proximad, metatarsi serrato-dentate dorsad.

General colors vandyke brown and silvery-white, the tibiæ and tarsi alternately ringed with these shades; caudal femora silvery-white obscurely mottled with the darker color; antennæ wood brown, becoming darker apically and narrowly and rather sparsely ringed with a deeper shade; head probably uniform silvery-white when unrubbed;

pronotum cinnamon darker on the lateral portions of the cephalic half, the lateral lobe lined above with pale ochre-yellow and below with a broad line of silvery-white scales. Tegmina bone white, the margins blotched with the two predominating colors. Abdomen finely mottled with the two contrasting tints.

Measurements.

Length of body,	5 mm.
Length of pronotum,	2.9 "
Caudal width of pronotum,	1.9 "
Length of caudal femora,	3.1 "

Of this beautiful and peculiar species the type is the only specimen which has been seen. The striking coloration is quite distinctive and will immediately separate it from *L. krugii*.

This specimen I captured in the pine woods to the west of Miami. It was first noticed perched on the top of a tuft of wire-grass. After having swept it into the net I very nearly lost it, for it jumped around with great agility. (H.)

Nemobius socius Scudder.

An adult female and an immature individual from Tampa, taken January 16 and 17, 1904, represent this species. The adult has the tegmina but slightly longer than the head and pronotum, while the wings are not visible. In all other respects, however, the Tampa female is inseparable from macropterous individuals from Thomasville, Georgia.

Nemobius ambitiosus Scudder.

This beautiful species is represented by three specimens, two males and a nymph, from Miami, taken February 6, 1904, and a pair from Tampa, taken January 16 and 17, 1904.

This species is almost invariably found in dead leaves. (H.)

Nemobius aterrimus Scudder.

This species, originally described from Jacksonville, Florida, is represented by a pair taken at Tampa on January 17, 1904.

Gryllus firmus Scudder.

A single male from Miami represents this species.

Gryllus rubens Scudder.

This species is represented by a series of ten males and sixteen females.

Miami specimens were taken on February 6, 1904, and August 19 and 21, 1903; Tampa specimens on January 16, 1904, and Chokoloskee

individuals in April and May, 1903. Several of the specimens are smaller than the usual type and are referred here with a little uncertainty.

The specimens taken on February 6 were all found under boards and stones along the main street of Miami. They were captured after dusk while stridulating at a great rate. (H.)

Grylloides poeyi (Saussure).

This Antillean species is represented by nine specimens, three adult males, two adult females and four nymphs, from Miami, taken February 6, 7, and 9, 1904. They are inseparable from a series of Cuban and Bahaman individuals, and constitute the first record of the species from the United States.

The first evening in Miami I heard this cricket stridulating in cracks between the bricks of the drive leading to the Hotel Royal Palm. Marking the places, as it was then too dark to investigate, I left them till the next morning. I then was able to raise the bricks and collected several specimens. One specimen was taken stridulating in a crack six feet from the ground between the stones which form the front of the Miami Bank. This insect emits a shrill sound easily distinguished from *Gryllus rubens* by its higher pitch and the longer duration of the stridulations. When exposed it waves its long slender antennæ about continually. (H.)

Cyrtoxipha delicatula Scudder.

A series of eight adult males, seven adult females and a nymph from Key West, taken January 19, 1904, are referred to this species. An adult male and a nymph were also taken at Miami, February 6, 1904. This series does not wholly agree with Scudder's description, taken from two males from Fort Reed and Sand Point, Florida, but as a great amount of variation in the presence of pronotal hairs and considerable in the length of the wings is exhibited by the specimens studied, it is impossible to attempt to separate them. Saussure's *C. gundlachi* is of a quite different appearance.

Key West.—These specimens I beat from *Ilex cassine* with little difficulty. I found no others on any other bushes, and would probably have missed the species in this locality had I not happened to beat this bush. I found it to be the same in the case of *Plectoptera poeyi* and *Liphoplus krugii*.

Miami.—The nymph was beaten from a bush in the "hammock," and the mature specimen was taken at night when beating for *Microcentrum*. (H.)

Hapithus quadratus Scudder.

This species, which has been synonymized with *H. agitator* by both Saussure and Scudder, appears to be quite distinct and really separable from the northern *H. agitator*. The tegmina of the female are somewhat longer and with a more complex venation, while the posterior limbs are longer and distinctly colored, and as far as available material goes the general size appears greater. Two adult females from Miami were taken August 11 and 21, 1903, while two nymphs from the same place were collected on February 6, 1904. One nymph was taken at Key West, January 19, 1904.

Key West.—This specimen was taken, together with *Plectoptera poeyi* and *Liphoplus krugii*, while beating *Ilex cassine*. (H.)

Orocharis saulcyi (Guérin).

This Antillean species, here recorded from the United States for the first time, is represented by two males taken at Miami, one on February 3, the other on August 19, 1903. The very slender form and structure of the tegmina will readily separate this from the other North American species.

The specimen captured on February 3, 1903, was beaten from the high weeds in a waste field. (H.)

Tafalisca¹ *lurida* Walker.

A single female from Chokoloskee represents this species.

¹ This name was denied recognition by Saussure for lack of significance, but it should replace *Metrypa* Brunner, having five years priority.

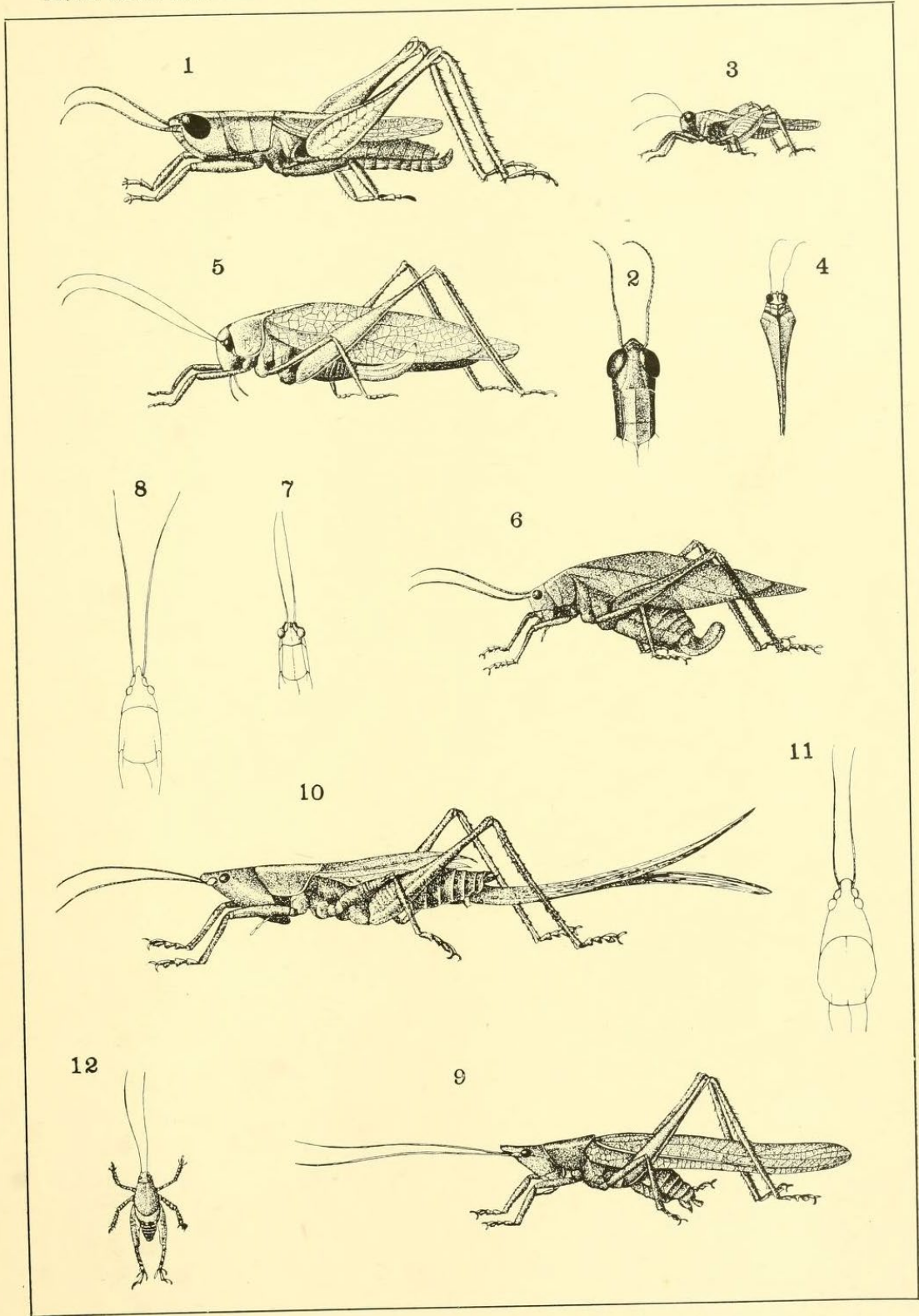
SUMMARY OF SPECIES AND LOCALITIES.

	Tampa.	Choko- loskee.	Miami.	Key West.
FORFICULIDÆ.				
<i>Labidura bidens</i>			*	
<i>Anisolabis maritima</i>			*	*
<i>Anisolabis annulipes</i>			*	*
<i>Labia burgessii</i>	*		*	
<i>Labia guttata</i>	*			
BLATTIDÆ.				
<i>Blattella germanica</i>			*	
<i>Blattella adspersicollis</i>			*	
<i>Ceratinoptera lutea</i>				*
<i>Temnopteryx deropeltiformis</i>			*	
<i>Eurycotis floridana</i>	*		*	*
<i>Periplaneta americana</i>	*			
<i>Periplaneta australasiae</i>	*		*	
<i>Pycnoscelus surinamensis</i>	*		*	*
<i>Plectoptera poeyi</i>				*
MANTIDÆ.				
<i>Stagmomantis carolina</i>			*	*
<i>Gonatista grisea</i>			*	*
<i>Thesprotia graminis</i>	*		*	*
PHASMIDÆ.				
<i>Anisomorpha buprestoides</i>			*	*
ACRIDIDÆ.				
<i>Apotettix minutus</i>			*	
<i>Tettigidea lateralis</i>			*	
<i>Radinotatum brevipenne</i>			*	*
<i>Truxalis brevicornis</i>		*		
<i>Syrbula admirabilis</i>			*	
<i>Macneillia obscura</i>	*		*	
<i>Amblytropidia occidentalis</i>	*	*	*	
<i>Orphulella pratorum</i>			*	*
<i>Dichromorpha viridis</i>	*	*		
<i>Clinocephalus pulcher</i>			*	
<i>Arphia granulata</i>		*	*	*
<i>Chortophaga viridifasciata</i>	*	*	*	*
<i>Dissosteira carolina</i>		*		
<i>Scirtetica picta</i>			*	
<i>Psinidia fenestralis</i>		*	*	
<i>Dictyophorus guttatus</i>		*	*	
<i>Pseudopomala brachyptera</i>		*		
<i>Stenacris chlorizans</i>			*	
<i>Leptysma marginicollis</i>	*	*	*	
<i>Schistocerca americana</i>		*	*	*
<i>Schistocerca damnifica</i>		*	*	
<i>Schistocerca alutacea</i>		*		*
<i>Schistocerca obscura</i>			*	
<i>Melanoplus puer</i>	*		*	
<i>Melanoplus keeleri</i>			*	
<i>Paroxya floridiana</i>		*	*	
<i>Paroxya atlantica</i>	*	*	*	*
<i>Aptenopedes clara</i>	*		*	*
<i>Aptenopedes aptera</i>			*	

	Tampa.	Choko- loskee.	Miami.	Key West.
TETTIGONIDÆ.				
<i>Stilpnochlora marginella</i>		*		
<i>Scudderia cuneata</i>			*	
<i>Scudderia curvicauda</i>			*	
<i>Amblycorypha floridana</i>		*	*	
<i>Microcentrum laurifolium</i>			*	
<i>Microcentrum rostratum</i>			*	
<i>Belocephalus subapterus</i>		*	*	
<i>Pyrgocorypha uncinata</i>		*	*	
<i>Conocephalus mexicanus</i>	*		*	
<i>Conocephalus lyristes</i>		*		
<i>Conocephalus hoplomachus</i>		*		
<i>Conocephalus retusus</i>		*		
<i>Orchelimum vulgare</i>		*		
<i>Orchelimum concinnum</i>		*		
<i>Orchelimum nitidum</i>		*		
<i>Xiphidion gracillimum</i>	*		*	
<i>Xiphidion brevipenne</i>		*		
<i>Atlanticus sp</i>	*		*	
GRYLLIDÆ.				
<i>Mogoplistes slossoni</i>			*	
<i>Liphoplus krugii</i>				*
<i>Liphoplus zebra</i>			*	
<i>Nemobius socius</i>	*			
<i>Nemobius ambitiosus</i>	*		*	
<i>Nemobius aterrimus</i>	*			
<i>Gryllus firmus</i>			*	
<i>Gryllus rubens</i>	*	*	*	
<i>Gryllodes poeyi</i>			*	
<i>Cyrtoxipha delicatula</i>			*	*
<i>Hapithus quadratus</i>			*	*
<i>Orocharis sauleyi</i>			*	
<i>Tafalisca lurida</i>		*		

EXPLANATION OF PLATE I.

- Fig. 1.—*Clinocephalus pulcher* n. sp. Miami, Florida. Male type, lateral view. Twice natural size.
- Fig. 2.—*Clinocephalus pulcher* n. sp. Miami, Florida. Male type, dorsal view of head and pronotum. Twice natural size.
- Fig. 3.—*Apotettix minutus* n. sp. Miami, Florida. Type, lateral view, twice natural size.
- Fig. 4.—*Apotettix minutus* n. sp. Miami, Florida. Type, dorsal view of head and pronotum. Twice natural size.
- Fig. 5.—*Amblycorypha floridana* n. sp. Chokoloskee, Florida. Type, lateral view. Natural size.
- Fig. 6.—*Microcentrum rostratum* n. sp. Miami, Florida. Type, lateral view. Natural size.
- Fig. 7.—*Microcentrum rostratum* n. sp. Miami, Florida. Type, dorsal view of head and pronotum. Natural size.
- Fig. 8.—*Conocephalus lyristes* n. sp. Chokoloskee, Florida. Type, dorsal view of head and pronotum. Natural size.
- Fig. 9.—*Conocephalus lyristes* n. sp. Chokoloskee, Florida. Type, lateral view. Natural size.
- Fig. 10.—*Conocephalus hoplomachus* n. sp. Chokoloskee, Florida. Type, lateral view. Natural size.
- Fig. 11.—*Conocephalus hoplomachus* n. sp. Chokoloskee, Florida. Type, dorsal view of head and pronotum. Natural size.
- Fig. 12.—*Liphoplus zebra* n. sp. Miami, Florida. Type, dorsal view. Twice natural size.



REHN AND HEBARD. ORTHOPTERA OF FLORIDA.