

DISTRIBUTIONAL AND TAXONOMIC NOTES ON SOUTHEASTERN  
DERMAPTERA AND ORTHOPTERA, AND A NEW SPECIES OF  
*CYCLOPTILUM* (GRYLLIDAE).

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Most of the records which follow are the compilation of field work during the period of September 1936 to September 1937 and the summer of 1938 while I was a member of the faculty of the University of Miami. Several able Orthopterists, particularly J. A. G. Rehn, Morgan Hebard, W. T. Davis, A. P. Morse, and T. H. Hubbell have collected widely in southeastern United States, describing many new species. This report is intended as an addendum; attention

is particularly directed to those species, either wide-ranging or localized, of which records have appeared infrequently. One new species is described from southern Florida.

*Labidura bidens* (Oliv.) Florida: Coral Gables, IV-14-37, 2 males, 1 female between crevices of stones in walk around fountain. Georgia: Macon, IX-1-37, 1 male in crevice in steps of swimming pool.

*Doru lineare* (Eschs.) Florida: Ft. Lauderdale, X-10-36, 4 males, 2 females; XI-3-36, 2 females; V-1-37, 1 male; Hollywood, VIII-3-38, 1 female. Coral Gables, IV-3-37, 1 female. All these specimens were swept from tall grasses. Mr. Hebard identified the species and writes that these are the first records from Florida.

*Aglaopteryx gemma* Hebard. Taken at several Florida localities and at Macon, Georgia, VIII-25-38, 1 female in molasses trap.

*Stagmomantis floridensis* Davis. Florida: Ft. Lauderdale, X-10-36, 1 female; Pinecrest, X-11-31, 1 female (E. M. Miller).

*Oligonyx scudderi* Saussure. Florida: Ft. Lauderdale, XI-3-36, 2 females (imm.); Miami, XII-36, 1 female.

*Mantoida maya* Sauss. & Zehnt. Florida: Hollywood, VII-10-37, 1 female; VIII-6-37, 1 male, 1 female; VII-13-38, 1 female. About a dozen specimens in all were seen but in the stiff tangle of seagrape branches, where they were found, the capture of specimens was a most difficult matter. The last female recorded was found resting on grass at night.

*Brunneria borealis* Scudder. Georgia: Macon, IX-8-28, 1 female; X-1-32, 1 female; VIII-29-38, 4 females. Identified, from a description, by Henry Fox who adds the following Georgia records: Macon, X-25-20, 1 female (C. J. Broome); VI-9-22, 2 juv., early instars, provisionally referred to this species; IX-20-22, 1 adult (sex not noted); X-24-23, 1 adult (sex not noted); X-4, 5-24, 4 females. Vidalia, IX-24-22, 2 females; IX-20-23, 2 adults (sex not noted).

*Manomera brachypyga* R. & H. Florida: Pinecrest, V-15-37, 3 males, 1 female; VI-29-37, 1 male; Long Pine Key, VII-1-38, 2 males, 1 female.

*Aplopus mayeri* Caudell. Bahia Honda Key, Florida, VIII-15-38, 3 males (1 imm.), 4 females, on bay cedar. The females differ greatly in size; the largest measures 133 mm. (excluding oviscapt), the smallest 108 mm.

*Paratettix rugosus* (Scudder). Florida: Deep Lake, II-27-37, 2 males, 2 females; Coral Gables, XII-29-36 to VIII-9-37, 5 males, 3 females; Dania, VII-31-37, 1 female; Tavernier, X-10-36, 5 males, 2 females.

*Tettigidea acuta* Morse. Florida: Deep Lake, II-27-37, 6 males, 6 females; Silver Springs, VIII-27-37, 11 males, 8 females.

*Radinotatum carinatum peninsulare* R. & H. Florida: Numerous specimens from various localities in the immediate vicinity of Coral Gables; Okeechobee, VIII-15-38, 4 males, 1 female. 2 males and 2 females from Weirsdale are intermediate between *c. peninsulare* and Georgia specimens of *carinatum carinatum*.

*Truxalis brevicornis* (L.). Florida: Deep Lake, VII-24-37, 2 males. Abundant there in the rank vegetation, chiefly arrowhead, surrounding the lake.

*Mermiria intertexta* Scudder. Florida: Big Pine Key, VIII-18-37, 1 male, 1 female, in a growth of sawgrass in a pothole; Cape Sable, VI-12-37, 4 males, 3 females; Pinecrest, V-15-37, 2 males, 1 female.

*Syrbula admirabilis* (Uhler). Florida: Coral Gables, XI-26-36 to VIII-17-37, and VI-25-38 to VII-4-38, 11 males, 9 females. Frequent in wiregrass of pine woods. The males in this series average 28.8 mm. (27.5-29.7) in length as compared to an average for Macon, Georgia, specimens of 25 mm. (23.8-25.5).

*Trimerotropis saxatilis* McNeill. Georgia: Holton (8 miles n. e. of Macon), X-29-32, 3 males, 1 female. Found together with *S. marmorata picta*

(Scudder) on lichen-covered gneiss at an elevation of 650 feet. This record extends the known southward range of *saxatilis* about a hundred miles.

*Eotettix signatus* Scudder. Florida: Pinecrest, V-15-37 to VI-28-37, 5 males, 4 females; Ochopee, V-8-37, 4 males.

*Eotettix pusillus* Morse. Florida: Havana, VIII-20-38, 1 male, 3 females, in rank grasses by stream. Georgia: Macon, IX-3-37, 3 males, 1 female; VIII-25-38, 2 males, 1 female, in dry oak woods.

*Aptenopedes hubbelli* Hebard. Florida: Okeechobee, VIII-16-37, 3 males, 3 females. Also taken at Ft. Myers and Silver Springs.

*Aptenopedes aptera coquinae* Hebard. Florida: Coral Gables, scarce among saw palmetto in pine woods; Okeechobee, VIII-16-38, 3 males, 3 females (1 imm.). The Okeechobee specimens are tentatively assigned to this subspecies. The males have the ventral arm of the dorsal lobe of the penis much longer than the upper arm. The specimens are small for that form; the males average 16.9 mm. in length, the females 22.7.

*Melanoplus foxi* Hebard. Georgia: Macon, IX-3-37, 16 males, 7 females; VIII-25-38, 4 males, 1 female. The male genitalia of Jefferson County specimens, as figured by Hubbell (1), are entirely like those of these topotypic specimens.

*Melanoplus acidocerus* Hebard. Georgia: Macon, IX-3-37, 15 males, 7 females; VIII-25-38, 20 males, 9 females. Associated with *M. foxi* in an oak woodland on sand with an undergrowth of *Vaccinium*. Blatchley (2) reduced *acidocercus* to subspecific rank under *carnegiei* Morse. While the relationship is undoubtedly close the series from Macon shows no overlapping of distinctive characters of male cerci and genitalia with a series of *carnegiei* from Hapeville. *Acidocercus* apparently replaces *caregiei*, a Piedmont species, on the sandy soil of the coastal plain.

*Melanoplus femur-rubrum propinquus* Scudder. Florida: Locally abundant in such sites as roadsides and recently abandoned agricultural land. Apparently dependent, in south Florida, on conditions effected by human agency.

*Melanoplus symmetricus* Morse. Florida: Havana, VIII-20-38, 1 male. This specimen has the lower, distal angle of the cercus more acute than is shown by Morse (3). One other individual, presumably of this species, was seen in an hour's search in a small valley grown up in rank grasses and sweetgum saplings.

*Arethaea phalangium* (Scudder). Florida: Coral Gables, VI-18-37, 1 male, at light; VI-25-37, 2 males, 2 females (1 imm.); VII-2-37, 2 males; 2 females; VI-18-38 to VIII-1-38, 3 males, 4 females (1 imm.). With the exception of the first specimen recorded, all were taken in wire grass in open pine woods. A female was observed ovipositing in the dwarf oak. One of the immature specimens has the right cephalic leg much shorter than the left, suggesting regeneration.

*Stilpnochlora coulöniana* (Saussure). Florida: Delray Beach, XII-27-36, 3 immature females on papaya. These were reared to maturity on papaya leaves; two underwent one molt each, the other three molts. Coral Gables, VII-28-37, 1 imm. male; Dania, VII-31-37, 1 female.

*Turpilia rostratum* (R. & H.) Florida: No Name Key, XII-19-36, 1 male; Tahiti Beach (Coral Gables), I-19-37, 1 male; III-23-37, 4 males; IV-7-37, 2 males, 1 female; VIII-10-38, 4 males; Hollywood, VIII-10-37, 1 female; VIII-3-38, 1 female. All on buttonwood.

*Lea floridensis* (Beutenmüller). Florida: Coral Gables, VI-7-37 to VIII-9-37, 11 males (1 brown), 10 females (2 brown); VI-18-38 to VII-4-38, 6 males, 9 females, (3 brown). Several colonies of this insect were located in cabbage palmetto stands by the stridulations of the male. Females were taken by search in the folds of the palmetto fans. It is of interest to note that the brown in-

dividuals were found only in the dead, brown fans. Caged individuals fed upon cabbage, dwarf oak and on the green berries and pedicels of the cabbage palmetto but not on its leaves. *L. floridensis* is evidently strictly seasonal as the first calls heard in 1937 were on June 1. The maximum incidence of adults, as judged by their calls, came about the middle of July and by August 25 only occasional individuals were heard.

*Belocephalus sabalis* Davis. Florida: Coral Gables, frequent on cabbage palmetto and saw palmetto. Okeechobee, VIII-15-38, 2 males, 3 females. As noted by Hebard (4), specimens of this species from the southeastern portion of its range have the fastigium heavier and shorter than do more northern specimens.

Range of Measurements (mm.)

	Length body	Length fastigium	Length pronotum	Length Caudal femur	Length ovipositor
Coral Gables (16 males) .....	37.6-46.6	2.5-3.3	9.3-10.8	18-22	
Coral Gables (12 females) ..	40.3-48.4	2.8-3.9	9.3-9.8	20-21.5	16-17

*Belocephalus sabalis simplex* Hebard. Florida: Homestead, V-27-37, 4 males; VI-28-38, 10 males, 2 females; VII-1-38, 2 males, 1 female; Long Pine Key, VII-2-38 and VIII-5-38, 4 males, 3 females. Hebard (4) treated this form as a subspecies of *sleighti* Davis. The seven specimens from Long Pine Key, about two miles west of Royal Palm Park, show intergradation with *sabalis*. Both this form and typical *sabalis* differ from *sleighti* in the proportionately longer caudal femora. Comparison of the measurements below with those of *sabalis* as it occurs at Miami will show the lack of substantial characters for specific separation.

Range of Measurements (mm.)

	Length body	Length fastigium	Length pronotum	Length Caudal femur	Length ovipositor
Homestead (16 males) .....	32.3-38.6	1.9-2.4	7.8-8.9	14.6-17.5	
L. P. Key (4 males) .....	34.3-36.6	2.1-2.5	8.5-9.4	16.4-18.6	
Homestead (2 females) ....	33.5-34	2.3	8.1-8.6	17.7-18	15.
L. P. Key (3 females) ....	35.9-41.9	2.5-3.1	8.4-9.6	18.2-19.3	15.3-16.7

*Belocephalus sabalis sleighti* Davis. Florida: Big Pine Key, VIII-18-37, 5 males, 1 female (brown) in fans of palms (*Thrinax sp.*); Key West, VIII-13-38, 5 males in weed patches (*Bidens*) with no palms near.

Hebard (4) preserved *sleighti* as a specific name due to lack of specimens showing intergradation between *simplex* and *sabalis*. Such an intergradation exists, as shown above. With the material at my disposal I have found it impossible to distinguish clearly *sleighti* and *sabalis*. The curvature of the face seems an inadequate criterion inasmuch as some specimens of *sabalis* from Coral Gables show it. It may be most practical, in the long run, to synonymize *sleighti* and *simplex* and recognize only one quite variable species which would retain the name *sabalis* Davis.

Range of Measurements (mm.)

	Length body	Length fastigium	Length pronotum	Length Caudal femur	Length ovipositor
B. P. Key (5 males) .....	40.5-46.7	2.1-2.6	9.2-10.8	16.9-19.7	
1 female .....	41.3	2.4	8.8	18.4	16.5
Key West (5 males) .....	38-42.7	2.3-2.6	9.5-10.2	17.4-18.8	

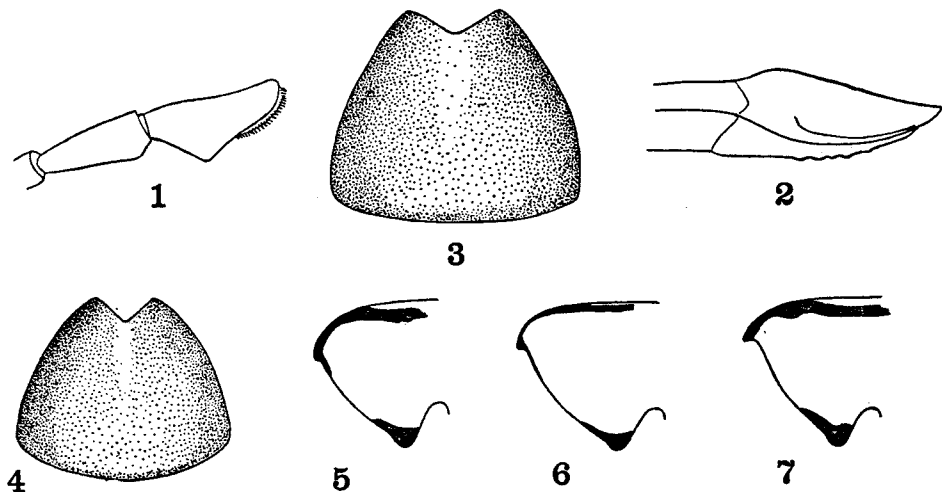
*Belocephalus uncinatus* Hebard. Florida: Hollywood, XI-11-36, 8 males, 3 females; VII-11-38 and VIII-3-38, 7 males, 1 female; Coconut Grove, VI-3-37, 1 male.

*Belocephalus hebardii hebardii* Davis. Florida: Coral Gables, XII-36, 1 male; XI-5-31, 1 female (U. Miami col.).

*Belocephalus hebardii proximus* Hebard. Florida: Okeechobee, VIII-15-38, 5 males, 1 imm. female.

*Belocephalus hebardii micanopy* Davis. Florida: Big Pine Key, VIII-18-37 and VIII-13-38, 3 males (1 imm.) and 1 imm. female.

Hebard (4) allowed *micanopy* specific status on the basis of the isolation of the type locality and the lack of apical fastigial tooth in the paratypic specimen before him. In the small series at hand, the immature specimens have the apical tooth of the fastigium well developed; the two adult males have this tooth less developed but perfectly evident. (figs. 5 and 6). Davis (personal communication) tells me that the fastigial tooth is present on some of the paratypic specimens. Apparently there has been developing on Big Pine Key a population having the apical tooth of the fastigium reduced or absent, but in view of the



1. *Cycloptilum spectabile* sp. n. Last two joints of maxillary palp.
2. *Cycloptilum spectabile* sp. n. Apex of ovipositor.
3. *Cycloptilum spectabile* sp. n. Subgenital plate of ♀, ventral view.
4. *Cycloptilum trigonipalpus* (R. & H.) Subgenital plate of ♀, ventral view.
5. *Belocephalus hebardii micanopy* Davis. Fastigium of topotype.
6. *Belocephalus hebardii micanopy* Davis. Fastigium of topotype.
7. *Belocephalus h. hebardii* Davis. Fastigium of Miami specimen.

similarity of the specimens here recorded to *h. hebardii* as it occurs at Miami (fig. 7), it seems more reasonable to subordinate *micanopy* than to allow it specific status.

*Pyrgocorypha uncinata* (Harris). Florida: Royal Palm Park, IV-2-37, 2 males; Miami, II-4-35 (U. Miami col.), 1 female; Georgia: Hapeville, IX-7-37, 2 juvenile females in last nymphal instar, in reed patch.

The brevity of the stridulating period of this insect, noted by Allard (5), was also impressed upon me. In the spring of 1937 the first calls were heard on March 25; no stridulations were heard after April 10.

*Homorocoryphus malivolans* (Scudder). Florida: Princeton, IV-27-37, 1 male; Homestead, IV-27-37, 2 females (1 green); Ochopee, V-8-37, 1 male; Coral Gables, VI-29-37 to VIII-21-37, 4 males (1 macropterous), 4 females (macropterous); Pinecrest, VI-29-37, 2 males (macropterous).

Common in areas of saw-grass in south Florida. The stridulation of the males is a soft, shuffling sound quite without ringing qualities. The macropterous individuals fly easily and have been taken at lights.

*Conocephalus spartinae* (Fox). Florida: taken at several perviously recorded localities and at Tavernier, Key Largo, X-11-36, 4 males, 4 females. These were found in sparse vegetation within a few feet of the shore-line.

*Atlanticus glaber* R. & H. Florida: Coral Gables, III-27-37 to VI-7-37, 6 males, 2 females; VI-25-38, 1 female; these in dry pine woods on oolite; Pinecrest, V-13-37, 1 male, 2 females. At Pinecrest the immediate substrate is sand upon which is developed a pine woods with undergrowth of wire-grass and cabbage palmetto. During the summer this area is flooded. *A. glaber* evidently is adapted to wide extremes in moisture.

*Ceuthophilus peninsularis* R. & H. Florida: Long Pine Key, about two miles west of Royal Palm Park, VIII-10-38, 2 males, 1 female (all large imm.) in molasses trap. Probably occurs in small, very localized colonies. Although ten traps were set out, all three specimens were taken in one jar which was planted in the moist sand of a pot-hole.

*Scapteriscus aletus* R. & H. Georgia: Macon, IX-2-37, 1 male, at light.  
*Cycloptilum bidens* Hebard. Florida: Miami, VIII-9-37, 1 female.

#### *Cycloptilum spectabile* sp. n.

*Type*, female, Miami, Florida, June 1938 (Hebard col.) Resembles *C. trigonipalpus* (R. & H.) more than any other North American species. Larger than *trigonipalpus* or *antillarum* Redt. Dividing fissure of frontal protuberance distinct but fine. Dorsal breadth of protuberance about equal to diameter of basal joint of antenna. Maxillary palpi with the terminal joint one-fifth longer than penultimate joint. Terminal joint of palpus with distal face very oblique; length of distal face almost twice that of lower side of last joint. Viewed from the end the distal face is distinctly oblong whereas in *trigonipalpus* this aspect of the last joint is circular. Pronotum tubular, short, tapering a little anteriorly. Cerci almost equal to body in length. Ovipositor proportionately shorter than in *trigonipalpus*, lower valves crenulate near tip. Subgenital plate broadly and shallowly v-excised; the apex of this excision more obtuse than in *trigonipalpus*. Hind femora slender, not greatly expanded toward base. Head, pronotum, cerci, mouth-parts and lower surface of thorax including legs deep pink in life, fading to brown after death. Abdomen black, each segment with an apical tuft of white scales appearing as a ring.

*Allotype*, male, Miami, Florida, July 3, 1937 (Hebard col.). Head and maxillary palpi as in female. Pronotum tapering decidedly but evenly forward, completely concealing the tegmina. Antennae about four times the length of body. Color as in female.

Readily distinguished from other North American species by its large size and the strongly oblique distal face of the last joint of the labial palpi. The coloration, in life, is also distinctive.

#### Range of Measurements (mm.)

	Length body	Caudal		Length c. femur	Width c. femur	Length cerci	Length ovip.
		Length pronotum	width pronotum				
16 males ....	9.6-14.2	4-5.3	2.5-3.4	4.7-6.7	1.7-2.1	7-12.3	
14 females .	10.2-12.8	2.5-2.6	2.3-2.4	5.8-6.6	1.9-2.0	9.8-11.4	4.7-5.3
Avg. males	12.3	4.7	3.1	6.2	1.9	10.5	
Avg. females	11.6	2.5	2.4	6.2	1.9	10.7	4.8

This cricket has been taken by me only in the red mangrove growths bordering Biscayne Bay just south of Miami. The first specimens were collected in the summer of 1937 in the mangroves on the bay edge of a remnant of Brickell's Hammock. In the summer of 1938 it was found in a similar habitat at the locality known as Tahiti Beach. Beating discovered only a few; most of the specimens were taken by search in the dead, rolled leaves of the mangroves and in the deserted nests of larvae of the hesperiid *Phocides batabano* (Lucas). The restriction of this insect to a small area in the vicinity of Miami (I have

searched for it elsewhere) suggests its recent colonization of this area from some more southern point.

All the recorded specimens beside the type and allotype have been designated paratypes. Paratypes will be deposited in the collections of Morgan Hebard, University of Michigan and B. B. Fulton.

*Hygronemobius alleni* (Morse). Florida: Coconut Grove, VI-20-38, 23 males, 22 females, on muck of mangrove swamp at the locality known as Tahiti Beach. *H. alleni* was abundant at this place but has not been seen by me at other points along the bay shore.

*Anaxipha imitator* (Sauss.). Florida: Key Largo, IV-25-37, 1 male, 4 females, from leaf-covered floor of jungle growth. In the twilight prevailing there, these little crickets were very difficult to see when at rest, their colors matching exactly the leaf mold covering the earth. Consequently, although many were seen to fly up, a few only were captured.

*Phylloscyrtus pulchellus* Uhler. Florida: Havana, VIII-20-38, 2 males, 1 female on sweetgum saplings.

*Hapithus brevipennis* Sauss. Numerous specimens collected in the summers of 1937 and 1938 at the following Florida localities: Miami, Ft. Myers, Ft. Lauderdale, Silver Springs, Okeechobee, Weirsdale and Havana. Not uncommon if looked for in the fans of saw palmetto. Miami specimens are decidedly larger than those from farther north in Florida.

*Tafalisca lurida* F. Walker. Florida: Coconut Grove (Tahiti Beach), I-9-37, 3 females (1 imm.); III-23-37, 1 male, 1 female; IV-7-37, 1 male; V-26-37, 1 male. All these on buttonwood (*Conocarpus*). Brickell Hammock, VII-3-37, 1 female, on red mangrove; Bahia Honda, VIII-14-38, 1 female on bay Cedar (*Suriana*).

One of the female specimens from Coconut Grove presents an unusual anomaly; one antenna is completely lacking, there being no evidence of a socket, the other antenna is represented by a single jointed structure and one of the fore legs has three distinct tarsi.

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