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DISTRIBUTIONAL REVIEW OF THE ORTHOPTERA OF FLORIDA

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ABSTRACT

Two hundred forty-one species of Orthoptera are now known to occur in Florida. The affinities of most of the species are with the southeastern United States. Forty-one species are restricted to Florida. The south Florida (tropical) fauna contains 129 species. Nine species are introduced. Nine species are naturally and exclusively shared between Florida and the West Indies or mainland Neotropics. The distribution by families is: Tetrigidae, 13 species; Acrididae, 72 species; Tridactylidae, 2 species; Tettigoniidae, 64 species; Gryllacrididae, 12 species; Gryllidae, 74 species; and Gryllotalpidae, 4 species.

RESUMEN

Ya se sabe que 241 especies de Orthóptera ocurren en la Florida. Las afinidades de la mayoría de las especies son con el sureste de los Estados Unidos. Cuarenta y un especies están restringidas a la Florida. La fauna del sur de la Florida (o sea la fauna tropical) contiene 129 especies. Nueve especies son introducidas. Nueve especies se comparten naturalmente y exclusivamente entre la Florida y las Indias Occidentales o la tierra firme de los Neotrópicos. La distribución por familias es: Tetrigidae, 13 especies; Acrididae, 72 especies; Tridactylidae, 2 especies; Tettigoniidae, 64 especies; Gryllacrididae, 12 especies; Gryllidae, 74 especies; y Gryllotalpidae, 4 especies.

No contemporary published summary of Florida Orthoptera is known to us. Since it is likely to be a long while before a detailed review is prepared on the Orthoptera of Florida, this list is offered as a contribution to an understanding of the insect fauna of Florida.

Rehn & Hebard (1916) listed 146 orthopteran species from the "Sabalian" life zone of Florida and neighboring states. This zone is named for the characteristic cabbage palm, *Sabal palmetto*, so widespread over most of Florida. Blatchley (1920: 747) indicated that 181 species (and 32 varieties) of Orthoptera were known to him to occur in Florida, but he gave no list as such. However, in his Florida total he included 24 cockroaches, 7 mantids, 5 phasmids, and 9 earwigs, all of which are now considered to be in separate orders. This leaves 136 orthopteran species known to Blatchley from Florida. Now, 241 species are known (including 12 unpublished MS names). This may be the richest Orthoptera fauna of any state in the United States.

In the following checklist the higher taxonomic categories used here and their sequence follow those in Borror et al. (1989). Genera are listed alphabetically within their family or subfamily. Species are alphabetically arranged in their genus. "F. Walker" and "T. Walker" are used to differentiate species authorship between these two workers. TJW is used to indicate undescribed species known to the second author of this paper.

Distributional information is given for each species. It was obtained principally from the cited revisional studies, or from Blatchley (1920) or Helfer (1963) who summarizes Blatchley (1920), and Rehn & Hebard (1916). Species distributions are divided into seven categories: (1), Keys: the islands of the Florida Keys; (2), SFL: southern mainland Florida (south of 26° 30'N latitude, or south of Lake Okeechobee, the "tropical" or "freeze-free" faunal region of Blatchley (1920)); (3), NFL: "north" Florida (north of 26° 30'N latitude, or Lake Okeechobee northwards, the "sabalian" faunal region of Blatchley (1920) and Rehn & Hebard (1916: 102) (which is also equivalent to the southern half of the Lower Austral life zone in Florida and the coastal plain parts of adjacent states (Shelford 1963)); (4), SEUS: nearby states in the southeastern US, viz., Alabama, Mississippi, Tennessee, North Carolina, South Carolina, and Georgia; (5), Near.: Nearctic Region (other states and the Mexican Plateau); (6), WI: islands of the West Indies (including the Bahamas, but excluding Bermuda (see Kevan 1980a)); and (7), Neot: the Neotropical Region (Mexico below the rim of the Mexican plateau, Central America, and South America). The last column gives a number of a reference in the cited literature as a source of additional information and references (other than Blatchley (1920) or Helfer (1963)).

A characterization of the diversity of Florida habitats is in Franz (1982). The most thorough ecological study of Florida Orthoptera is that of Friauf (1953) on the Welaka area of northern Florida. Veazey et al. (1976) studied the relationship of seasonality and sex to wing length in field crickets in northern Florida.

Synonyms are given only when they have been applied to Florida populations in the last 40 years. Complete synonym lists are in volumes of the Orthopterorum Catalogus, M. Beier, ed., Junk publ., The Hague, or in the recent revisions indicated as references. Subspecies names are not used here, even though they may indicate the presence of geographically differentiated populations. In the following list "X" indicates the presence of the species in the broadly defined geographic region as discussed above. "C" is used when a southern "tropical" Florida species occurs in restricted areas northwards along the coasts of central or northern Florida, or the southeastern United States. TJW supervised the Tettigoniidae and Gryllidae. JLC supervised the Acrididae.

CHECKLIST AND DISTRIBUTION OF FLORIDA ORTHOPTERA

Suborder Caelifera

Superfamily Acridoidea

Family Tetrigidae: pygmy grasshoppers and grouse locusts.

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
<i>Neotettix</i>								
<i>N. femoratus</i> (Scudder)	X	X	X	X	X			23
<i>N. proavus</i> Rehn and Hebard			X	X				23
<i>Nomotettix</i>								
<i>N. cristatus</i> (Scudder)			X	X	X			23
<i>Paratettix</i>								
<i>P. cucullatus</i> (Burmeister)				X	X	X		23
<i>P. mexicanus</i> (Saussure)		X	X	X	X		X	23
<i>P. rugosus</i> (Scudder)	X	X	X		X			23
<i>Paxilla</i>								
<i>P. obesa</i> (Scudder)		X	X	X				23
<i>Tetrix</i>								
<i>T. arenosa</i> Burmeister		X	X	X	X			23
<i>Tettigidea</i>								
<i>T. acuta</i> Morse		X	X	X	X			23
<i>T. armata</i> Morse			X	X	X			23
<i>T. empedonepia</i> Hubbell			X					23
<i>T. lateralis</i> (Say)		X	X	X	X			23
<i>T. prorsa</i> Scudder			X	X	X			23

Family Acrididae: the short-horned grasshoppers.

Subfamily Romaleinae: the lubber grasshoppers.

Romalea

<i>R. guttata</i> (Houttuyn)		X	X	X				23
(= <i>Romalea microptera</i> P. de Beauvois, Kevan 1980b)								

Subfamily Cyrtacanthacridinae: the spur-throated grasshoppers.

Aptenopedes

<i>A. aptera</i> Scudder	X	X	X	X				24
<i>A. sphenarioides</i> Scudder	X	X	X	X				24

Eotettix

<i>E. palustris</i> Morse			X					
<i>E. pusillus</i> Morse			X	X				24
<i>E. signatus</i> Scudder		X	X					24

Gymnoscirtetes

<i>G. morsei</i> Hebard			X					
<i>G. pusillus</i> Scudder			X	X				

Hesperotettix

<i>H. floridensis</i> Morse			X	X				
<i>H. gemmicula</i> Hebard			X	X				5
<i>H. osceola</i> Hebard			X	X				
<i>H. viridis</i> Scudder			X	X	X			

Leptysma

<i>L. marginicollis</i> (Serville)		X	X	X	X			
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Melanoplus

<i>M. adelogyrus</i> Hubbell			X					15
<i>M. appalachicolae</i> Hubbell			X					15
<i>M. davisii</i> (Hebard)			X					
<i>M. differentialis</i> Thomas			X	X	X			5
<i>M. forcipatus</i> Hubbell			X					15
<i>M. furcatus</i> Scudder			X	X				
<i>M. gurneyi</i> Strohecker			X					

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
<i>M. impudicus</i> Scudder			X	X				
<i>M. indicifer</i> Hubbell			X					15
<i>M. insignis</i> Hubbell			X					15
<i>M. keeleri</i> (Thomas)			X	X	X			
<i>M. propinquus</i> Scudder			X	X				4
<i>M. puer</i> (Scudder)		X	X					
<i>M. punctulatus</i> Scudder			X	X				
<i>M. pygmaeus</i> Davis			X					
<i>M. quercicola</i> (Hebard)			X	X				
<i>M. querneus</i> Rehn and Hebard			X	X				
<i>M. rotundipennis</i> Scudder			X	X				
<i>M. sanguinipes</i> (F.)			X	X	X			
<i>M. scapularis</i> Rehn and Hebard			X	X				
<i>M. scudderi</i> (Uhler)			X	X	X			
<i>M. strumosus</i> Morse			X	X				
<i>M. symmetricus</i> Morse			X					24
<i>M. tequestae</i> Hubbell			X					15
<i>Opshomala</i>								
<i>O. vitreipennis</i> (Marschall)			X	X	X			
(= <i>Stenacris vitreipennis</i> Marschall, Helfer 1963: 154)								
<i>Paroxya</i>								
<i>P. atlantica</i> Scudder	X	X	X	X	X			
<i>P. clavuliger</i> (Serville)			X	X	X			
<i>Schistocerca</i>								
<i>S. alutacea</i> (Harris)	X	X	X	X	X			6
<i>S. americana</i> (Drury)	X	X	X	X	X	X	X	6
<i>S. ceratiola</i> Hubbell and Walker			X					6
<i>S. damnifica</i> (Saussure)		X	X	X	X			6
<i>S. obscura</i> (Fabricius)	X	X	X	X	X		X	6
Subfamily Gomphocerinae: the stridulating slant-faced grasshoppers.								
<i>Achurum</i>								
<i>A. carinatum</i> (F. Walker)		X	X	X				21
<i>Amblytropidia</i>								
<i>A. mysteca</i> (Saussure)		X	X	X	X		X	21
<i>Dichromorpha</i>								
<i>D. elegans</i> (Morse)		X	X	X	X			21
<i>D. viridis</i> (Scudder)		X	X	X	X			21
<i>Eritettix</i>								
<i>E. obscurus</i> (Scudder)		X	X					21
<i>E. simplex</i> (Scudder)			X	X	X			21
<i>Mermiria</i>								
<i>M. bivittata</i> (Serville)			X	X	X			21
<i>M. intertexta</i> Scudder		X	X	X	X			21
<i>M. picta</i> (F. Walker)		X	X	X	X			21
<i>Orphulella</i>								
<i>O. pelidna</i> (Burmeister)	X	X	X	X	X	X		21
<i>Syrbula</i>								
<i>S. admirabilis</i> (Uhler)		X	X	X	X			21
Subfamily Acridinae: the silent slant-faced grasshoppers.								
<i>Metaleptea</i>								
<i>M. brevicornis</i> (Johannson)		X	X	X	X		X	21
Subfamily Oedipodinae: the band-winged grasshoppers.								
<i>Arphia</i>								
<i>A. granulata</i> (Saussure)	X	X	X	X				22

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
Subfamily Phaneropterinae: the Katydids.								
<i>Amblycorypha</i>								
<i>A. sp A ms TJW</i>			X	X				
<i>A. sp B ms TJW</i>			X	X				
<i>A. carinata</i> Rehn and Hebard			X	X	X			
<i>A. floridana</i> Rehn and Hebard	X	X	X	X	X			
<i>A. sp G ms TJW</i>			X	X	X			
<i>A. sp L ms TJW</i>		X	X	X	X			
<i>Arethaea</i>								
<i>A. phalangium</i> (Scudder)		X	X	X				
<i>Inscudderia</i>								
<i>I. strigata</i> (Scudder)			X	X				
<i>I. walkeri</i> Hebard			X	X	X			
<i>Microcentrum</i>								
<i>M. retinerve</i> (Burmeister)			X	X	X			
<i>M. rhombifolium</i> (Saussure)	X	X	X	X	X			
<i>Montezumina</i>								
<i>M. modesta</i> (Brunner)		X	X	X	X			
<i>Phriza</i>								
<i>P. maya</i> Saussure and Pictet		X					X	
<i>Scudderia</i>								
<i>S. cuneata</i> Morse	X	X	X	X	X			
<i>S. curvicauda</i> (De Geer)			X	X	X			
<i>S. furcata</i> Brunner	X	X	X	X	X			
<i>S. texensis</i> Saussure and Pictet		X	X	X	X			
<i>Stilpnochlora</i>								
<i>S. coulöniana</i> (Saussure)	X	X	X			X		7
<i>Turpilia</i>								
<i>T. rostrata</i> (Rehn and Hebard)	X	X	C					
Subfamily Pseudophyllinae: the true Katydids.								
<i>Lea</i>								
<i>L. floridensis</i> (Beutenmuller)		X	X	X				
<i>Pterophylla</i>								
<i>P. camellifolia</i> (F.)			X	X	X			
Subfamily Tettigoniinae: the pine-tree Katydids.								
<i>Hubbellia</i>								
<i>H. marginifera</i> (Walker)			X	X				
(= <i>H. praestans</i> Hebard; Helfer 1963: 289)								
Subfamily Conocephalinae: the meadow grasshoppers.								
<i>Conocephalus</i>								
<i>C. aigialus</i> Rehn and Hebard			X	X	X			
<i>C. brevipennis</i> (Scudder)		X	X	X	X			
<i>C. cinereus</i> (Thunburg)	X	X	X			X		12
<i>C. fasciatus</i> (De Geer)	X	X	X	X	X			
<i>C. gracillimus</i> (Morse)	X	X	X					
<i>C. hygrophilus</i> Rehn and Hebard			X	X	X			
<i>C. nigropleuroides</i> (Fox)			X	X	X			
<i>C. saltans</i> (Scudder)			X	X	X			
<i>C. spartinae</i> (Fox)		X	X	X	X	X		
<i>Odontoxiphidium</i>								
<i>O. apterum</i> Morse	X	X	X	X				
<i>Orchelimum</i>								
<i>O. agile</i> (De Geer)		X	X	X	X			19

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
<i>O. bradleyi</i> Rehn and Hebard		X	X	X				19
<i>O. carinatum</i> Walker			X	X	X			19
<i>O. concinnum</i> Scudder		X	X	X	X			19
<i>O. erythrocephalum</i> Davis		X	X	X	X			19
<i>O. fidicinium</i> Rehn and Hebard		X	X	X	X			19
<i>O. militare</i> Rehn and Hebard	X	X	X	X	X			19
<i>O. minor</i> Brunner			X	X	X			19
<i>O. pulchellum</i> Davis	X	X	X	X	X			19
<i>O. superbum</i> Rehn and Hebard			X	X	X			19

Subfamily Decticinae: the shield-backed grasshoppers.

Atlanticus

<i>A. americanus</i> (Saussure)			X	X	X			
<i>A. calcaratus</i> Rehn and Hebard			X	X				
<i>A. dorsalis</i> (Burmeister)		X	X	X				
<i>A. gibbosus</i> Scudder		X	X	X				
<i>A. glaber</i> Rehn and Hebard		X	X					

Family Gryllacrididae: the wingless long-horned grasshoppers

Subfamily Gryllacridinae: the leaf-rolling grasshoppers.

Camptonotus

<i>C. carolinensis</i> (Gerstaecker)			X	X	X			
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Subfamily Rhaphidophorinae: the camel crickets.

Ceuthophilus

<i>C. armatipes</i> Hubbell			X					16
<i>C. gracilipes</i> (Haldeman)			X	X	X			16
<i>C. latibuli</i> Scudder			X	X				16
<i>C. peninsularis</i> Rehn and Hebard	X							16
<i>C. rogersi</i> Hubbell			X					16
<i>C. uhleri</i> Scudder			X	X				16
<i>C. umbrosus</i> Hubbell			X					16
<i>C. virgatipes</i> Rehn and Hebard			X	X				16
<i>C. walkeri</i> Hubbell			X	X				16

Tachycines

<i>T. asynamorus</i> Adelung			X	X				
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Typhloceuthophilus

<i>T. floridanus</i> Hubbell			X					17
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Family Gryllidae: the crickets.

Subfamily Oecanthinae: the tree crickets

Neoxabea

<i>N. bipunctata</i> (De Geer)			X	X	X			25
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Oecanthus

<i>O. celerinictus</i> T. Walker			X	X	X			26
<i>O. exclamationis</i> Davis			X	X	X			25
<i>O. latipennis</i> Riley			X	X	X			25
<i>O. niveus</i> (De Geer)		X	X	X	X			25
<i>O. pini</i> Beutenmuller			X	X	X			26
<i>O. quadripunctatus</i> Beutenmuller	X	X	X	X	X			26

Subfamily Eneopterinae: the bush crickets

Hapithus

<i>H. agitator</i> Uhler	X	X	X	X	X	X		31
<i>H. brevipennis</i> (Saussure)		X	X	X				31
<i>H. melodius</i> T. Walker		X	X					31

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
<i>Orocharis</i>								
<i>O. diplastes</i> T. Walker	X	X						27
<i>O. grylloides</i> (Pallas)	X	X	C			X		27
<i>O. luteolira</i> T. Walker		X	X	X	X			27
<i>O. nigrifrons</i> T. Walker	X	X	C					27
<i>O. saltator</i> Uhler			X	X	X			27
<i>O. tricornis</i> T. Walker	X	X						27
<i>Tafalisca</i>								
<i>T. lurida</i> F. Walker	X	X	X			X		
Subfamily Trigonidiinae: the bush crickets.								
<i>Anaxipha</i>								
<i>A. sp A ms</i> T. Walker		X	X	X				
<i>A. delicatula</i> (Scudder)	X	X	X	X				8
<i>A. exigua</i> (Say)			X	X	X			8
<i>A. imitator</i> (Saussure)	X	X				X		8
<i>A. literena</i> Fulton			X	X	X			8
<i>A. sp O ms</i> TJW	X	X						
<i>A. sp R ms</i> TJW		X	X	X	X			
<i>A. scia</i> Hebard		X	X	X	X			8
<i>A.8 sp T ms</i> TJW			X	X	X			
<i>A. sp N ms</i> TJW			X	X	X			
<i>Cyrtoxipha</i>								
<i>C. columbiana</i> Caudell	X	X	X	X	X			28
<i>C. confusa</i> T. Walker	X	X	C					28
<i>C. gundlachi</i> Saussure	X	X	X			X		28
<i>C. nola</i> T. Walker		X	C					28
<i>Falcicula</i>								
<i>F. hebaridi</i> Rehn		X	X	X	X			
<i>Phyllopalpus</i>								
<i>P. pulchellus</i> Uhler			X	X	X			
Subfamily Mogoplistinae: the scaly crickets.								
<i>Cycloptiloides</i>								
<i>C. americanus</i> (Saussure)		X (Miami)			X	X	X	18
<i>Cycloptilum</i>								
<i>C. ainiktos</i> Love and Walker	X	X						18
<i>C. albocircum</i> Love and Walker	X	X	C					18
<i>C. bidens</i> Hebard	X	X	X	X	X			18
<i>C. exsanguis</i> Love and Walker			X	X				18
<i>C. irregularis</i> Love and Walker	X							18,32
<i>C. kelainopum</i> Love and Walker	X	X	X	X				18
<i>C. pigrum</i> Love and Walker			X	X				18
<i>C. slossoni</i> (Scudder)	X	X	X	X				18
<i>C. spectabile</i> Strohecker	X	X	C					18
<i>C. tardum</i> Love and Walker		X	X	X				18
<i>C. trigonipalpus</i> (Rehn and Hebard)	X	X	X	X				18
<i>C. velox</i> Love and Walker		X	X	X				18
<i>C. zebra</i> (Rehn and Hebard)	X	X	C	C				18
<i>Oligacanthopus</i>								
<i>O. prograptus</i> Rehn and Hebard	X	X						18

	Keys	SFL	NFL	SEUS	Near.	WI	Neot.	Ref.
Subfamily Myrmecophilinae: the ant-loving crickets.								
<i>Myrmecophila</i>								
<i>M. pergandei</i> Bruner			X	X	X			
Subfamily Nemobiinae: the ground crickets.								
<i>Allonemobius</i>								
<i>A. funeralis</i> (Hart)			X	X	X			
<i>A. maculatus</i> (Blatchley)				X	X			
<i>A. socius</i> (Scudder)	X	X	X	X	X			14
<i>A. sparsalus</i> (Fulton)		X	X	X	X			
<i>Eunemobius</i>								
<i>E. carolinus</i> Scudder		X	X	X	X			
<i>E. melodius</i> (Thomas and Alexander)	X	X	X	X	X			
<i>Hygronemobius</i>								
<i>H. alleni</i> (Morse)	X	X	C			X	X	
<i>Neonemobius</i>								
<i>N. sp C ms</i> TJW			X	X	X			
<i>N. cubensis</i> Saussure	X	X	X	X	X	X	X	
<i>N. palustris</i> (Blatchley)		X	X	X				
<i>Pictonemobius</i>								
<i>P. ambitiosus</i> Scudder		X	X	X				9
<i>P. arenicola</i> Mays and Gross		X	X					9
<i>P. hubbelli</i> Walker and Mays			X	X				9
<i>P. uliginosus</i> Mays and Gross			X					9
Subfamily Gryllinae: the field crickets.								
<i>Gryllodes</i>								
<i>G. sigillatus</i> (F. Walker)	X	X	X	X	X	X	X	
<i>Gryllus</i>								
<i>G. assimilis</i> (F.)	X	X	X		X	X		3,20
<i>G. sp B ms.</i> Alexander and Cade			X	X	X			
<i>G. sp C ms</i> TJW	X	X						
<i>G. firmus</i> Scudder	X	X	X	X	X			1,20
<i>G. fultoni</i> (Alexander)			X	X	X			1,20
<i>G. ovisopis</i> T. Walker			X	X				20,30
<i>G. rubens</i> Scudder	X	X	X	X	X			1,20
<i>Miogryllus</i>								
<i>M. saussurei</i> (Scudder)	X	X	X	X	X			
<i>Velarifictorus</i>								
<i>V. micado</i> (Saussure) (= <i>Scapsipedus micado</i> Saussure, Alexander and Walker 1962)			X	X	X			3
Subfamily Brachytrupinae: the short-tailed crickets.								
<i>Anurogryllus</i>								
<i>A. arboreus</i> T. Walker	X	X	X	X	X			29
<i>A. celerinictus</i> T. Walker	X					X		29
Family Gryllotalpidae: the mole crickets.								
<i>Neocurtilla</i>								
<i>N. hexadactyla</i> (Perty)		X	X	X	X	X	X	
<i>Scapteriscus</i>								
<i>S. abbreviatus</i> Scudder	X	X	X	X		X	X	33
<i>S. borellii</i> Giglio-Tos (= <i>S. aetetus</i> Rehn and Hebard 1916, Nickle and Castner 1984).		X	X	X	X		X	
<i>S. vicinus</i> Scudder		X	X	X	X		X	33

DISCUSSION

At present 241 species are known to occur in Florida, including 12 that are yet undescribed. Some groups remain in need of revision; the Cyrtacanthacridinae (Melanoplinae of Otte, 1981) is an example of where some names and distributional records are suspect. Also, some of the rare *Melanoplus* species may be endangered or extinct.

Introductions. Nine species seem to have been introduced into Florida through the actions of humans. These are:

Tettigoniidae

Conocephalinae

Conocephalus cinereus (Thunberg) (probably from the West Indies, Gurney 1959)

Gryllacrididae

Rhaphidophorinae

Tachycines asynamorus Adelung (from Eurasia, Rehn 1944)

Gryllidae

Mogoplistinae

Cycloptiloides americanus (Saussure) (from Africa, Strohecker 1953)

Gryllinae

Gryllodes sigillatus (F. Walker) (cosmotropical)

Gryllus assimilis (F.) (from the West Indies, Alexander and Walker 1962)

Velarifictorus micado (Saussure) (from Japan?, Alexander and Walker 1962)

Gryllotalpidae

Scapteriscus abbreviatus Scudder (from South America, Walker and Nickle 1981)

Scapteriscus borellii Giglio-Tos (from South America, Walker and Nickle 1981)

Scapteriscus vicinus Scudder (from South America, Walker and Nickle 1981)

Distributional Patterns. Several distributional patterns are evident. The affinities of the 232 naturally occurring Orthoptera of Florida are predominantly with the fauna of the Nearctic Region, especially the southeastern United States. Most of Florida's native species also occur in the adjacent southeastern states. Only 41 are restricted to Florida; and, of these, only 17 are restricted to southern mainland Florida (including coastal "north" Florida) and the Keys. Eleven of these 17 are recently described or recognized crickets that may well occur in Cuba, in view of the lack of comparable studies there. Nineteen species occur in "north" Florida and nowhere else. These are mostly acridids and are largely from the sandy hill country of central Florida (an area of island refugia during times of Tertiary and/or Pleistocene high sea levels) and from the region of the Appalachian River in the Florida panhandle (Deyrup 1989, 1990, Hubbell 1985). The Keys fauna, with 64 naturally occurring (and 4 introduced) species, is impoverished when compared with 122 naturally occurring (and 7 introduced) species in south Florida, which has greater habitat diversity and more standing water (see Means & Simberloff 1987). The south Florida (tropical) fauna of 122 native species is impoverished compared to that of 215 naturally occurring species in the much larger area and more diverse habitats of north (sabalian) Florida.

Only nine species are apparently naturally and exclusively shared between Florida and the West Indies or Neotropical Realm. These species are:

Tettigoniidae

Copiphorinae

Neoconocephalus affinis (Beauvois) (also in West Indies, Central, and South America)

Neoconocephalus maxillosus (F.) (also in West Indies, Central and South America)

Phaneropterinae

Phrixia maya Saussure and Pictet (also in Yucatan)

Gryllidae

Eneopterinae

Orocharis gryllodes (Pallas) (also in West Indies)

Tafalisca lurida (F. Walker) (also in West Indies)

Trigonidiinae

Anaxipha imitator (Saussure) (also in Cuba)

Crytoxipha gundlachi (Saussure) (also in Cuba)

Nemobiinae

Hygronemobius alleni (Morse) (also in West Indies)

Brachytrupinae

Anurogryllus celerinictus T. Walker (also in Jamaica)

Thus, the Florida Orthoptera fauna is mostly derived from the Nearctic Region to the north. About 17.6% of the naturally occurring species have probably originated (evolved) in Florida. A small number (3.9%) probably arrived naturally from the south by overwater dispersal from the West Indies, Mexico, Central America or South America.

ACKNOWLEDGMENTS

The work was partly supported by an operating grant to SBP from the Natural Sciences and Engineering Research Council of Canada. TJW was supported by NSF grant DEB-8211975 and he and JLC by the University of Florida, Institute of Food and Agricultural Sciences. Published as Florida Agricultural Experiment Station Journal Series No. R-01782.

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AMERICAN PREDACEOUS MIDGES OF THE SUBGENUS
EUKRAIOHELEA OF *STILOBEZZIA*
(DIPTERA: CERATOPOGONIDAE)

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ABSTRACT

A key is presented to distinguish the four species of the subgenus *Eukraiohelea* Ingram & Macfie of the genus *Stilobezzia* Kieffer that occur in the Western Hemisphere. *Stilobezzia elegantula* (Johannsen) and *S. amnigena* Macfie are redescribed and illustrated; the latter species is a new U.S. record. Males of *S. amnigena* were previously misidentified as *S. elegantula* in North America. *S. maculitibia* Lane & Forattini is a junior synonym of *S. elegantula* (New Synonymy).

RESUMEN

Se presenta una clave para distinguir a las cuatro especies del subgenero *Eukraiohelea* Ingram & Macfie, del genero *Stilobezzia* Kieffer, que se hallan en el hemisferio Occidental. Se redescribo e ilustra a *Stilobezzia elegantula* (Johannsen) y *S. amnigena* Macfie, representando esta ultima una nueva cita para los Estados Unidos. Los machos de *S. amnigena* de America del Norte fueron previamente identificados en forma erronea, como *S. elegantula*. *S. maculitibia* Lane & Forattini es reconocida como sinonimo de *S. elegantula* (Nuevo Sinonimo).

Predaceous midges of the genus *Stilobezzia* Kieffer are common inhabitants of aquatic environments but are often overlooked because of their small size (1-3 mm). Larvae are found in a wide variety of aquatic and semi-aquatic habitats such as stream, lake, and pond margins, puddles, swamps, rice fields, rock pools, mosses, and wet tree cavities. Adult females are predaceous on other small soft-bodied insects, especially midges of the family Chironomidae.