



## The Cicadas of Florida (Hemiptera: Cicadoidea: Cicadidae)

ALLEN F. SANBORN<sup>1,3</sup>, POLLY K. PHILLIPS<sup>2</sup> & PHILIP GILLIS<sup>1</sup>

<sup>1</sup>Barry University, Department of Biology, 11300 NE Second Avenue, Miami Shores, FL 33161 USA.  
E-mail: asanborn@mail.barry.edu

<sup>2</sup>Florida International University, Department of Biological Sciences, University Park, 11200 SW Eighth Street, Miami, FL 33199 USA. E-mail: polly.phillips@fiu.edu

<sup>3</sup>Corresponding author

### Table of contents

Abstract .....	2
Introduction .....	2
Materials and methods .....	2
Results and discussion .....	3
Key to the cicadas of Florida .....	3
Florida cicada biodiversity and biogeography .....	5
Superfamily Cicadoidea Westwood .....	5
Family Cicadidae Latrielle .....	5
Subfamily Cicadinae Latrielle .....	5
Tribe Cryptotympanini Handlirsch .....	5
<i>Diceroprocta biconica</i> (Walker) (Figs. 1–10) .....	5
<i>Diceroprocta</i> Stål, 1870: 714 .....	5
<i>Diceroprocta olympusa</i> (Walker) (Figs. 11, 16–24) .....	6
<i>Diceroprocta viridifascia</i> (Walker) (Figs. 12, 25–33) .....	6
<i>Tibicen</i> Latreille, 1825: 426. ....	7
<i>Tibicen auletes</i> (Germar) (Figs. 13, 34–42) .....	7
<i>Tibicen davis</i> i (Smith & Grossbeck) (Figs. 14, 43–51) .....	8
<i>Tibicen figuratus</i> (Walker) (Figs. 15, 52–60) .....	8
<i>Tibicen linnei</i> (Smith & Grossbeck) (Figs. 61–70) .....	9
<i>Tibicen lyricen lyricen</i> (De Geer) (Figs. 71, 76–84) .....	9
<i>Tibicen lyricen virescens</i> Davis (Figs. 71, 85–93) .....	10
<i>Tibicen pruinosus</i> (Say) (Figs. 70, 94–102) .....	10
<i>Tibicen resonans</i> (Walker) (Figs. 72, 103–111) .....	11
<i>Tibicen robinsonianus</i> Davis (Figs. 70, 112–120) .....	11
<i>Tibicen similaris</i> Davis (Figs. 10, 121–129) .....	11
<i>Tibicen tibicen tibicen</i> (Linné) (Figs. 73, 130–138) .....	12
<i>Tibicen tibicen australis</i> (Davis) (Figs. 73, 139–147) .....	13
Tribe Cicadini Oshanin .....	13
<i>Neocicada</i> Kato 1932: 168 .....	13
<i>Neocicada hieroglyphica hieroglyphica</i> (Say) (Figs. 74, 148–156) .....	13
<i>Neocicada hieroglyphica johannis</i> (Walker) (Figs. 74, 157–165) .....	14
Subfamily Cicadettinae Buckton .....	15
Tribe Cicadettini Buckton .....	15
<i>Cicadetta</i> Kolenati 1857: 417. ....	15
<i>Cicadetta calliope calliope</i> (Walker) (Figs. 75, 166–174) .....	15

<i>Cicadetta calliope floridensis</i> (Davis) (Figs. 75, 175–183) .....	15
Species incorrectly recorded from Florida .....	16
Acknowledgements .....	17
References .....	18

## Abstract

The cicadas of Florida are determined, a key to the species is provided, synonymies listed, notes on the biology of each species and each species and its biogeography is illustrated. A total of 15 species and 4 subspecies representing 4 genera have been recorded for the state. Most species inhabit large portions of the state although some are limited to specific habitats, i.e. coastal or insular. Seven species are removed from the Florida cicada fauna.

**Key words** Homoptera, morphology, identification, distribution

## Introduction

Cicadas are a loud, conspicuous part of the summer in the southeastern United States. However, they are often difficult to collect and found in relatively small population densities (with the notable exception of the periodical cicadas, *Magicicada* spp.). As a result, they are not often the subject of study. The cicada faunae of only a few parts of the USA have been described in the past (Barber 1914 [Florida]; Davis 1918 [Mississippi]; Lawson 1920 [Kansas]; Davis 1921 [Colorado]; Osborn 1921 [Florida]; Davis 1922 [Virginia]; Davis 1923a [Connecticut]; Davis 1926 [New Jersey]; Davis 1928 [New York]; Bibby 1936 [Texas]; Froeschner 1952 [Missouri]; Simons 1954 [California]; Moore 1966 [Michigan]; Alexander et al. 1972 [Michigan]; Drew et al. 1974 [Oklahoma]; Marshall et al. 1996 [Michigan]; Kondratieff, et al. 2001 [Colorado]) often as lists of species in the context of larger faunistic studies. Many of these works contain taxonomic keys but the keys are limited in the fauna that they address to include only the fauna for the respective states. None of the available keys address the fauna of Florida or the southeastern United States completely and often have species categorized in different genera from their current classification. Although the focus of this work is the cicadas of Florida, the species represent almost all of the cicadas found in the eastern United States and thus the work has a broader application.

Barber (1914) was the first to produce a list of Florida cicada species. He listed 13 species and one subspecies (variety) based on the literature and personal communications but two of these species have been synonymized (see discussion) so a total of 11 species and one subspecies were actually represented. Osborn (1921) produced the next inventory of Florida cicada species listing 15 species and one subspecies inhabiting Florida based on the literature and personal communications but two of these species have been synonymized (see discussion) so 14 species and one subspecies (variety) were identified as inhabiting Florida. The present work is part of a larger project to determine the biogeography of North American cicadas and to provide a means for individuals working with the fauna to identify the Florida cicadas. We identify the species present, provide a key for their identification, and illustrate the species and their distributions within the state.

## Materials and methods

Location data were gathered from specimens collected in Florida stored in various institutional collections (more than 110 institutions have been visited), individuals who have provided specimens to AFS, as well as our own fieldwork throughout the state. The cicada bibliographies (Metcalf 1963a, b, c; Duffels and van der Laan 1985) and more recent literature (Sanborn and Maté 2000; Sanborn et al. 2004; Sanborn et al. 2005;