



Left *Labidura riparia* (male); Right - *Euborellia annulipes* (female).

## The Order Dermaptera (Earwigs) in Florida and the United States

P. M. Choate - (modified from Hoffman, 1987)

Six families of earwigs (Dermaptera) occur in Florida and the US. These insects are easily introduced in plant materials. New Florida records are based on FSCA\* specimens intercepted on plants inspected at Miami.

### 1. Family **Pygidicranidae**

*Pyragropsis buscki* (Caudell) FL

### 2. Family **Carcinophoridae**

*Anisolabis maritima* (Bonelli) widespread on sea coasts

*Euborellia annulipes* (Lucas) southeast US, widespread

*Euborellia ambigua* (Borelli) FL

*Euborellia annulata* (Lucas) FL (Miami) (identified as *Euborellia stali* (Dohrn)

*Euborellia caraibea* Hebard FL

*Euborellia cincticollis* (Gerstaecker) AZ, CA

*Euborellia femoralis* (Dohrn) AZ, CA

*Gonolabis azteca* Dohrn (FL) - reported in Arnett (1993)

### 3. Family **Labiduridae**

(1 cosmopolitan species)

*Labidura riparia* (Pallas) southeastern US, FL, AZ, CA, TX

### 4. Family **Labiidae**

s. f. Spongiphorinae

*Vostox brunneipennis* (Aud. Serv.) eastern US, TX, OK

*Vostox excavatus* Nutting and Gurney AZ, NM

*Vostox apicedentatus* (Candell) AZ, CA, NM, TX

s. f. Labiinae

*Labia minor* (L.) widespread

*Labia curvicauda* (Motsch.) FL

\*Abbreviation(s): FSCA - Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, FL.

*Labia rehni* Hebard FL  
*Marava arachidis* Yersin AZ, CA, TX, NJ, FL  
*Marava pulchella* (Aud.-Serv.) SE US, TX

#### 5. Family **Chelisochidae**

(introduced into Pac. Northwest, California, and Florida)

*Chelisoches morio* (Fabricius) CA, FL (Dade Co., Palm Beach Co.) FSCA.

#### 6. Family **Forficulidae**

*Doru davisii* Rehn and Hebard FL  
*Doru aculeatum* (Scudder) eastern US, Ontario  
*D. taeniatum* (Dohrn) southeastern US, AZ, CA, TX  
*Forficula auricularia* L. widespread (incl. FL) - European earwig

**\*\* The following 2 species are previously unrecorded from USA and represent new records yet to be published.**

*Neolobophora ruficeps* (Bermeister) FL (Miami) FSCA - **new record**  
*Kleter atterimus* (Borman) FL (Miami) FSCA - **new record**



*Doru taeniatum* (male) on Corn.

#### **References Cited**

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## Identification of Earwigs

Adults may be recognized by fully formed wings in winged species, the number of abdominal segments (10 in male and 8 in female, the forceps being located on last segment), and by forceps shape (**Fig. 1** - usually more strongly curved in males, less curved, straight in females ). Immature earwigs are usually not reliably identified although they may be identified by association with adults if that information is available.



**Fig. 1.** Cerci of *Labidura riparia*; Left, male; right - female; .

### Key to the Florida Families of Earwigs

(Modified from Borror, Triplehorn, and Johnson, 1989)

1. Second tarsal segment extending beneath base of third segment (Fig.2); antennae with 12-16 segments..... 2



**Fig. 2.** Dilated 2nd tarsal segment, *Doru taeniatum*.

- Second tarsal segment not dilated and not extending beneath base of third segment (Fig. 3); antennae with 10-31 segments..... 3

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**Fig. 3.** Second tarsal segment non-dilated and not extended distally beneath base of third segment - *Labidura riparia*

- 2. Distal extension of second tarsal segment dilated, broader than 3rd segment (Fig. 2), without dense brush of hairs beneath; antennae with 12-16 segments; color yellowish or brownish (*Forficula*, *Neolobophora*, *Kleter*, and *Doru*) ... Forficulidae
- Distal extension of second tarsal segment not dilated, no wider than third segment, with dense brush of hairs beneath; antennae with 12 segments; entire insect color black; introduced species (*Chelisoches morio*) ..... Chelisochoidea
- 3. A large padlike arolium between tarsal claws (**Fig. 4**); male forceps symmetrical, strongly curved inward (Fig. 5); *Pyragropsis buscki* - (recorded from Miami Beach and Coral Gables, FL).  
..... Pygidicranidae



**Fig. 4.** Enlarged pad (arolium) between tarsal claws of *Pyragropsis*.



**Fig. 5.** *Pyragropsis buscki*, strongly curved, symmetrical forceps on male.

- No arolium between tarsal claws; male forceps not strongly curved ..... 4
- 4. Antennae with 25-30 segments; pronotum light brown with 2 dark longitudinal stripes; length 20-30mm (*Labidura riparia*) (**Figs 6, 7**) ..... Labiduridae

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Fig. 6. Left - Male *Labidura riparia*. Fig. 7, Right - Unidentified Labiduridae

- Antennae with 10-24 segments; pronotum uniformly colored; length 4-25mm..... 5

5. Antennae with 14-24 segments; tegmina present as rounded flaps not meeting at basal margins, or absent; wingless species; right forceps of male more strongly curved than left (Fig. 8) (*Anisolabis*, *Euborrelia*, and *\*Gonolabis* (Arnett 1993)) .....Carcinophoridae



**Fig. 8.** *Euborrelia annulipes* male, right forcep more strongly curved than left.

- Antennae with 10-16 segments; tegmina normally developed and meeting along entire midline; male forceps symmetrical (Fig. 9); less than 20mm in length (*Labia*, *Morava*, and *Vostox*) ..... Labiidae



**Fig. 9.** Left - pinned *Vostox brunneipennis* male, illustrating symmetrical forceps. Right - live adult male on oak (photo P. M. Choate 2001)

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Representative Earwig Figures

- Flightless genera *Anisolabis*, *Euborellia*



Fig. 10. *Anisolabis maritima* male; closeup of male cerci, -right - female cerci Note the uniform color of antennae.



Fig. 11. *Euborellia annulipes*; left- male; right - female

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*Labia, Marava, and Vostox*



Fig. 12. Left to right; *Labia minor* male; *L. minor* male cerci; *Marava arachidis*; *Vostox brunneipennis*.



Fig. 13. Left - male; right - female *Forficula auricularia* (European earwig)



Fig. 14. *Pyragropsis buscki* - Left male, Right female.

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## Distribution Notes and Biology of Florida species of Dermaptera

1. *Anisolabis maritima* (Gene) - Dunedin, St. Petersburg, Sarasota, Cape Sable, Long Key, and Key West ; frequent in winter beneath piles of seaweed, boards, and debris just above high tide mark; also recorded from Jacksonville to Key West on east coast; (Blatchley 1920)
2. *Euborellia annulipes* - Lakeland, Fort Myers, Key West; occurs beneath rubbish in dry and damp places; under rocks; under bark of logs.(Blatchley 1920)
3. *Labidura riparia* - Sanford, Dunedin, Ft. Meyers, More Haven, Utopia; beneath cover along margins of ponds and lakes; also beneath debris along seashore, and is attracted to light; Lakeland, Miami, Key West, Punta Gorda. Recorded as being extremely repulsive, emit an odor more nauseating than carrion. Introduced cosmopolitan species. (Blatchley 1920) Collected in mole cricket burrows (Friauf 1942).
4. *Vostox brunneipennis* - beneath bark of trees; Dunedin, close fitting bark of dead water oak; Okeechobee, beneath bark of dead maple; St. Augustine, Palatka, Ormond, Enterprise. Beneath bark of dead magnolia. (Blatchley 1920, Friauf 1942)
5. *Labia minor* - introduced species; beneath bark; flying over dung; (Blatchley 1920)
6. *Labia curvicauda* - tropical cosmopolitan species, taken only on Long Key, where it occurred at moist bases of leaves of dying coconut palms (Blatchley 1920)
7. *Labia rehni* - known only from type female at Key West, July, taken between boards in a woodshed (Blatchley 1920)
8. *Marava pulchella* - Ormond, Gainesville, Sanford, Myakka, Dunedin; Nov - Apr. common beneath bark of pine and also magnolia and water oak , occurs throughout Florida. (Blatchley 1920), said to prefer dead pine trees (Friauf 1942)
9. *Marava arachidis* - a tropical cosmopolitan species; Homestead; Aiken FL; in houses; (Blatchley 1920)
10. *Doru aculeatum* - on grasses and sedges growing near water; (Blatchley 1920)
11. *Doru davisii* - beaten or swept from vegetation near border of lakes; Lake Okeechobee; between the bases of leaves of arrow-leaf and saw-grass (Blatchley 1920)
12. *Doru taeniatum* (= *lineare*) - swept from grasses, found in the rolled leaf blades of *Panicum hemitomom* and bases of leaf axils of *Andropogon glomeratus* (Friauf 1942).
12. *Forficula auricularia* - European earwig; cosmopolitan species; damages flowers doing immense damage. Doubtfully established in Florida. (Blatchley 1920)

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