Subfamily Alleculinae: Keys

Key EE

Key to the Florida genera [including species] of Alleculini

1. Penultimate tarsomeres of anterior and intermediate tarsi with distinct membranous ventral lobes.  
2. All tarsomeres without lobes. But often densely pubescent ventrally.  

2 (1). Apical palpomeres of maxillary palpi expanded, oblong-ovate; prothorax short, nearly vertical; eyes oblique in position with inner margins distinctly closer to each other anteriorly than posteriorly. 

Lobopoda Solier (see Key FF)

2'. Apical palpomeres of maxillary palpi triangular; prothorax longer, nearly horizontal; eyes more transverse with inner margins only slightly closer to each other anteriorly than posteriorly. 

Hymenopus Mulsant (see Key GG)

3 (1'). Tarsal claws elongate, nearly as long as basal two tarsomeres of protarsi combined; length of row of teeth of tarsal claws reduced, restricted to basal third of claws. 

Onychomira Campbell [floridensis Campbell] (Fig. 12)

3'. Length of tarsal claws normal, usually no longer than basal tarsomeres of protarsi; row of teeth of tarsal claws extending well beyond middle of claws. 

4 (3'). Antennae with antennomeres three and four generally subequal in length, if antennomere three shorter than four then elytra lacking rows of impressed striae and length less than 10 mm. 

5. Sides of pronotum subparallel or sinuate basally; basal angles rectangular. 

Androchirus LeConte [femoralis Olivier] (Fig. 2)

5'. Sides of pronotum convergent anteriorly from base; basal angles slightly to strongly acute. 

Andrimus Casey [murrayi LeConte] (Fig. 1)

6 (4). Elytra with striae completely unimpressed or rarely, vaguely impressed and without distinct rows of strial punctures; with procoxae widely separated and without red humeral markings on elytra. 

Isomira Mulsant (see Key HH)

6'. Elytra usually with striae distinctly impressed and with distinct rows of strial punctures; if unimpressed, species with
Subfamily Alleculinae: Keys

procoxae contiguous to narrowly separated or with distinct red humeral markings on elytra........................................7

7 (6'). Procoxae widely separated by broad prosternal process ………..Hymenochara Campbell [rufipes (LeConte)] (Fig. 3) 7'. Procoxae contiguous or separated by thin lamella of prosternum..............................................................
…………Mycetochara Berthold [haldemani (LeConte)] (Fig. 11)

Key FF

Key to the Florida species of Lobopoda Solier
(this key needs to be updated to include L. socia (LeConte) (Fig. 10) and L. opacicollis Champion which also occur in FL) (see Campbell 1966)

1. Eyes small, widely separated in male, separated by distance approximately equal to diameter of an eye in female; pronotum smooth, strongly shining; length 6.5 to 8.5 mm ……………………………………………………nigrans (Melshiemer) 1'. Eyes larger, touching or very narrowly separated dorsally in male, separated by distance distinctly less than diameter of an eye in female; pronotum only moderately shining; sides straight in basal half; length 8 to 11.5 mm………………..2

2 (1'). Legs normally red; pronotal punctuation moderately fine, shallowly impressed; surface finely granulate; eyes of male separated by very narrow ridge; posterior margin of eighth sternal lobes of male broadly, evenly rounded………………..erythrocnemis Germar 2'. Legs brown to black; pronotal punctures coarse, deeply impressed; eyes of male touching dorsally, rarely separated by narrow ridge; posterior margin of eighth sternal lobes of male narrowly, acutely rounded…punctulata Melsheimer (Fig. 9)

Key GG

Key to the Florida species of Hymenorus Mulsant
(modified from Fall 1931) (many Hymenorus spp. are morphologically similar, thus only two species are represented in photographs; this group needs revision)

1. Entire upper surface polished or at least strongly shining, the pronotal punctuation never very dense; eyes as a rule widely separated, nearly always by a distance equal to or greater than their own width..............................................2 1'. Upper surface generally more or less dull, the pronotal punctuation closer, often very dense; eyes as a rule much more approximate, rarely distant by as much as their own width …………………………………………………………………………………..5

2 (1). Third antennal joint equal or subequal in length to the fourth………………………………………………………………………………..3

Elytra-the forewings of beetles
Granulate-covered with or made of very small grains
Humeral-relating to the shoulder; located in the anterior portion of the wing
Procoxae-basal segment of forelegs
Pronotum-upper dorsal plate of the first thoracic segment
2'. Third antennal joint distinctly shorter than the fourth..............................**illusus** Fall

3 (2). Elytral *striae* obsolete toward the apex.
   a. Elytra with humeral red spot, size very small (about 4.5 mm).........................**humeralis** LeConte
   b. Elytra without distinct humeral spot, the base diffusely *rufescent* in some examples of **niger** Melsheimer

- All elytral intervals with more than a single row punctures, eyes separated by rather more than their own width.............................. **distinctus** Fall

3'. Elytral *striae* distinct throughout their length.
   a. From elongate subdepressed, size small (rarely in excess of 5 mm); *aedeagus* at apex broad, vertically compressed and strongly curved downward.............................. **melsheimeri** Casey
   b. From normally convex, generally larger and less elongate; *aedeagus* not apically compressed, finely attenuate and feebly *deflexed* at tip..............................................4

4 (3b). *Propleural strigosity* (best viewed posteriorly) fine; genital forceps well developed.
   a. Prothorax more than two-thirds wider than long, its surface distinctly finely *alutaceous*, punctuation somewhat finer and sparser.............................................. **arkansanus** Fall
   b. Prothorax not over one-half wider than long, its surface polished, the punctuation coarser and closer.............................................. **dubius** Fall

4'. *Propleural strigosity* coarser; genital segment of male without forceps like process.
   a. Size larger (6.3 – 8.2 mm), rarely under 7 mm.............................................. **obesus** Casey
   b. Size smaller (5.25 – 8.2 mm); pronotal punctuation a little closer as rule, *aedeagus* more finely attenuate at tip......................... **fuscipennis** Fall

5 (1'). Eyes in male separated by three-eighths to one-half their own width..............................6

5'. Eyes in the male separated by three-fifths to five sixths their own width..............................................8

5''. Eyes in male separated by a distance equal to or greater than their own width..............................................9

6 (5). Comb of *protarsal claw* of male with 18 to 20 or more teeth.............................................. **semirufus** Fall (Fig. 5)

6'. Comb of *protarsal claw* of male with about 10 to 13 teeth (only eight in *fuscipennis*).................................7

**Aedeagus**-male genitalia

**Alutaceous**-pale leather-brown; covered with cracks like human skin

**Deflexed**-abruptly bent downward

**Propleural strigosity**-fine, transverse, raised lines on the subcoxal sclerotizations above, before and behind the coxae on the forelegs

**Protarsal claw**-claw on the tarsi on the foreleg

**Rufescent**-somewhat reddish

**Striae**-longitudinal depressed lines or furrows, frequently punctured
7 (4a). Comb of protarsal claw of male with about 8 teeth; head and thorax rufous, elytra dark brown; size small (4.6 mm). ................................. fuscipennis Fall

7'. Comb of protarsal claw with about 14 teeth in the male and 8 in the female.

a. Head, thorax and basal third of elytra more or less reddish, apical two-thirds of elytra piceous. .................. dorsalis Schwarz (Fig. 4)

b. Color above uniformly brown or piceous. .......................... caducus Fall

8 (5'). Color throughout deep black; form elongate; above coarsely sculptured, the elytral interspaces granulately rugose; third antennal joint but little more than half the length of the fourth. ................................. granulatus Blatchley

8'. Color nearly as dorsalis, the head, thorax and basal third of the elytra dark red or castaneous, the apical two-thirds of elytra blackish; second and third antennal joints subequal .............................................. dichrous Blatchley

8''. Color variable but never black, legs concolorous or paler; elytra not granulate; third antennal joint at least as long as the fourth.

a. Form elongate oval.
   -Prothorax usually rufous, elytra darker, brown or piceous, rarely upper surface throughout brown or piceous; antennae blackish except at base; elytral striae finer and not coarsely punctured. ................................. densus LeConte
   -Upper surface entirely dark brown or piceous; antennae rufo-ferruginous; elytral striae unusually deep and coarsely punctate; size larger. ................................. convexus Casey

b. Form parallel elongate; elytral striae and strial punctures very fine.
   -Size larger (6 mm); form convex; color above uniformly brown; antennae a little more slender. ................................. tenuistriatus Fall
   -Size smaller (4.8 – 5.5 mm); less convex; color rufo-ferruginous, the elytra and posterior ventral segments usually darker. ................................. tenellus Casey

9 (5''). Size larger (7.3 mm); prothorax distinctly more transverse, sides normally rounded; legs pale rufo-ferruginous to brownish red. ................................. quietus Fall

9'. Size smaller, length rarely but little more than 6 mm; elytra with a tendency toward a feeble inflation posteriorly.

a. Third antennal joint a little longer than the fourth.
   -Apical margin of pygidium in female entire ............................................ floridanus Casey
   -Apical margin of pygidium in female triangularly notched ............................ heteropygus Fall

Castaneous—chestnut-brown; bright red-brown

Convex—curved or rounded outward

Elytra—the forewings of beetles

Granulate—covered with or made of very small grains

Granulately rugose—covered with small grains and wrinkles

Piceous—black

Protarsal claw—claw on the tarsi on the foreleg

Prothorax—first segment (behind the head) of the thorax

Pygidium—the tergum (upper or dorsal surface of body segment) of the last visible segment of the abdomen

Rufo-ferruginous—reddish to rusty reddish-brown

Rufous—reddish

Striae—longitudinal depressed lines or furrows, frequently punctured
Subfamily Alleculinae: Keys

b. Third and fourth antennal joints equal or very nearly so; apical margin of pygidium in female entire ......................................................... inopius Fall

9°. Size smaller (4.8 – 5.5 mm); prothorax more transverse; legs piceous brown ................................ sobrinus Casey

Key HH

Key to the Florida species of Isomira Mulsant
(modified from Marshall 1970)

1. Third antennal segment two-thirds as long as fourth .......... ......................................................... oblongula Casey (Fig. 6)
1’. Third antennal segment as long as fourth .................2

2 (1’). Size moderately large, robust (over 8.5 mm long); strongly convex in cross-section .......... valida Schwarz (Fig. 8)
2’. Size smaller, not robust (less than 8.5 mm long); feebly or moderately convex in cross-section ......................3

3 (2’). Ocular index (see below) less than 44 ................. ............................................................ iowensis Casey (males)
3’. Ocular index greater than 44 ................................. 4

4 (3’). Ocular index less than 55 ........................................ 5
4’. Ocular index greater than 55 ................................. pulla Melsheimer (Fig. 7)

5 (4). Eyes prominent; head narrowed suddenly at clypeus, sides of clypeus parallel throughout; color usually brown ......................................................... iowensis Casey (females)
5’. Eyes not prominent; clypeus tapering gradually to labrum; color usually yellowish ......................... sericea Say

Ocular index: (from Campbell and Marshall 1964)

minimum distance between eyes (B) X 100 = Ocular index
maximum dorsal width across eyes (A)

Convex - curved or rounded outward

Clypeus - the part of the insect head below the frons, to which the labrum (upper lip) is attached anteriorly

Labrum - upper lip

Piceous - black

Pygidium - the tergum (upper or dorsal surface of body segment) of the last visible segment of the abdomen
Subfamily Alleculinae-Species Profiles

**Fig. 1:** *Andrimum murrayi* LeConte

**Length:** 6.0-7.5 mm  
**Habitat:** ---  
**Comments:** There are 7 *Andrimum* spp. in southeaster U.S.; this group needs revision

**Fig. 2:** *Androchirus femoralis* Olivier

**Length:** 9.0-10 mm  
**Habitat:** Amongst rotting logs  
**Comments:** Sexual behavior has been recorded by Campbell 1966a

**Fig. 3:** *Hymenochara rufipes* (LeConte)

**Length:** 3.8-4.9 mm  
**Habitat:** ---  
**Comments:** There are only 2 known *Hymenochara* spp. in N.A.

**Fig. 4:** *Hymenorus dorsalis* Schwarz

**Length:** ~5.5 mm  
**Habitat:** ---  
**Comments:** There are nearly 100 *Hymenorus* spp. in the U.S.

**Fig. 5:** *Hymenorus semirufus* Fall

**Length:** 4.2-5.2 mm  
**Habitat:** ---  
**Comments:** May be precinctive to FL

**Fig. 6:** *Isomira oblongula* Fall

**Length:** 5.9-8.3 mm  
**Habitat:** On deciduous tree spp.  
**Comments:** ---
Subfamily Alleculinae-Species Profiles

Fig. 7: *Isomira pulla* (Melsheimer)
Length: 5.6-7.7 mm
Habitat: On various deciduous tree spp.; under organic debris
Comments: ---

Fig. 8: *Isomira valida* Schwarz
Length: 8.5-9.4 mm
Habitat: ---
Comments: ---

Fig. 9: *Lobopoda punctulata* (Melsheimer)
Length: 8.0-11.5 mm
Habitat: On deciduous tree spp. (oak, hickory)
Comments: Adults can be collected by beating foliage, at lights

Fig. 10: *Lobopoda socia* (LeConte)
Length: ~8.5 mm
Habitat: ---
Comments: ---

Fig. 11: *Mycetochara haldemani* LeConte
Length: 3.5-5.0 mm
Habitat: ---
Comments: Only 1 of 10 N.A. *Mycetochara* spp. is known in FL

Fig. 12: *Onychomira floridensis* Campbell
Length: 5.0-7.0 mm
Habitat: Sandy, scrub areas
Comments: Precinctive to FL (Highlands Co.); adults have been collected in blacklight traps