

## The Horntails of Florida (Hymenoptera:Siricidae)<sup>1</sup>

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**INTRODUCTION:** The siricid wood wasps are fairly large, cylindrical insects usually exceeding 20 mm in length. Horntail larvae are pests of new timber. After horntails were introduced into New Zealand and Tasmania, as much as 40 percent of the standing timber of *Pinus radiata* D. Don (Monterrey pine) was destroyed (Taylor 1976). Parasites from the Northern Hemisphere had to be introduced to control this pest. Fortunately, in Florida a wide spectrum of parasites naturally exists which prevents any serious damage. Although harmless, horntail adults look like stinging wasps, and if they emerge from indoor firewood may alarm some people. The last abdominal tergite of the female bears a hornlike projection called the cornus that gives them their common name. The presence of a pair of hard, opaque, raised areas on the metanotum called cecri characterize the suborder Symphyta to which horntails belong. Horntails (Figs. 1-3) are easy to recognize by their large size, long antennae, presence of only one foretibial spur and the terminal cornus. There exist six species in four genera in Florida. Most of the species appear to be rarely collected, and the commonest species in Florida now appears to be an introduced one from Asia, *Eriotremex formosanus* (Matsumura) (Smith 1996)).

**BIOLOGY:** Adults fly mostly in bright sunshine, and females are more abundant than males. No males are known of *Eriotremex*. Females usually oviposit in trees weakened or dying as a result of fire, disease or some other injury. Occasionally, they select a tree that appears completely healthy. The egg is oviposited deeply into the wood. Sometimes the ovipositor becomes stuck and the female dies attached to the tree. The larvae bore into the trunk of the tree and make perfectly cylindrical holes in the wood and pack the boring frass in the tunnels behind them. Most siricids carry a symbiotic wood-destroying fungus. The fungus is contained in invaginated inter-segmental sacs near the basal end of the ovipositor. When the egg is deposited, it carries with it a fungus (*Amylosterium* sp.) that multiplies in the wood surrounding the larva. The larva can feed on the fungus for months, and it has been theorized that the larvae live on the fungus rather than on the wood.



Fig. 1. Female *Eriotremex formosanus* (Matsumura).

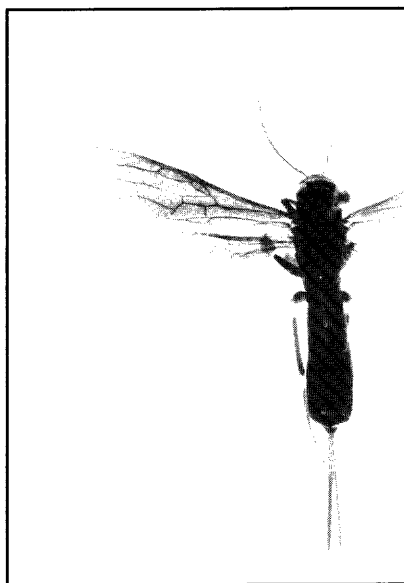


Fig. 2. Female *Urocerus taxodii* (Ashmead).

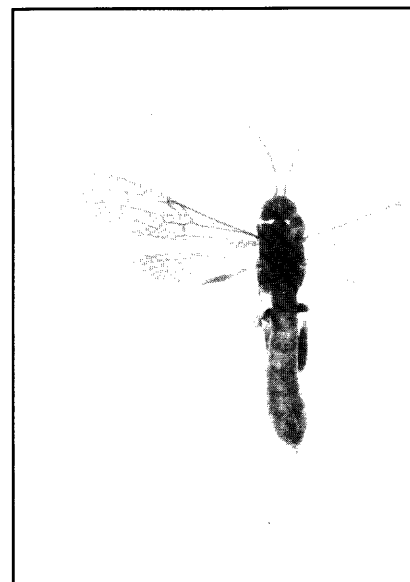


Fig. 3. Male *Urocerus taxodii* (Ashmead).  
Photography credit: Jeffrey Lotz.

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## Key to the Horntails of Florida

1. Hind tibia with one tibial spur; antenna short, slightly swollen or flattened at middle, at most as long as head and thorax combined (Fig. 1). Larvae bore in angiosperm trees . . . . . 2
- 1'. Hind tibia with two tibial spurs; antenna long, filiform, much longer than head and thorax combined (Figs. 2, 3). Larvae bore in conifers. . . . . 3
  
2. Head and mesoscutum nearly all black (Fig. 1) . . . . . *Eriotremex formosanus*
- 2'. Head and mesoscutum mostly orange color . . . . . *Tremex columba*
  
3. Head without pale areas above and behind eyes; cornus of female usually not constricted in middle (*Sirex*) . . . . 4
- 3'. Head with dorsal surface entirely pale or with at least a pale spot behind each eye (Fig. 2); cornus of female constricted in middle (*Urocerus*) . . . . . 7
  
4. Females; with long ovipositor . . . . . 5
- 4'. Males; without ovipositor . . . . . 6
  
5. Abdomen mostly metallic blue . . . . . *Sirex areolatus*
- 5'. Abdomen mostly reddish except basally . . . . . *Sirex nigricornis*
  
6. Head and thorax with some metallic green; antenna all dark brown . . . . . *Sirex areolatus*
- 6'. Head and thorax dark metallic blue, without greenish reflections; antenna with basal part reddish . . . . . *Sirex nigricornis*
  
7. Females; with long ovipositor (Fig. 2) . . . . . 8
- 7'. Males; without ovipositor (Fig.3) . . . . . 9
  
8. Abdomen entirely black or blue-black (Fig. 2) . . . . . *Urocerus taxodii*
- 8'. Abdomen mostly reddish . . . . . *Urocerus cressoni*
  
9. Antenna nearly uniform yellowish brown, somewhat darker basally, antenna elongate, first flagellomere longer than second . . . . . *Urocerus taxodii*
- 9'. Antenna with basal half dark brown, apical half pale brown; antenna shorter, first flagellomere no longer than second . . . . . *Urocerus cressoni*

## List of species (specimens in FSCA)

### Subfamily Tremicinae

1. *Eriotremex formosanus* (Matsumura, 1912)  
 DISTRIBUTION: Asia (Japan, Laos, Taiwan, Vietnam). Introduced into U.S.A. (Alabama, Florida, North Carolina).  
 Host: emerged from firewood (water oak). **FLORIDA** Records (101 specimens): ALACHUA CO.: Gainesville (IV-XI on *Quercus laurifolia* & *Liquidambar styraciflora*); CALHOUN CO.: lumberyard (IX on *Pinus palustris*)  
 CLAY CO.: Gold Head State Park (V), Orange Park (IX, *Quercus*); COLUMBIA CO.: Osceola National Forest (X); DIXIE CO.: Old Town (V); GULF CO.: Wewahitchka (V); LIBERTY CO.: Torreya State Park (VIII, IX); MARION CO.: No locality (on *Pinus taeda*); POLK CO.: Haines City (XI, on *Pinus*); ST. LUCIE CO.: Fort Pierce (V); TAYLOR CO.: 5 mi. s. Keaton Beach (IV); UNION CO.: Hyw. 24 at Santa Fe River (X)
  
2. *Tremex columba* (Linnaeus, 1763)  
 DISTRIBUTION: Eastern Canada south to Florida, west to Rockies, Colorado, Arizona, Utah, southern California.  
 Hosts: *Acer*, *Ulmus*, *Quercus*, *Carya* and *Fagus*. **FLORIDA** Records (7 specimens): ALACHUA CO.: Gainesville (X, XI); LEON CO.: Tallahassee (X)

### Subfamily Siricinae

3. *Sirex areolatus* (Cresson, 1867)  
DISTRIBUTION: California, Colorado, New Mexico, Oregon, Virginia; Canada (British Columbia) Hosts: *Abies*, *Cupressus*, *Juniperus*, *Libocedrus*, *Pinus*, *Pseudotsuga*, *Sequoia*, and *Taxodium*. **FLORIDA** Records (1 specimen): COLLIER CO.: Naples (IV) (emerged from fir wood imported from western U.S.A.)
4. *Sirex nigricornis* Fabricius, 1781  
DISTRIBUTION: Quebec south to Florida, west to Saskatchewan, Ohio, Wisconsin, Arkansas, Louisiana. Hosts: *Pinus*. **FLORIDA** Records (3 specimens): ALACHUA CO.: Gainesville (XI, on *P. ellioti*); COLUMBIA CO.: 5 mi. SE Lake City (XI)
5. *Urocerus cressoni* Norton, 1864  
DISTRIBUTION: Quebec south to Florida, west to Minnesota, Wisconsin. Hosts: *Abies*, *Picea*, *P. rigida*, and *P. taeda*. **FLORIDA** Records (none in FSCA)
6. *Urocerus taxodii* (Ashmead, 1904)  
DISTRIBUTION: Washington, D.C. south to Florida, west to Missouri. Hosts: *Taxodium distichum*. **FLORIDA** Records (1 specimen): COLLIER CO.: Corkscrew Swamp (IV)

### LITERATURE CITED

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