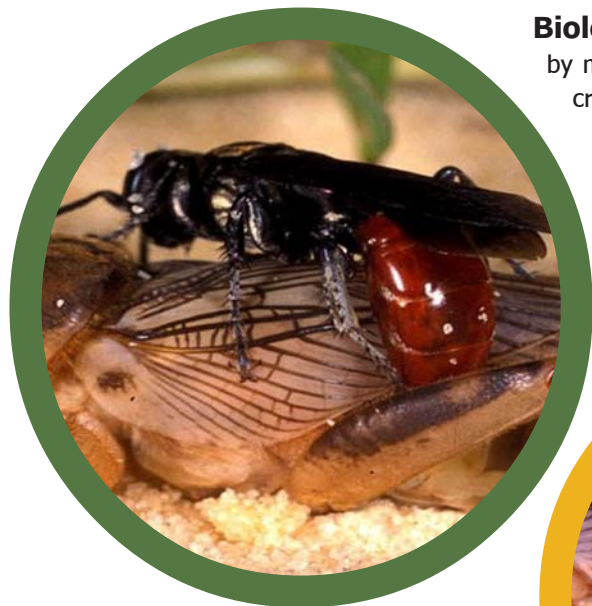




## BIOLOGICAL CONTROL: *Larra Wasp, Larra bicolor*



**Biology & Lifecycle:** The adult female wasp searches for tunnels made by mole crickets. When a tunnel is located, the wasp then enters the mole crickets burrow and stings the host on the soft tissue on its underside, causing paralysis. The wasp places a single egg on the underside of the mole cricket. Incubation time may be from 5-7 days, depending on temperature. Development time for the larvae is approximately two weeks. In this time the wasp larva will consume the cricket's tissue and hemolymph. Once the cricket is consumed, the larva will build a cocoon out of cemented soil particles and emerge in about a week.



**Environmental Factors:** *Larra bicolor* originated in South America along with its host. It is distributed in tropical regions worldwide. They are not able to survive in temperate regions.

**Adult:** The *L. bicolor* female is approximately 22 mm with the males smaller in length. The adult wasp is completely black except for its abdomen which is red. The head has silvery-white markings. The wings are smoky brown to indigo blue.



**Immature:** The larvae will develop as an ectoparasitoid, undergoing five instars.

**Host Species:** The hosts are *Scapteriscus* mole crickets. The host, like the wasp, originated in South America. There are three species of *Scapteriscus* - *S. abbreviatus*, *S. borellii* and *S. vicinus* which occur in Florida, and all are attacked by *L. bicolor*.

**Habitat/Nutritional Requirements:** *Larra bicolor* is distributed worldwide in tropical regions. They obtain nectar by feeding on wildflowers. *Hyptis atrorubens* and *Spermacoce verticillata* are known nectar sources of *L. bicolor*. *Spermacoce verticillata* was introduced as a nectar source in Florida in areas where *L. bicolor* has been released.

**Effectiveness:** *L. bicolor* is a very effective biocontrol agent of the *Scapteriscus* mole crickets. UF/IFAS is distributing these wasps to all Florida counties as a biological control agent.

### References:

Arévalo H.A. and J.H. Frank. 2005. Nectar sources for *Larra bicolor* (Hymenoptera: Sphecidae), a parasitoid of *Scapteriscus* mole crickets (Orthoptera: Gryllotalpidae), in northern Florida. Florida Entomologist 88: 146-151.

[http://ipm.ifas.ufl.edu/reports/mole\\_cricket\\_frank1.htm](http://ipm.ifas.ufl.edu/reports/mole_cricket_frank1.htm)

<http://molecrickets.ifas.ufl.edu/mcri0007.htm>

[http://creatures.ifas.ufl.edu/beneficial/Larra\\_wasps.htm](http://creatures.ifas.ufl.edu/beneficial/Larra_wasps.htm)

● **Figure 1.** Larra wasp stinging and ovipositing on mole cricket. Photograph by: Lyle Buss.

● **Figure 2.** Larra grub on mole cricket. Photograph by: Lyle Buss.

● **Figure 3.** *Larra bicolor* feeding on flower. Photograph by: Lyle Buss.

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