BUG BIZ
Pest Management and Insect Identification Series
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# *Alabagrus stigma,* Sugarcane Borer Red-Tailed Braconid (Hymenoptera: Braconidae)

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## Description

The sugarcane borer red-tailed braconid is a parasitoid wasp of the family Braconidae. Parasitoids are a category of parasites that rely on a host during a certain life stage (egg, larva or adult). They differ from other parasites in that they always kill their hosts.

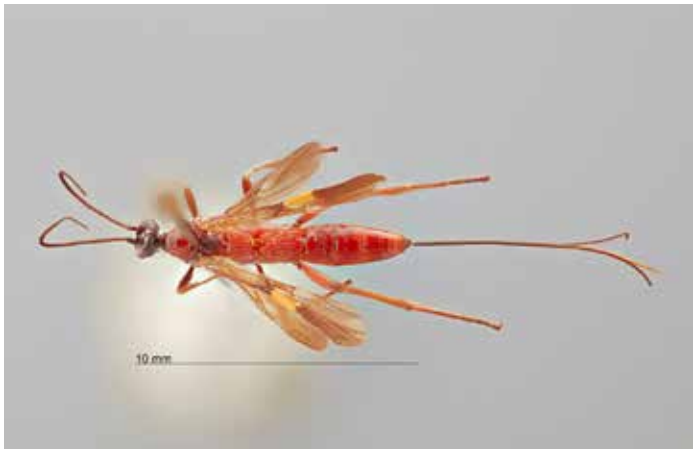
The adult sugarcane borer red-tailed braconid is about three-eighths of an inch (9 mm) in length with a black head, reddish orange and black thorax, and an orange abdomen. Their transparent wings are tinged dark brown and possess a small yellow spot on the front edge of each forewing. Males and females are similar except for the long egg-laying organs (ovipositors) of the females, which are almost as long as their bodies. Larvae are internal parasitoids and are almost never seen unless the host is dissected. They are soft bodied, legless and grublike.

Many members of this family bear similar color patterns, so this species is sometimes confused with other braconid wasps. The sugarcane borer red-tailed braconid can most easily be distinguished from similar braconid wasps by comparing their body ratio; members of this species have relatively long, slender bodies with long ovipositors, while other members of the family have shorter, wider bodies with short ovipositors.

## Life History

Many parasitoids specialize on a single host species or a group of closely related species, while some are less picky, parasitizing a variety of less closely related species. Often their hosts are the eggs or larvae of other insects, the most vulnerable life stages. A female finds a host and uses her ovipositor to deposit eggs onto or inside the body. The larvae hatch from the eggs, consume their hosts from the inside and eventually pupate. This process always kills the host.

Sugarcane borer red-tailed braconids are specific parasitoids of sugarcane borer *(Diatraea saccharalis)* caterpillars and larvae of similar, closely related borer species. Sugarcane borers and related species are pests of sugarcane and other grass crops that spend most of their lives feeding inside stalks. The braconid females deposit eggs into sugarcane borer caterpillars inside the stalks.




Dorsal view of the *Alabagrus stigma,* adult female (preserved specimen, Louisiana State Arthropod Museum)

Lateral view of the A*labagrus stigma,* adult female (preserved specimen, Louisiana State Arthropod Museum).

The wasp larva emerges from the caterpillar just before it pupates, eventually killing it as the wasp larva continues to consume it. Once the caterpillar is dead, the wasp spins a cocoon and, after several days, emerges as an adult.

## Ecological Significance

Wasps are considered aggressive insects by many people. However, many wasps actually help farmers manage serious insect pests and are used as a form of biocontrol. In the case of the sugarcane borer red-tailed braconid, their parasitoid habits reduce the number of pests on two economically important crops in Louisiana, rice and sugarcane. Because many parasitoid wasps are specific to particular pest species, they have been utilized in biological control and integrated pest management applications around the world.

The sugarcane borer red-tailed braconids were introduced as biocontrol agents to Louisiana during 1931. They were originally found by H.A. Jaynes in Peru during 1928 and have been used to help manage sugarcane borer populations ever since. Because the wasps effectively kill sugarcane and rice pest caterpillars, they have been used in rice fields throughout southeastern states, especially Florida, Louisiana and Texas. Recently, the rice pest management lab in the LSU AgCenter Department of the Entomology discovered that Mexican rice borers *(Eoreuma loftini)* are also parasitized by the sugarcane borer red-tailed braconids, so the species may have wider pest control applications in the future.

## References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## Contact Us

For advice about arthropod identification or diagnosis, contact the LSU AgCenter Department of Entomology. Reach the department through the Contact Us webpage:

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