

Imported Fire Ant



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I chose to write about the fire ants because I have always been very interested in insects and especially ants. I also wanted to write about this type of ant because my mother's uncle, who lives in USA, once told me about the time he was bitten by a fire ant. He said that it felt like he had burned his leg, just like touching fire. I was about 11 years old when I heard the story and have ever since found fire ants very fascinating.

My define problem is:” Why was it a problem that the Fire Ant was imported to the south of US. ?”

My hypothesis about this is that if you introduce a new species to an ecosystem that never had these kind of animal before, it will causes big problems ether for the animals which already is there or for the animal which is introduced. The reason for that is for example the fight for big enough habitat and for enough food. In this case where we have fire ants, the new introduced species would most likely take over the other ant species habitat because of their aggressively and strength, because two species can not share the same niche. And if one species loose its niche and are not capable of finding a new one, it will die out.

The workers of the fire ant species generally live 4 to 6 weeks, and the queens can live up to 7 years or more. Fire ant nests can extend into the ground 6 meters deep or more, with lateral tunnels extending out over 2,5 meters in all directions. Fire ants are small, from 2 mm to 6 mm. A single fire ant colony may have dozens of queens, each capable of laying up to 1,500 eggs per day. They are reddish brown in colour and they are very aggressive and, if disturbed, readily attack. Their stings are very powerful, causing blistering, and sometimes an allergic reaction. Nest can be up to 40 cm high, often a dome shape.

Nests usually do not have any exit or entry hole. A fire ant's antennae enable it to find and taste food, detect air currents, feel surface textures, hear and smell. Fire ants are omnivorous, which means that they eat almost everything of plants and animal material they can find. But if they could eat only insects, it is said that they would rather do that.

The Fire ants was imported to the south of US around 1918. But this was only the black type called, *Solenopsis richteri* Forel. The red fire ant (*Solenopsis invicta* Buren) was not imported before the late 1930's. Both of the species most likely came to the shore by boat.

The red fire ant is much more aggressive than the black type, and it spread quickly. Today they are spread all over the south-eastern United States and Puerto Rico. This is a big problem because the red fire ant causes many problems.

Fire ants can injure farm animals and damage mowers and other farm equipment. They can also do some serious damage on the crops and interfere with harvesting.

The stings usually cause a localized reaction, leaving a characteristic pustule-like blister. These stings can cause problems like secondary infections which can result in scars. But these stings are much more problematic for those people who are deathly allergic to fire ant stings. Luckily it is only a small percent of the population who are this allergic. Generally in the environment, they can cause problems for other ant species by being aggressive and displace them.

In more urban areas they can injure pets like cats and dogs. Also their nests can cause damage like cracking and weakens on slabs and roads. They can even invade and short-out electrical motors. You can read more about the electrical problems the fire ant causes in the fourth link on the last page. You can also read more about the electrical problems in the article “Potential economic impact of introduction and spread of the red imported fire ant, *Solenopsis invicta*, in Hawaii by John J. [Gutrich](#), Environmental science and policy 10(2007)685-696

Since the Fire ants have caused such big problems for the environments in the US, there are many who tries to find a solution for the problem. On of the things you can do to get rid of the noxious animal is to use “Cinnamomum osmophloeum” leaf essential oil. In the abstract from the article “ Terminating Red imported fire ants using Cinnamomum osomophloeum leaf essential oil “ By Sen-Sung Cheng, Bioresource Technology 99(2008) 889, it is described how the essential oil worked. It is written that the whole experiment was very successfully, because the fire ants response to the toxic of the leaf essential oil in a way that was wishfully in the mater of controlling them.

So this is one of the more successful methods to get rid of the ants, which at the same time is much better than using normal poison that contains a lot of chemicals that are not good for the nature. Bio resource Technology is absolutely something worth using time and money on.

Another biological method which has been tested out is the fire ant decapitating fly. In the article “Establishment and dispersal of the fire ant decapitating fly *psedacteon tricuspis* in North Florida” By S.D Porter et al/ Biological Control 29 (2004) 180, you can read about how they release the flies and how they manage to find the fire ants and kill them. In the abstract from this article it is written that the fly was realised at eight sites in North Florida between the summer of 1997 and the fall off 1999. This was very successful because the flies manage to disturbed about 10 fire ant mounds at each site. By the fall of 2000 the five initial release sites plus one new site had fused into one large area about 70 km in diameter, which is a very good progress. The flies had also expanded out an additional 16–29 km and occupied about 3300 km². This is also a very interesting subject when it comes to “How to solve the fire ant problem”. This is also a good way to control the fire ants at the same time as the nature is clean from dangerous and poisonous chemicals.

Since my define problem is:” Why was it a problem that the Fire Ant was imported to the south of US. ?” I have also looked at one article about one big problem that the fire ant causes. This article is : “Potential economic impact of introduction and spread of the red imported fire ant, *Solenopsis invicta*, in Hawaii by John J. [Gutrich](#), Enviromental science and policy 10(2007)685-696. Here it is written about how much money they have to use each year because of all the problems the fire ants causes in the civilisation. These economic sectors have the biggest problems: Households, agriculture, infrastructure, recreation, tourism and business, and also government expenditures. On page 690 you can read some more about the electrical damages as I mentioned earlier in this paper and I would say that this is one of the bigger problems that RIFA is causing together with the problems they cause for the other species in the nature where they were introduced.

My conclusion is that it was a big problem that the fire ant was introduced to the south of US, because they are much more aggressive than other ant spices, they spread very quick and generally it is a “bad thing” to introduce a new species to an area no matter what kind of animal it is. The fire ant did also cause a lot of damage for the people who live in US. Luckily there is many ways to solve the problem, which also are kind to nature without using any dangerous chemicals. I have learned very much by reading and comparing my hypothesis with these articles.



References:

The facts etc on page 1 and 2 were collected from these three links.

- <http://ipmworld.umn.edu/chapters/lockley.htm>
- <http://www.safe2use.com/pests/fireants/factoids.htm>
- http://en.wikipedia.org/wiki/Red_imported_fire_ant

The three articles:

“Potential economic impact of introduction and spread of the red imported fire ant, *Solenopsis invicta*, in Hawaii by John J. [Gutrich](#), Environmental science and policy 10(2007).

“Establishment and dispersal of the fire ant decapitating fly *psedacteon tricuspis* in North Florida” By S.D Porter et al/ Biological Control 29 (2004).

“Terminating Red imported fire ants using Cinnamomum osomophloeum leaf essential oil “By Sen-Sung Cheng, Bioresource Technology 99(2008).

