

Geography in the News™

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DANGEROUS FIRE ANTS

Most Southerners know the dangers associated with fire ants. A single sting from one of these fiery creatures is enough to send victims fleeing, but multiple stings can be life threatening.

The red fire ant, an exotic species from South America, once was mostly a problem for farmers and outdoors enthusiasts. This ant now is increasingly invading residential structures, and is responsible in the deaths of at least four nursing home residents.

Just as other exotic plants and animals from distant lands have made themselves at home in the United States, fire ants have adapted well to the landscape. These ants are a scourge across the South and continue to spread geographically outside the region, aided unintentionally by agricultural and nursery product shipments.

The imported fire ant is only about one-quarter inch (6 mm.) long. It lives in huge colonies that produce mounds of dirt, sometimes one to three feet (one meter) across and rising to a few inches (5 cm.) to two feet high. In heavily infested areas, more than 50 mounds may occupy a single acre (the size of a football field). These grassless mounds stand out visibly in a pasture, but they are not so easily visible in taller vegetation.

Each colony has a queen ant with a phenomenal egg-laying ability. Her colony may number into the hundreds of thousands, occasionally including new queens. These new queens can fly to new territories several hundred yards

or meters away, where they may lay eggs and establish new colonies.

When a colony's mound is disturbed, thousands of ants flood to the surface seeking the source of the disturbance. Within seconds, they swarm the victim, inflicting venomous stings. If lucky, the victim may only experience one or two stings. Far more likely, however, the victim does not realize the attack is occurring until hundreds of ants are already on him or her. Attempts to dislodge the attackers only increases their ferocity.

The sting of a single fire ant usually leaves a red welt that burns and itches. Within a day, a small pustule occurs and this small pus-filled pimple can easily become infected, if scratched, and may leave a scar. Most stings are considered a mild inconvenience, while massive numbers may cause the victim serious discomfort lasting several days.

Occasionally, victims allergic to bee stings may have extreme allergic reactions to the fire ant venom and experience anaphylactic (AN-ah-fah-LAC-tic) shock. Without immediate medical treatment, such reactions can result in death.

Fire ants first entered the United States at Mobile, Ala. probably in 1918 aboard a cargo ship from Argentina. From that single introduction, colonies began expansion diffusion inland from the Gulf Coast port. A classic

pest diffusion study by Howard Adkins (*Annals of the Association of American Geographers*, Sept., 1970) followed the waves of the infestation as it moved as far west as Central Texas, north as far as southern Tennessee and east as far as North Carolina's southern coastal plain.

Research showed that the colder climates to the north and west would limit diffusion of the fire ant. To some degree that seems true, but plant nurseries and sod farms have provided new avenues of diffusion. When plants and sod are transported to new areas, fire ants easily hitchhike in the cargo of soil. Now the pest is showing up in places in southern California, Arizona, Virginia and Maryland.

Although the U.S. Department of Agriculture has promoted several fire ant eradication programs, none has been more than temporarily successful. Most have involved spreading poison over wide areas, raising questions about environmental and human impacts.

The fire ant is another dangerous creature, rivaling that other exotic, the African "killer" bee, in its threat in the United States.

And that is Geography in the News™. April 30, 2004. #726.

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Red Imported Fire Ant Diffusion

