

Rat-borne parasite that can cause brain disease spreading in southern US

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Brown rats found and analyzed near Atlanta now carry rat lungworm,

researchers report.

It's a parasite that can trigger a dangerous brain encephalitis in both people and pets, and which now threatens a wide area of the U.S. Southeast.

Researchers in Georgia say the microscopic rat lungworm, known scientifically as *Angiostrongylus cantonensis*, typically begins its [life cycle](#) in native and exotic snails—rats probably contract the parasite after eating snails.

A. cantonensis was first identified in Asia and was for many years not endemic to the United States.

It first appeared in Hawaii before being spotted in Texas, Louisiana, Alabama and Florida, "likely introduced by infected rats and gastropods [snails] through [trade routes](#), such as on merchant ships," explained a team led by Nicole Gottdenker. She's associate professor of anatomic pathology at the University of Georgia in Athens.

Infected rats excrete the parasite in their feces.

In rare cases, people who accidentally come into contact with *A. cantonensis* can also become infected. The worm can trigger a dangerous inflammation of the brain or its surrounding membrane, the meninges—a condition called [meningoencephalitis](#).

Concerned that rat lungworm might have continued its spread throughout the Southeast, Gottdenker's team collected samples of tissues "from 33 wild brown rats found dead during 2019-2022 on the grounds of a zoological facility located in Atlanta," they reported.

About one-fifth of the rats showed signs of some kind of parasitic

worm—in the rats' hearts, [pulmonary arteries](#) and brain tissues. In four of seven samples, an identical strain of *A. cantonensis* was identified.

All of this suggests that "the zoonotic parasite was introduced to and has become established in a new area of the southeastern United States," the research team concluded.

Also, "because *A. cantonensis* previously was identified in rats in neighboring states Florida and Alabama, *A. cantonensis* populations likely were in Georgia much earlier than 2019, when the first positive rat was identified in Atlanta," the study authors added.

In addition, infections with the worm have also been identified in captive wildlife throughout the Southeast and in a red kangaroo kept in Mississippi, according to the report.

Why the recent spread? Climate change could be to blame, the Atlanta researchers believe. Human interference and "climate-induced changes in local food webs" could be introducing and supporting new snail species that carry the parasite, they suggested.

The spread of *A. cantonensis* now poses "a possible threat to the health of humans and domestic, free-ranging, and captive animals," the team warned. Doctors and veterinarians alike should consider infection with the parasite as a possible diagnosis for any cases of meningoencephalitis they encounter, Gottdenker's team advised.

The report was published Sept. 20 in the [Emerging Infectious Diseases](#) journal.

More information: Find out more about the warning signs of meningoencephalitis at the [Cleveland Clinic](#).

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