

May 4, 2004 Tuesday

SECTION: NEWS; Pg. 1A

LENGTH: 996 words

HEADLINE: After 17 years, cicada love songs

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BODY:

Experts predict periodic insects may invade region to heed mating call

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The Journal News

On a warm, dry evening this month, countless gossamer-winged, sun-starved bugs are expected to end 17 years of underground meandering, climb to the surface and begin incessantly chirping long, loud love songs throughout Westchester, Rockland and Putnam counties.

Then again, maybe they won't. No one knows for sure.

The bugs are part of Brood 10 of the periodic cicadas, a class of insects that spends 17 years underground munching on plant and tree roots, and then surfaces in a loud, monthlong frenzy of mating and egg laying.

"Brood 10 is not a big brood for New York state," said Carolyn Klass, an entomologist at the Cornell Cooperative Extension Service. "I don't think you'll see hardly any. There is a lot more pavement than there used to be, and the habitat for cicadas is paved over in most places."

There have been sightings of the cicadas in the past, primarily on Long Island, and if they return this year, that is likely the only place they'll be found in the state, Klass said.

But state insect experts have a different view, and predict that Westchester, Rockland and Putnam counties will have the largest population of cicadas in New York. Traditionally, the largest concentrations of this cicada brood were found in New Jersey, Long Island and in mid-Atlantic states. But during the last eruption in 1987, many cicadas spilled past their normal breeding grounds and spread to the lower Hudson Valley.

"The population of the cicadas in '87 was extremely large," said Jerry Carlson, chief of forest health and protection for the state Department of Environmental Conservation. "It was big enough that they were a nuisance. There were so many that in places they clogged sewer drains."

Because of the brood's size, Carlson said, "if wind dispersal is any factor, the offspring could have expanded their range."

Warming trends documented by the Department of Agriculture also could broaden the Brood 10 cicadas' boundaries over time.

The 1987 cicadas spilled well past their traditional boundaries, with a few of the males were spotted screaming their love songs from the tops of trees as far north as Saratoga.

"I was living in Rockland County at the time," said Beth Herr, senior curator at the Ward Pound Ridge Reservation, "and I remember driving, along the New York Thruway and the sound around the highway was so loud that you could hear it above the sound of the cars."

Periodic cicadas are unusual insects because of their extremely long development stages. It is the extended underground period that distinguishes Brood 10 from the "dog day cicadas," which come out annually during the hot waning days of August.

"This one species comes out every 17 years, and all they think about is sex," Herr said. "They don't even have mouth parts for eating."

The bugs burrow out of the ground at the base of trees and shrubs, and then slowly shed their larval skin to reveal their gossamer wings. "The process takes about five hours from beginning to end," Herr said, "and you can watch them change from this pink creature with wings folded up to a light brown as the colors fill in."

The males then climb up trees and sing to attract the flying females who are seeking mates. "When they come out, they are hanging from just about every tree, like Christmas ornaments," said Doug Allen, entomologist at the State University of New York, College of Environmental Science and Forestry in Syracuse. "It's amazing to see, and the noise is horrendous!"

Anthony Miserandino, the principal of Bronxville High School, recalled running into the frenetic insects in Cumberland County 17 years ago. "They are just a nuisance," he said. "If you go biking, you are likely to swallow one. They just covered the ground, and you see them all over in clumps. It's like the place is littered with confetti."

Bronxville, like many high schools, traditionally holds graduation outside at the end of June, but the cicadas should have returned underground by then. They live only two or three weeks after emerging from the ground in mid-May, and they die soon after mating. When the eggs hatch, the larvae fall and burrow into the ground, where they remain for the next 17 years.

"But we do have a contingency plan to use the auditorium in case of bad weather or cicadas," Miserandino said.

At one time, periodic cicadas were not that unusual. But many broods, which erupt in the same general region at the end of each cycle, fell victim to agricultural practices and development pressures.

"Originally, there were 17 broods, and somewhere in the country one brood would be

coming out every year," said Tim McCabe, an entomologist at the New York State Museum in Albany. "At one time, New York state was known to have seven of the broods, but now we're down to only two.

"Agricultural trends can so destroy their habitat that you can wipe out whole broods," he said. "At the turn of the last century, New York state was the No. 1 wheat producer in the country, and everything east of the Mississippi at one time was clear-cut. When you have such drastic changes to the landscape, wildlife that can't handle it just disappear."

Mccabe said the periodic cicada eruptions provoke a feeding frenzy among predatory insects, spiders, birds, and rodents, such as squirrels and mice, particularly when the insects first come out of the ground and lack their hard protective shell. They also loosen the soil around plant roots and create irrigation channels to the roots.

Cicadas do not damage summer foliage because they do not eat. The females, however, do lay their eggs into slits they carve into the ends of twigs, Allen said.

"Eventually, the tip of the branch dies, and you'll see a lot of trees with dead branch tips," he said. "But it doesn't affect the tree very much."

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