



SCIENCE

Cancer cells in seawater spread leukemia in clams

By James Gorman
New York Times

Infectious cancer cells drifting in the ocean might sound like a dystopian fantasy. But scientists say that is exactly what is happening — in clams.

For at least 40 years, outbreaks of the clam equivalent of leukemia have been hammering populations of soft-shell clams (*Mya arenaria*), also called steamers and littlenecks, along the East Coast from Maine to the Chesapeake, causing declines in harvest and loss of jobs.

But the cause of the disease and how it spread were unknown until U.S. and Canadian researchers studied the genes of the cancer cells.

"We realized that maybe this was a clone of cells that had spread," said Stephen P. Goff at Columbia University. Except for minor differences, all the samples had the same DNA. That meant they all came from one original case of cancer in one clam.

Goff and his colleagues, Michael J. Metzger at Columbia and Carol Reinish and James Sherry at Environment Canada, who published their findings in the journal *Cell*, reported that the cells must survive long enough in seawater to reach other clams and infect them.

This is only the third such cancer known in nature. A devastating facial tumor in Tasmanian devils spreads by biting, and a tumor in dogs spreads by sexual contact.

Elizabeth Murchison of the University of Cambridge, who studies these transmissible cancers, said in an email that she was not surprised that a third transmissible cancer had been discovered. But, she added, "I would not have guessed that it would be clams!"