

The knotty problem of what infects the newt

It could be (ugh) blood-sucking leeches.

A fungus-like parasite has been found in several kinds of North American amphibians, including bullfrogs and the red-spotted newt. But scientists couldn't explain how they were getting infected.

Now, some Pennsylvania State University biologists think they have the answer, at least for the newts — and it is not for the squeamish:

Blood-sucking leeches. The researchers can't prove it directly, but the leeches appear to be carrying the parasite from newt to newt with their bites.

They cited several lines of evidence in a recent issue of the Journal of Parasitology, after studying newt populations in 16 lakes and ponds in central Pennsylvania.

First, the more leeches that the team found in a particular pond, the more likely the newts in that pond were to show signs of infection — swelling and clusters of small black dots on the skin.

Also, signs of infection were concentrated on the body parts most likely to be bitten by leeches, such as the head and throat. And infections were observed growing out of the telltale spots of blood under the skin, left behind by leech bites.

The infection doesn't seem to kill the newts, but it does appear to stop them from breeding, according to Penn State's Thomas Raffel, the study's lead author. Similar infections have been linked to deaths in other amphibians, a class of animals that is in worldwide decline.

Raffel concedes that the subject of his research is likely to disgust some, but notes that the newt-loving leech is not the same kind that feeds on people.

"I don't worry about them at all," Raffel says. "The first couple times I handled the leeches, I was kind of like 'ecccch!' But you kind of get used to it."

— Tom Avril

Inside

HEALTH & SCIENCE

Personal Health: Can loneliness lead to Alzheimer's? **F2.**

ARTS &

ENTERTAINMENT

Missing spark:

Dancefusion show never took off. **F5.**

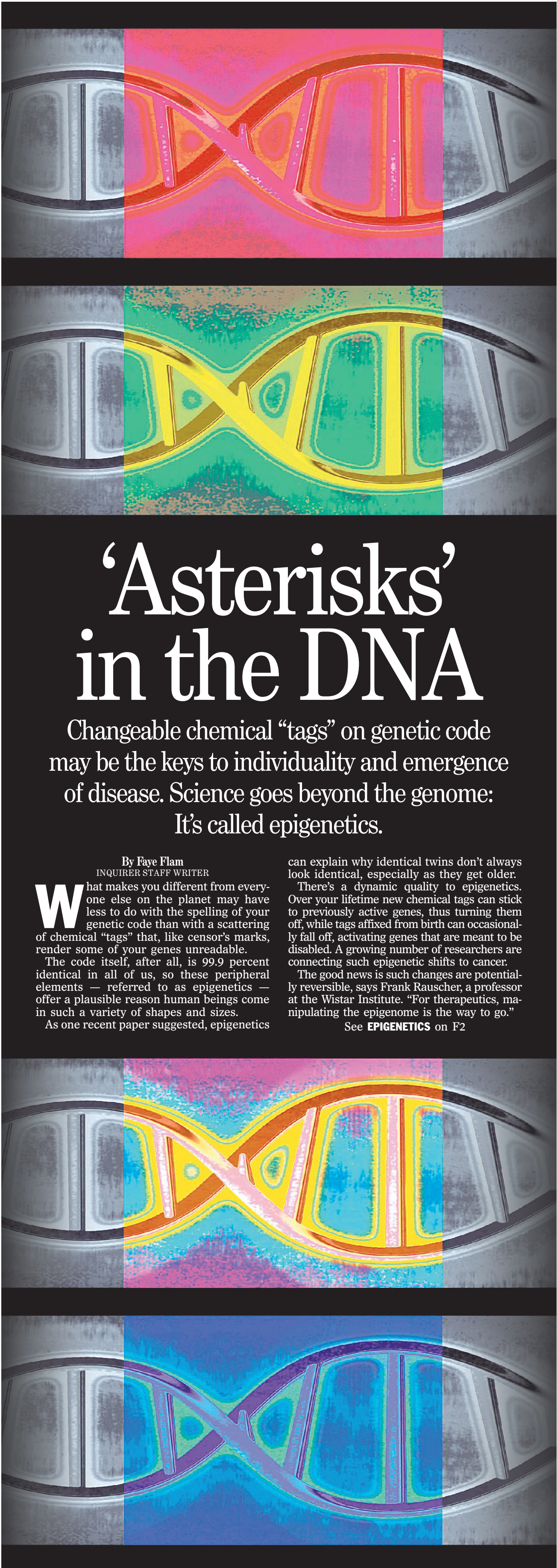
Three to Tango:

Hoboken rock trio remains edgy. **F12.**

Comics Lovers, Vote!

The results for the final pair of entries in the first round of voting: "Pickles" 1,837, "Zippy the Pinhead" 806.

As the highest vote getter overall, "Pickles" will move on to the final round later this month, where it will face the highest vote getter between "Pajama Diaries" and "Sherman's Lagoon." See **Page 10.**



‘Asterisks’ in the DNA

Changeable chemical “tags” on genetic code may be the keys to individuality and emergence of disease. Science goes beyond the genome: It’s called epigenetics.

By Faye Flam
INQUIRER STAFF WRITER

What makes you different from everyone else on the planet may have less to do with the spelling of your genetic code than with a scattering of chemical “tags” that, like censor’s marks, render some of your genes unreadable.

The code itself, after all, is 99.9 percent identical in all of us, so these peripheral elements — referred to as epigenetics — offer a plausible reason human beings come in such a variety of shapes and sizes.

As one recent paper suggested, epigenetics

can explain why identical twins don’t always look identical, especially as they get older.

There’s a dynamic quality to epigenetics. Over your lifetime new chemical tags can stick to previously active genes, thus turning them off, while tags affixed from birth can occasionally fall off, activating genes that are meant to be disabled. A growing number of researchers are connecting such epigenetic shifts to cancer.

The good news is such changes are potentially reversible, says Frank Rauscher, a professor at the Wistar Institute. “For therapeutics, manipulating the epigenome is the way to go.”

See **EPIGENETICS** on F2

An eye on the sky, beguiled as always

By standard measures, this has been an uneventful winter until now, stinging with snow, ice and drama.

So much for standard measures.

For true weather connoisseurs, this has been a fascinating winter, one that has underscored nature’s elusiveness. On a personal level, it has done nothing but solidify a life-long passion for weather — not that it was ever wavering.

Recall that in the fall the consensus was that winter would be full of cold, storms and adventure.

No one foresaw the incredible warmth of December and the first half of January, nor that it would be so utterly snow-less in so much of the country, nor that we would have to wait until Valentine’s Day to get even a decent threat.

Winter thus has been a worthy sequel to a quiet and puzzling hurricane season.

See **WEATHER** on F2



Anthony R. Wood
Weather or Not

philly.com

For the latest on the snow threat and why the snow may not stick around long, visit Wood’s new daily blog, at <http://go.philly.com/weatherornot>



STERLING CHEN
Inquirer Staff Artist

Could your scent affect your sex life?

Smell and satisfaction just might be linked.

It’s unlikely you’ll ever see a warning on your birth control pill or your deodorant that says “may cause bad relationship choices.” And yet several scientists worry that these staples of modern life could interfere with an elemental mammalian system we use to sniff out genetically compatible mates.

The latest work goes so far as to suggest that tampering with this system could lead to a dismal sex life or even a cheating heart.

The links connecting hormonal contraceptives, smell and sexual happiness come from different studies, some of them small. Whether you care to worry about such things may depend on whether you think technology should be considered innocent until proven guilty, or the other way around.

The first piece in the puzzle See **SCENT** on F3



Faye Flam
Carnal Knowledge