

A better
Life

Health, education & science

Judge disconnects cellphone lawsuit

A federal judge on Monday tossed out a Maryland doctor's \$800 million lawsuit that claimed cellphones caused his brain tumor. U.S. District Judge Catherine Blake said none of the evidence submitted by Christopher Newman was substantial enough to warrant a trial against cellphone manufacturer Motorola and several major carriers. Newman's attorneys presented scientific evidence showing that the older analog phone he used from 1992 to 1998 could cause tumors. Blake, however, ruled that the evidence overwhelmingly showed no relationship between cellphone radiation and cancer. Newman's attorneys included in their suit research by Swedish oncologist Lennart Hardell, who published a study in this month's *European Journal of Cancer Prevention* that found long-term users of analog cellphones were at least 30% more likely than non-users to develop brain tumors. But Blake questioned Hardell's methodology and said the study hasn't been "replicated or validated" by other scientists. She also cited several studies that rejected the findings. Newman's attorney, John Angelos, said his firm might appeal.



By Steve Helber, AP

In Richmond, Va.: Parker poses a bit nervously on the operating table with Robin Robertson Starr.

Shelter goes all out to care for strays

A new animal shelter in Richmond, Va., is giving homeless cats and dogs the royal treatment. The \$7 million facility for the Society for the Prevention of Cruelty to Animals, set to open Oct. 19, features spacious living accommodations with modern European-style furnishings, professional groomers, a giant indoor walking track, a spay-and-neuter operating room with the latest equipment, and music digitally altered to remove the ultra-high and -low notes that are stressful to canine ears. "We're removing the barriers that have traditionally kept people from coming in — that animal shelters are smelly, sad and noisy," the SPCA's Robin Robertson Starr says. "The point was to create a place that people find positive and upbeat, a place where people want to come and spend time with the animals." And, it is hoped, adopt them.

Chemistry of food carcinogen explained

Two scientific studies released this week confirm how a possible cancer-causing substance, acrylamide, is found in french fries, potato chips and other fried or baked starchy foods. Swedish scientists set off an alarm in April when they announced that starchy foods eaten by millions of people around the world had high levels of acrylamide. Now two research teams working independently have identified the chemical reaction during cooking that might produce acrylamide. Donald Mottram of the University of Reading in England and Richard Stadler at the Nestle Research Center in Lausanne, Switzerland, both led teams that found that an amino acid called asparagine can be converted to acrylamide when combined with sugar and heated at high temperatures. Potatoes, cereals, wheat and rye flour all contain this amino acid, but scientists say cooking at high temperatures might set off the chemical reaction that results in high levels of acrylamide. Acrylamide causes cancer in lab animals, but its effect on humans is unclear. Both studies appear in Thursday's *Nature*.

Ozone hole shrinks, splits into two

Warmer temperatures shrank the Antarctic ozone hole this year. National Aeronautics and Space Administration satellite images show the South Pole's ozone-depleted region has split into two parts. They total 6 million square miles, one-third smaller than last year's ozone hole. Six to 30 miles up, violent weather in the stratosphere split the two holes, scientists say. International agreements have phased out the pollutants responsible for the overall depletion of ozone in the atmosphere, but ozone holes are expected to occur for at least another decade.

Plant protein battles deadly cancer cells

Jimson weed, which is also known as thorn apple, stinkweed and stinkwort, is best known as a foul-smelling poisonous plant found throughout USA. But Japanese scientists report that a molecule in the plant could open up a new approach to treating a deadly type of brain cancer. Early laboratory tests show that the molecule, known as DSA, doesn't kill glioma brain cancer cells, but it robs them of their ability to spread and cause disease. So far the molecule has been tested only on cancerous cells in the laboratory; treatment based on the discovery is still years away, researchers say. The study appears in the *British Journal of Cancer*.

By Michelle Healy from staff and wire reports
E-mail Betterlife@usatoday.com



Canine chorus: Buna, an 8-year-old New Guinea singing dog, gets tuneful.

Scientists dogged by question of origin

A sociable mooch — not a fierce wolf — could be Fido's early ancestor

By Dan Vergano
USA TODAY

A scene from the dawn of history: Primitive man and his wolf companion amble out of the cave to begin the morning's hunt.

Fast-forward 100,000 years, add a leash and a stop at the doggy bakery, and we have the whole story of man's best friend. Right?

Maybe not. Although many dog trainers lean on the notion of humans taming the savage wolf, securing a steady hunting companion and night watchman, some experts challenge this story of the dog's domestication.

"We have to move beyond the idea that man created the dog by taming a wolf," says Janice Koler-Matznick of the New Guinea Singing Dog Conservation Society in Central Point, Ore. Instead, she and others suggest that the dogs that became man's best friend were from another line of more social, cooperative animals. Experts say the debate is more than academic; it has an effect on the kind of training best suited to keep Fido on his best behavior.

And now, with the National Human Genome Research Institute's announcement last month of plans to decipher the complete set of genes, or genome, of the dog, researchers are hoping to clear up some lingering questions about the origin of the family mutt.

Researchers trying to unearth the origin of dogs have been looking at genes, fossils and behavior to make their case. But even after sniffing out the evidence, the answer isn't clear.

The genetic evidence

In the past decade, genetic studies have taken the lead in analyzing the origin of the pooch over the study of fossils and comparisons of behavior among wolves, dogs, coyotes and jackals.

Already, "evidence for the gray-wolf origin of the domestic dogs has a lot of genetic support," says veterinary genetics expert Niels Pedersen of the University of California-Davis. A 1997 study in *Science* suggested dogs (*canis familiaris*) are gray wolves (*canis lupus*) with few genetic differences, and it set the date of those domesticating changes back as far as 135,000 years ago.

But tracking the genetic evidence for the origin of a species has a few problems, starting with a loss of credibility over the past five years. For example, dueling genetics papers cannot agree whether the red wolf, a North American native, is a genuine species or simply a gray wolf-coyote hybrid.

Adding to the confusion is the fact that various dogs, coyotes, wolves and jackals can all interbreed, says molecular geneticist C. William Kilpatrick of the University of Vermont-Burlington. Doubtless they all did in the past and continue to do so today. Still, Kilpatrick echoes many experts in calling evidence of the genetic link between dogs and gray wolves "overwhelming."

On the fossil front, the picture is less clear. Early dogs, or "canids," emerge in the fossil record about 37 million years ago. Bones of creatures with modern dog characteristics, such as rounded eye sockets, go back to only about 14,000 years ago.

Researchers reporting in the journal *Science*, led by Carles Vila of the University of California-Los Angeles, have suggested that dogs looked like wolves, despite their genetic differences, until humans settled down in farming communities and began creating specific breeds for various tasks. But biologists Raymond and Lorna Coppinger of Hampshire College in Amherst, Mass., the authors of last year's *Dogs: A Startling New Understanding of Canine Origin, Behavior & Evolution*, suggest a more reasonable explanation: that dogs simply originated with farming villages, eating trash and vermin there, just over 10,000 years ago. Animals that live as scavengers don't need the same physical traits as those that hunt.

Instead of serving as domesticated pets and servants, the Coppingers say, dogs were essentially primitive man's garbage men. In time, they picked people as a steady meal ticket. Thus, today there are more than 50 million dogs nationwide.

The behavioral differences

Although gray wolves and dogs obviously share a lot of characteristics, critics of a link often point to behavioral differences between the two species in temperament, shyness and sociability.

Koler-Matznick argues that in terms of behavior, gray wolves make poor domestication material. Even with today's leashes, fencing, training tools and over-the-top dog treats, it's too tough to make a wolf do much, she says: "That's why you don't see many wolf acts at the circus."

In a review of dog origins in the Sept. 15 *Anthrozoös*, an English zoology journal,

Koler-Matznick argues that rather than having the gray wolf as a sole ancestor, today's domesticated dog probably springs from smaller wild dogs. She points to animals like the New Guinea singing dogs, which she helps raise for conservation, as more likely precursors to today's lapdog. Singing dogs take their name from their penchant for howling in unison, following the same notes up and down the scales. Unafraid of people and non-aggressive, singing dogs live near humans but outside villages, like other "pariah" dogs, the dholes of India and dingoes of Australia. Such creatures would be much easier to domesticate than gray wolves, she says.

Zoologist I. Lehr Brislin Jr. of the Savannah River Ecology Laboratory in Aiken, S.C., says the singing dog and other wild dogs represent little pockets of the most primitive dogs worldwide.

Kilpatrick counters that behavioral differences between today's gray wolves and dogs might not even be related to genes. Instead, the availability of a full dog dish can explain the differences. Smaller subspecies of the gray wolf, such as the Arabian wolf (*canis lupus arabs*), might have mooched free lunches long ago, making them attractive candidates to be the dog's progenitor.

Regardless, the common ancestor of dog and wolf is no longer around to settle the debate, says George Happ of the University of Alaska. "Whether the ancestor of both should properly be called a dog-wolf, a wolf-dog, or a 'generalized canid' is, in my humble opinion, an unproductive and uninteresting theological argument."

But the origin of the dog might matter to pet owners trying to decide how to best train their pets. Training guides often stress the wolfish origins of dogs, teaching owners that they need to become the top "alpha" dog so the pooches follow their instruction.

Instead, the Coppingers argue that seeing dogs as descendants of more cooperative creatures, a "proto-dog" rather than a gray wolf, might help us better relate to our four-legged friends. Dogs and wolf puppies develop differently, for example. People would be better served by forming attachments to puppies younger than 16 weeks old, they argue, rather than trying to find the "right" breed of dog to dominate into servitude.

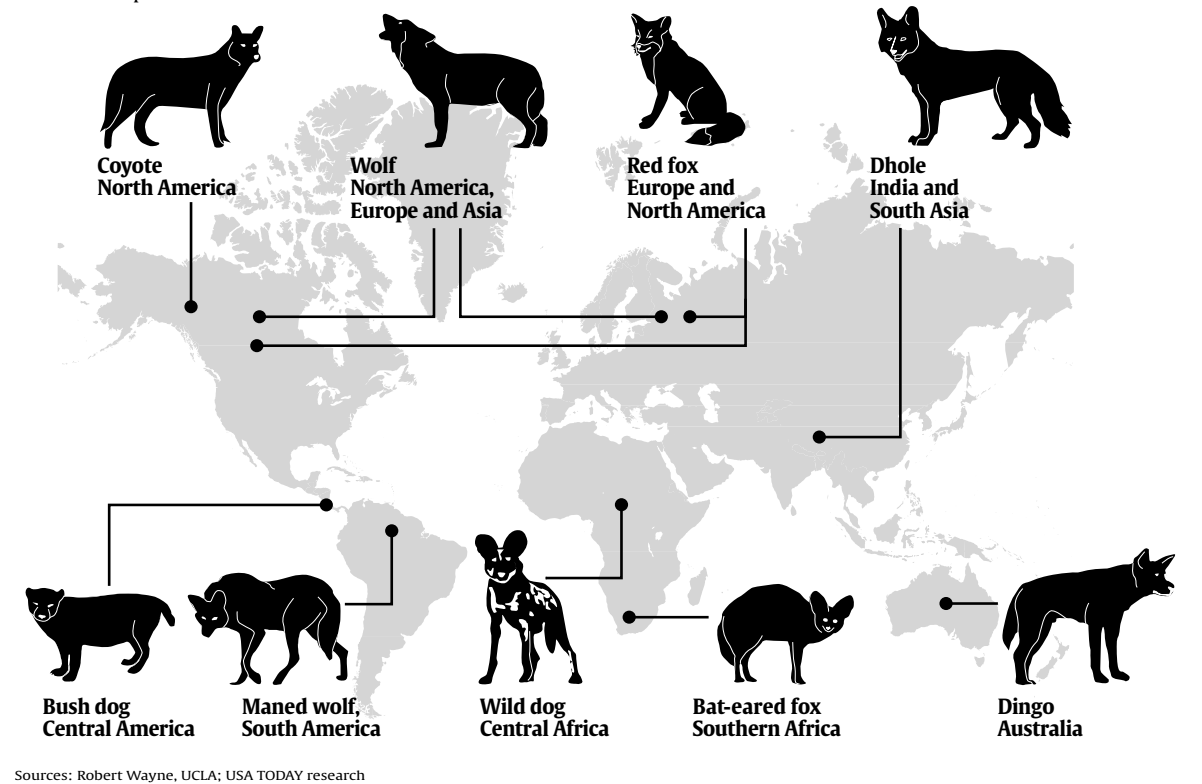


Photos by Janice E. Pierce for USA TODAY

No shaggy dog tale: Janice Koler-Matznick of the New Guinea Singing Dog Conservation Society believes canines like Buna are precursors to domesticated dogs.

Coyotes and foxes and wolves, oh my!

How canine species are distributed around the world.



By Adrienne Lewis, USA TODAY

5 nations could bear brunt of AIDS cases by 2010

By Steve Sternberg
USA TODAY

LANGLEY, Va. — A wave of HIV/AIDS cases sweeping through five of the world's most populated countries could swell the global case toll to more than 80 million cases by 2010, a report released Monday by the CIA says.

The report, *The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India and China*, is the latest to warn that the epidemic will expand far beyond its epicenter in sub-Saharan Africa, weakening other countries and carving a swath through their most productive citizens.

All of the next-wave countries are "of

strategic importance" to the USA and "major global or regional players," warns the report by the National Intelligence Council, a think tank that serves the director of the Central Intelligence Agency.

By 2010, the report says, these five countries will reach a total of 50 million to 75 million HIV/AIDS cases, eclipsing the 30 million to 35 million projected in central and southern Africa. In 2001, 40 million people worldwide had HIV/AIDS.

Taken together, the five countries account for 40% of the world's population. Their governments haven't made AIDS a priority, says the report, an unclassified version of a secret assessment.

David Gordon of the CIA's directorate of

intelligence says each country could limit the epidemic with aggressive prevention campaigns. "These projections aren't destiny," Gordon says. "At the same time, they are not worst-case scenarios."

Although the CIA projections are 15 million to 20 million higher than those by the U.N. Joint Programme on HIV/AIDS, officials downplayed the differences. "This is by no means an exact science," Desmond Johns of the U.N. group says.

There's no disagreement, Johns says, on the report's key point. "These five countries are major geopolitical players," he says. "The global impact of AIDS in these countries may far outweigh what we've seen in (southern) Africa so far."

The report predicts:

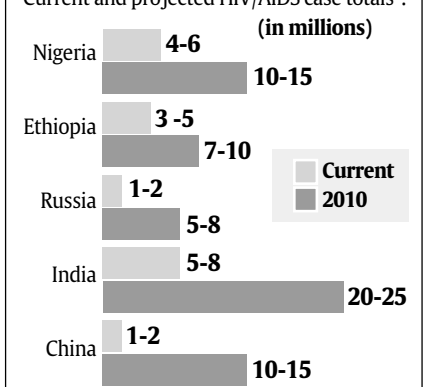
► Nigeria and Ethiopia will be hardest hit and will suffer social and economic harm similar to that of African countries farther south. "Both countries are key to regional stability, and the rise in HIV/AIDS will strain their governments." Nigerian oil helps reduce U.S. dependence on oil from the Persian Gulf.

► Russia, which is rapidly losing population, will suffer an even faster decline. Public health, which is at its lowest point since World War II, will get far worse.

► China and India will bear a heavy burden of health and social costs, but the economic and political effect probably will be blunted by huge populations.

The next wave

Current and projected HIV/AIDS case totals:



By Julie Snider, USA TODAY