Beyond Cute: Exotic Pets Come Bearing Exotic Germs

The federal government banned the sale and distribution of prairie dogs and all rodents from Africa yesterday in an attempt to control the outbreak of monkeypox in the United States.

By DENISE GRADY and LAWRENCE K. ALTMAN

Epidemiologists can be such killjoys. Consider, for instance, Dr. Michael T. Osterholm, who has been publicly denouncing prairie dogs since 1997. A prairie dog in a burrow is one thing, but a prairie dog in the house makes Dr. Osterholm a bit edgy.

The fact that the United States has exported thousands of prairie dogs to Japan, where they are not found in nature and where people find them adorable, gives Dr. Osterholm a full-blown case of the willies. Japan banned prairie dog imports in March, and the European Union halted them yesterday, but researchers still worry about what havoc may be wrought by the animals that have already been shipped overseas.

Where some people see a cute and cuddly ball of fur, scientists like Dr. Osterholm see a vector: a ball of disease-causing viruses, bacteria, parasites and who knows what other germs. Dr. Osterholm, who is director of the Center for Infectious Disease Research and Policy and a professor...
of public health at the University of Minnesota, said that until recently, his main objection to prairie dogs was that they and their fleas sometimes carried bubonic plague. He had not even thought about monkeypox, the disease brought to the Americas for the first time last month, presumably by a three-pound African rat, which infected its fellow inmates in a pet shop, prairie dogs, which may then have spread the disease to as many as 82 people in five states.

Though Dr. Osterholm had not predicted monkeypox, its arrival did not entirely surprise him. The worldwide trade in so-called exotic pets has done two things that are practically a recipe for spreading exotic diseases. First, the trade has transported animals like giant Gambian rats across oceans and brought them together with species that they would never encounter naturally, like prairie dogs. Not much is known about what microbes those animals might spread to each other, or what the microbes might do inside a new host. Second, the trade has brought people close to animals — and to diseases — they had little or no contact with before.

"It clearly stacks the deck in favor of infectious agents," Dr. Osterholm said, and he rattled off a list of agents that have animal origins and can cause severe illness in people: H.I.V., Ebola virus, a highly virulent form of the bacterium E. coli, the Nipah virus that spread from bats to pigs to people in Malaysia in 1998, and the current epidemic of the respiratory disease SARS.

Like SARS, which has been traced to a previously unknown coronavirus carried by palm civets and badgers in the jam-packed live-animal markets of southern China, the outbreak of monkeypox in the United States is a reminder of how little is known about infectious diseases in wild animals and the threat they may pose to humans.

Dr. Frank Fenner, an expert on pox viruses and other viruses at Australian National University in Canberra, said, "Quite a lot of new viruses have been turning up, all coming out of animal hosts."

He added: "I think we know so little about the viruses of wild animals."

Dr. Fenner said scientists were familiar with hundreds of viruses carried by people and domestic animals, but had much less information about the many viruses that are probably carried by wild animals.

"With all the animals in the wild," he said, "we really know so little about what virus diseases they have unless they get into livestock or humans."

Dr. Fenner suggested that every species of wild animal probably carried its own distinct viruses, many more than are known. Most do not infect people, but the ones that do can lead to nasty surprises.

Monkeypox is not new. It was first identified in monkeys in 1959, but its ability to infect people was not recognized until 1970. The disease is usually milder than smallpox in humans, causing a death rate up to 10 percent in Africa, compared to 30 percent for smallpox. Although the disease was named for monkeys (because it was first found in
them), scientists later came to realize that its real host is a rodent. Dr. Fenner said three or four species of African squirrels were thought to be the main hosts, and infections in monkeys and people were considered accidental. Squirrels are commonly eaten in some parts of Africa, and people are probably infected from handling sick animals.

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