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## A VIRUS CROSSES OVER TO WILD-ANIMAL HUNTERS

By **Edna Francisco**

A potentially dangerous virus is moving from nonhuman primates to Africans who hunt and eat wild animals, a new study suggests. Scientists say reducing people's consumption of wild-animal meat could minimize the chance of spreading this and other viruses that cause emerging diseases.

To feed their families wild meat, or bushmeat, people in rural Africa have been hunting a variety of animals, including pigs, antelope, and primates for generations. The Zoological Society of London estimates that bushmeat makes up 50 to 85 percent of protein in the diet of tropical-forest dwellers in Africa.

Hunting for bushmeat, however, is presumed to be a gateway for viruses to move from animals to people. For instance, scientists hypothesize that the simian immunodeficiency virus (SIV) moved from chimpanzees and sooty mangabeys to people and evolved into AIDS when someone was exposed to fresh blood and body fluids from an animal—from either a pet's bite or preparation of an animal's meat.

SIV and related viruses inhabit their normal nonhuman primate hosts without doing harm. However, "when they cross species boundaries, that's when they have a potential for illness," says Nathan Wolfe, a biologist at Johns Hopkins University in Baltimore.

Recently, scientists tracked the spread of SIV-related simian foamy virus (SFV), a germ described as foamy because it makes a host's cells clump together, giving them a foamy appearance under a microscope. Researchers have been interested in learning about SFV because limited studies have suggested that the virus is probably "more transmissible than SIV," says Wolfe. SFV has infected lab and zoo workers in North America through accidental encounters with baboons, African green monkeys, macaques, and chimpanzees (SN: 2/28/04, p. 141: Available to subscribers at <http://www.sciencenews.org/articles/20040228/note13.asp>).

### Crossing the species barrier

In the current study, Wolfe and colleagues wanted to see whether SFV is easily transmitted into people who typically encounter primates in the wild. The researchers assessed the exposure of 1,800 Cameroon villagers to monkeys and apes. Sixty-one percent of the participants said they had direct contact with blood and body fluids of primates from hunting them and, to a lesser extent, keeping the animals as pets.

From blood tests, the researchers determined that 10 study participants carried antibodies to SFV, indicating that they were currently or had been infected with the virus. Blood from 3 of the 10 individuals contained DNA from the virus, a stronger proof of SFV infection. None of the 10 showing signs of infection had obvious symptoms of illness.

The genetic sequence of viral DNA found in each of the three most clearly infected individuals corresponded with SFV strains known to infect specific species of animals. A 45-year-old man carried viruses linked to gorillas, a 48-year-old woman carried a viral strain from a mandrill, and a 25-year-old man carried a virus that could have come from a monkey called De Brazza's guenon. Surveys taken during the study confirmed that each of the three study volunteers had been exposed to the primate whose strain of SFV infected him or her. The findings appear in the March 20 *Lancet*.

The results suggest that SFV is "really crossing over to humans," says Wolfe, though he adds that "we don't know for sure" whether SFV could turn into an epidemic in people.

Because of the findings from Wolfe's team, "studies will now need . . . to examine whether in these natural settings in Africa, human-to-human transmission occurs with [SFV] and whether any disease is associated with these infections," says virologist Martine Peeters of the Institut de Recherche pour le Développement in Montpellier, France.

Less hunting for bushmeat could limit cross-species transmission of SFV, the scientists say. Indeed, earlier studies showed that SIV and related viruses are prevalent in bushmeat and in pets in Cameroon, says Peeters.

However, the spread of emerging diseases shouldn't be blamed on bushmeat hunters, says Wolfe. It's "important not to point the finger of blame at subsistence hunters," he says. "All human cultures hunt local animals . . . It just so happens that these people live in areas with monkeys and apes, which carry diseases that readily pass to humans."