Chinese scientists have discovered a previously unknown [Bunya] virus carried by ticks, which led to at least 36 deaths in 6 provinces last September [2010], according to the latest issue of the New England Journal of Medicine published Thursday [16 Mar 2011; see reference below]. The virus SFTSV (severe fever with thrombocytopenia syndrome bunyavirus) was recently discovered by scientists at the Chinese Center for Disease Control and Prevention (CDC). People with the virus can experience fever and multiple organ failure.

The presence of the virus was confirmed in 171 patients from 6 provinces in China. It resulted in at least 36 deaths by September 2010. CDC Director Wang Yu said that between late March and mid-July 2009, symptoms of the infectious disease in humans were reported in rural areas of central Hubei and Henan provinces, but the cause of the symptoms were unknown at that time.

Major clinical symptoms included fever, thrombocytopenia, gastrointestinal symptoms, and leukocytopenia, and there was "an unusually high initial case fatality rate of 30 percent," Wang said. Li Dexin, director of the CDC's virus institute, said farmers living in mountainous areas were most prone to tick bites, which are prevalent between May and July.

The virus institute had conducted tests on more than 600 samples of patients' blood serum, which showed that SFTSV was the killer.

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The key information in this report quoted (and edited) here includes:

"The 1st SFTSV (strain DBM) was isolated from a 42-year-old man from Henan Province. ... Partial sequences were obtained from the 1st isolated virus strain DBM, and the complete genomes of 11 additional human isolates of SFTSV were determined. ... Phylogenetic trees based on partial or complete viral genomic sequences of L, M, and S segments from strains DBM, HN6, and HB29 showed that SFTSV was related to prototypic viruses of the 5 genera of Bunyaviridae. ... This suggested that SFTSV is the prototype of a 3rd group in the phlebovirus genus. A comparison of the similarity of amino acid sequences provided further evidence that SFTSV is distinct from the other phleboviruses. ... We chose a cohort of 35 patients with RT-PCRâ€”confirmed SFTSV infection who had serum samples from both acute and convalescent phases of the illness. An elevation in the antibody titer by a factor of 4 or seroconversion was observed in all 35 patients. ... The 1st patient, a 42-year-old male farmer, presented with fever (temperatures of 39.2 to 39.7 C), fatigue, conjunctival congestion, diarrhea, abdominal pain, leukocytopenia, thrombocytopenia, proteinuria, and hematuria. Later, a unique group of hospitalized patients with acute high fever with thrombocytopenia was identified. ... From June 2009 through September 2010, we detected SFTS bunyavirus RNA, specific antiviral antibodies, or both in 171 patients among 241 hospitalized patients..."
who met the case definition for SFTS2 in Central and Northeast China. These patients included 43 in Henan, 52 in Hubei, 93 in Shandong, 31 in Anhui, 11 in Jiangsu, and 11 in Liaoning provinces. In 2010, a total of 148 of 154 laboratory-confirmed cases (96 percent) occurred from May to July 2010. The ages of the patients ranged from 39 to 83 years, and 115 of 154 patients (75 percent) were over 50 years of age. Of these 154 patients, 86 (56 percent) were women, and 150 (97 percent) were farmers living in wooded and hilly areas and working in the fields before the onset of disease.

This report of a novel tick-transmitted bunyavirus causing human disease of a large geographic area in China is of considerable interest. One wonders what the final geographic range will turn out to be and whether the _Haemaphysalis longicornis_ ticks in which the virus was detected are, in fact, competent vectors. Additional information is awaited with interest as it develops.

A map showing the provinces mentioned above can be accessed at <http://www.lib.utexas.edu/maps/middle_east_and_asia/china_pol01.jpg>. A HealthMap/ProMED-mail interactive map of China can be accessed at <http://healthmap.org/r/008e>. - Mod.TY]