

Hantavirus: Warning to Bird Banders

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Hantavirus Pulmonary Syndrome (HPS) is a rare but new and extremely serious disease. It is fatal to humans in half to two-thirds of cases. Although many rodents can carry the virus, the most common carriers are mice of the genus *Peromyscus* (deer mouse [*P. maniculatus*] and white-footed mouse [*P. leucopus*]). The virus does not cause apparent illness in these attractive little mice with a white belly and feet and long tail. Deer mice sometimes build their nests in bluebird boxes; freshly killed *Peromyscus* are often found in raptor nests. Bird banders may thus be at risk of contracting a fatal disease when they examine bird boxes, and when they climb to raptor nests. Although the risk is extremely small (you are much more likely to die in a car accident), the high fatality rate warrants precautions being taken.

The virus can be contacted by breathing air contaminated by aerosolized virus from rodents' saliva, urine or feces. The average incubation period is two to three weeks, but can vary from 4 to 42 days. In humans the hantavirus infects the respiratory system and its flu-like symptoms include headache, fever, muscle aches, and coughing. Fluid builds up quickly in the lungs and pleural spaces, making it difficult to breathe. Victims usually require endotracheal intubation and artificial respiration in an intensive care unit of a hospital (Butler and Peters 1994).

The first outbreak in humans was in the "Four Corners" area near Gallup, New Mexico, in May 1993 (Brillman et al. 1994; Duchin et al. 1994). As of June 1994, 83 cases of HPS had been diagnosed in North America. One of the three humans taken ill in British Columbia in 1994 was a wildlife ecologist involved in rodent population studies (Stephen et al. 1994).

Anyone handling mice or chipmunks should wear rubber gloves; use of a surgical mask is optional. Only in high-risk situations would one wish to use a respirator with a high-efficiency particulate air

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(HEPA) filter. If you encounter a nestbox with a family of white-footed mice, back off and wash your hands in a disinfectant. Prey remains, especially mice, in raptor nests should be handled with rubber gloves; any collected material should be placed in sealed plastic bags. Any home or shed with mice should be hosed down and thoroughly wetted before it is swept up, to reduce the risk of aerosol inhalation. If mice nest in an old piece of furniture, it must be burned. Under no circumstances should one of these animals be kept in a laboratory or in a home.

A 40-minute video, "Preventing Hantavirus Disease," was produced by the Centers for Disease Control, National Center for Infectious Diseases (Division of Viral and Rickettsial Diseases), U.S. Department of Health and Human Services, Atlanta, Georgia 30333. This video discusses symptoms, transmission, risk factors, treatment and prevention. One of its main recommendations is to wet down mouse droppings and other contaminated material before clean-up and disposal; for example, a mixture of 1½ cups of bleach can be added to a gallon of water and used for this purpose. The purpose of this procedure is to reduce dusts that might be inhaled as well as to help destroy the virus if it is present. For example, once wet down, the contents of a bluebird house are removed with rubber gloves. One criticism is that the video fails to show the use of a surgical mask, much less a respirator, in high-risk situations. More detailed instructions can be found in Childs et al. (1993). Since hantavirus pulmonary syndrome is a rare disease, it is extremely unlikely that any one person will be stricken with it. On the other hand, the high mortality rate warrants every possible precaution.

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NEWS, NOTES, COMMENTS

Color Marking Hints

To my surprise, *NABB's* recent literature review of Brown and Brown (*Safring News* 21:32-33, 1992; see *NABB* 19:103) reported their suggestion that blue is the most readily identified color for colored anodized metal bands under all weather and light conditions. I have found blue to be the worst color for either anodized or celluloid bands. I have used both band types on Prairie Chickens (Hamerstrom and Hamerstrom 1949, *Auk* 66:313-337) and chickadees (Hamerstrom 1942, *Wilson Bull.* 54:32-42), and have used colored jesses on Northern Harriers (Hamerstrom, 1986, *Harrier, hawk of the marshes*, Smithsonian Inst. Press). Over 7,000 observers have helped with our research. Instead of blue, we have used red, green, yellow, black, and white markers. (Men were tested for color-blindness; we left the ladies in peace.)

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Waterfall Glenn, IL, MAPS Program

The Chicago Bird Observatory completed its fourth year of monitoring avian reproduction at Waterfall Glenn Forest Preserve, Cook Co, IL. The MAPS protocol was followed. This constant site and effort monitoring program has had no significant changes in procedure for the past three years. From 1991 through 1993, a decline in the population and nesting success of ground nesting and foraging birds was recognized. Measured as the ratio of HY to AHY birds, reproductive rates in this group declined from 0.23 in 1991 to 0.08 in 1993. By contrast, there was little variation in reproduction for birds that forage and nest in the canopy.

During this same period (1991-1993), deer populations increased from 32/mi² to over 140/mi². We believe that the increasing deer population and associated heavy browsing are the significant factor in reduced nesting success.

During the winter of 1993-1994, the Forest Preserve District started an intensive deer culling program. This program reduced the population to less than 35/mi². We expected that it would take several years to notice any effect on terrestrial birds, but reproductive levels for 1994 were the