

Disease Watch

TRACKING DOWN MERS CORONAVIRUS

Identifying the animal source of human infections with Middle East respiratory syndrome coronavirus (MERS-CoV) is a priority. The detection of antibodies specific for the virus in dromedary camels and of identical viral sequences in tomb bats and in patients with MERS suggests that these two animals serve as MERS-CoV reservoirs. Epidemiological data indicate that currently circulating MERS-CoV strains are unlikely to cause an epidemic by spreading between humans, as their reproduction number (the number of new cases arising from a single infected person) is 0.69, which is too low to maintain continuous, widespread transmission; in comparison, the reproduction number of severe acute respiratory syndrome (SARS) CoV is 0.89. Thus, by preventing viral transmission from animal reservoirs to humans, it is hoped that the spread of MERS-CoV can be stopped. [BBC News/Lancet](#)

BADGERS TO BLAME FOR BOVINE TB?

Mycobacterium bovis causes tuberculosis (TB) in cattle, but it can also infect wild animals and, occasionally, humans. In the United Kingdom, badgers are thought to spread *M. bovis* between farms, thereby hindering disease eradication. Two controversial programmes are now underway to tackle the problem: a badger vaccination trial in Wales and the culling of wild badgers in affected areas of southwest England. Opponents question the scientific and economic rationale of both programmes. A previous culling trial resulted in only a 16% reduction of new bovine TB cases. In the current trial, 5,000 badgers will be killed — a number expected to be too small to have a significant impact on bovine TB. Vaccination, by contrast, is effective only in uninfected animals and is estimated to cost UK£620 per badger annually.

[BBC News/The Guardian](#)

ACCIDENTAL RELEASE OF RETROVIRUS

Reticuloendotheliosis viruses (REVs) are unusual retroviruses circulating in birds; they are not related to any other avian retroviruses, but instead resemble endogenous viral elements (EVEs) found in mongooses. Genetic analysis now reveals that both REVs and EVEs are derived from a mammalian retrovirus that infected the ancestor of mongooses more than 8 million years ago. Cross-species transmission to birds, however, was a very recent event and involved the accidental spread of REVs during experimental studies. In the 1930s, researchers isolated *Plasmodium lophurae* from a pheasant in the Bronx Zoo (New York, USA), where the bird lived in close proximity to exotic animals, which might have carried REVs. In search of an animal model of malaria, the researchers inoculated numerous bird species not only with *P. lophurae*, but also, by accident, with REVs contaminating the parasite stocks. Subsequently, REVs integrated into the genome of two large avian DNA viruses, fowlpox virus and gallid herpesvirus type 2, which causes Marek's disease. Global vaccination campaigns with attenuated strains of these viruses allowed REVs to spread even further.

[National Geographic/PLoS Biol.](#)