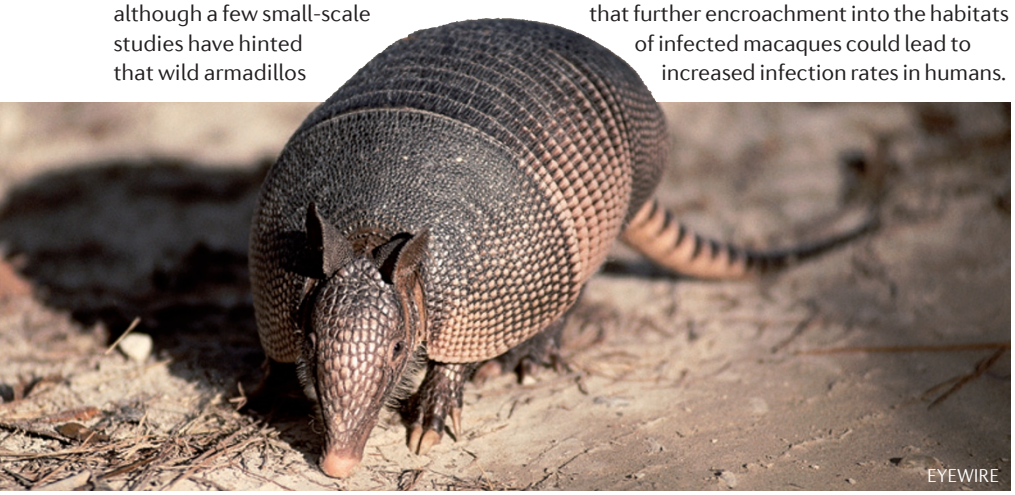
DISEASE WATCH | IN THE NEWS

NDM1 enters water in Delhi

A study published in *The Lancet Infectious Diseases* reports that the *NDM1* gene, which confers resistance to a broad range of β-lactam antibiotics (including the 'last line of defence' carbapenems), is widespread in the bacteria that are present in water used for cooking, washing and drinking in Delhi, India. The authors took samples from both tap water and seepage water and found that *NDM1* was present in two out of 50 drinking-water samples and 51 out of 171 seepage samples. Particularly worrying was the discovery of *NDM1* in the bacteria that cause cholera and dysentery, with the latter bacteria currently being untreatable by any antibiotic. With such widespread distribution in the water system, it is inevitable that *NDM1* will be brought into hospitals around the world — already, *NDM1*-positive bacteria have been isolated around the world from patients who have visited India for medical purposes — posing a serious threat given that there are few new antibiotics in the development pipeline. ***Lancet Infectious Diseases/Guardian***

Leprosy from the little armoured ones

Every year, 150–200 people contract leprosy in the United States, mostly in the south of the country, and there are an estimated 250,000 infections worldwide. Only 5% of humans are susceptible to infection with *Mycobacterium leprae*, the causative agent of leprosy, and even these individuals probably require close and repeated contact with the source of the infection to become infected. The only other known natural host of *M. leprae* is the armadillo, and although a few small-scale studies have hinted that wild armadillos might be a source for human infections, sufficient evidence to confirm such zoonotic infections had been lacking. Now, a study comparing the genome sequences of *M. leprae* isolates from 50 patients and 33 wild armadillos in the United States has identified a single strain of the bacterium infecting 25 of the patients and 28 of the armadillos, providing the strongest evidence yet for the link between these small armoured animals and the spread of leprosy. Armadillos are now commonplace in the states from California to North Carolina, where they are handled by hunters or people who pick up those animals that are killed on the road. On the basis of these findings, the researchers suggest that any contact with armadillo flesh should be avoided. ***Wall Street Journal/New Engl. J. Med.***



EYEWIRE

Malaria hope: lost and found

Two pieces of bad news this month in the fight against malaria. First, the number of malaria infections among UK residents has increased by almost 30% in the past 2 years (from 1,370 cases in 2008 to 1,761 cases in 2010), according to figures released by the UK Health Protection Agency (HPA), most likely owing to a lack of access to or an unwillingness to seek appropriate advice on malaria when travelling to endemic areas. Second, increased transmission of *Plasmodium knowlesi* (known as the fifth human malarial parasite) in Southeast Asia, as a result of the increasing human population and the effect of deforestation on the local macaque population, could be turning into a major problem. *P. knowlesi* is found mostly in macaques but can infect and spread between humans, leading the authors of a recent *PLoS Pathogens* article to argue that further encroachment into the habitats of infected macaques could lead to increased infection rates in humans.

Looking on the brighter side, a breakthrough in the ability to generate genetically modified (GM) strains of the mosquito malaria vector has recently been described. Previous efforts to develop GM mosquitoes have been hampered by the inability of these GM strains to outcompete wild strains following release into the environment. However, a recent study has shown that the homing endonuclease gene, *I-SceI*, could spread itself from only a few individual mosquitoes to more than 50% of a laboratory population through mating — and in just 12 generations. Using such an approach, it may be possible to introduce antimalarial genes to large proportions of the wild mosquito population and thus limit malaria transmission. **BBC/*PLoS Pathog.*/*Nature***

HCV drugs get the nod

An advisory panel to the US Food and Drug Administration has unanimously backed two new drugs that target hepatitis C virus (HCV) infection. In clinical trials, when incorporated into the treatment regimen in use, both boceprivir (Merck & Co.) and telaprevir (also known as VX-950; Vertex) dramatically improved viral clearance and reduced the duration of the treatment regimen. Backing from the advisory panel was widely expected and, although this backing does not guarantee approval, the FDA does tend to follow the panel's recommendations. In the United States alone, there are approximately 12,000 deaths per year as a result of HCV infection, and an estimated 3.2 million people are chronically infected. ***LA Times***

Outbreak news

Serratia marcescens. Health officials have linked an outbreak of fatal *Serratia marcescens* infections that struck nine hospital patients in Alabama, USA, to laboratory contamination at Med IV Pharmacy, a medical supply company. Another ten patients fell ill after receiving an intravenous nutritional product made by the same company. Officials are still not sure whether the filter used in the sterilization process was faulty or whether other procedures were to blame. Med IV Pharmacy ceased production and recalled all of its intravenous products on learning of the outbreak. **BBC/Reuters**

In the News was compiled with the assistance of David Ojcius, University of California, Merced, USA. David's links to infectious disease news stories can be accessed on our Twitter page (@NatureRevMicro).