

Serious disease in pet lizards caused by new bacteria

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Skin infections are common in pet lizards and can lead to fatal organ disease and septicaemia. Infections are particularly risky in lizards that are bred in captivity for release into the wild, as they can spread into the wild population.

The cause of these diseases has been unclear but now researchers in Belgium have discovered a new bacterium responsible for dermatitis in desert lizards. According to research published in the September issue of the *International Journal of Systematic and Evolutionary Microbiology*, the discovery could help control the disease and protect endangered species.

Desert-dwelling lizards belonging to the genera *Agama* and *Uromastix* that live in the arid and desert areas of North Africa are now bred in captivity in Europe. "The establishment of healthy captive populations is an important tool for the conservation of threatened species," said Professor An Martel from Ghent University, Belgium. "On the other hand, restocking of wild populations with captive bred animals carrying pathogens might compromise the survival of these wild populations. Skin diseases are highly prevalent in captive lizards."

Dermatitis is the most important known bacterial disease of desert lizards that prevents successful captive populations from being established. One example is the captive breeding programme of the rare Oman dab lizard (*Uromastix thomasi*) a joint project between Germany and Oman, to which pathogens like this may pose a real threat.

"We isolated bacteria from five different desert lizards suffering from dermatitis, two agama lizards (*Agama impalearis*) and three spiny-tailed lizards (*Uromastyx geyri* and *U. acanthinura*)," said Professor Martel. "We could not identify the bacterium that was causing the disease, but the pathogen was the same in all five lizards."

The researchers looked at the genetic sequence of the bacterium and discovered it represents a new taxon and species. They have named the bacterium *Devriesea agamarum* (*Devriesea* referring to the veterinary microbiologist L.A. Devriese and *agamarum* after *Agama*, an Old World reptile). "We have demonstrated a causal relationship between this bacterium and skin lesions in desert-dwelling lizards," said Professor Martel. "This microbe is also related to bacteria that cause skin infections in humans."

The cases of dermatitis and septicaemia from which the new bacterium *Devriesea agamarum* was isolated are highly prevalent, especially in captive lizards. The researchers hope the identification of this species will contribute to our understanding of lizard skin disease and help develop control measures. "In the future we would like to study host-pathogen interactions, design treatments and investigate the use of a vaccination to prevent the development of disease caused by *Devriesea agamarum*," said Professor Martel.

Source: Society for General Microbiology

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