

A feline fungus joins the new species list

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A cat with a swollen eye due to a fungal granuloma in its eye socket.

(Phys.org) —A new species of fungus that causes life-threatening infections in humans and cats has been discovered by a University of Sydney researcher.

"This all originated from spotting an unusual [fungal infection](#) in three cats I was seeing at the University's cat treatment centre in 2006," said Dr Vanessa Barrs, from the University's Faculty of [Veterinary Science](#), whose findings have just been published in *PLOS One*.

"These cats presented with a tumour-like growth in one of their eye sockets, that had spread there from the [nasal cavity](#). The [fungal spores](#) are inhaled and in susceptible cats they establish a life-threatening infection that is very difficult to treat."

Six years of investigation followed, including working with some of the world's leading fungal experts at the CBS-KNAW fungal biodiversity centre in The Netherlands.

"Finally I was able to confirm this as a completely new species, *Aspergillus felis*, which can cause [virulent disease](#) in humans and cats by infecting their respiratory tract. We were able to demonstrate that this was a new species of fungus on a molecular and reproductive level and in terms of its form.

"Similar to the closely related fungus *Aspergillus fumigates*, this new species of fungus can reproduce both asexually and sexually - and we discovered both phases of the fungus."

Since the first sighting of the new species, more than 20 sick [domestic cats](#) from around Australia and one cat from the United Kingdom have been diagnosed with the fungus.

The fungus appears to infect otherwise healthy cats but in the two humans identified it attacked an already highly compromised immune system.

The disease is not passed between humans and cats but its study in cats will not only help their treatment but provide a good model for the study of the disease in people. There is only a 15 percent survival rate of cats with the disease and it has so far proved fatal in humans. To date only one case has been identified in a dog.

"We are right at the start of recognising the diseases caused by this fungus in animals and humans. The number of cases may be increasing in frequency or it may just be we are getting better at recognising them," Dr Barrs said.

"Fungi like *Aspergillus felis* can be easily misidentified as the closely related fungus *Aspergillus fumigatus*, which is a well-studied cause of disease in humans. However, *A. felis* is intrinsically more resistant to antifungal drugs than *A. fumigatus* and this has important implications for therapy and prognosis."

The next step for Dr Barrs and her team is studying fungi in culture collections throughout Australia to determine the prevalence of *A. felis* infections in people with previously diagnosed aspergillosis. They will collaborate with researchers at the Westmead Millenium Institute for Medical Research.

More information: www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0064871

Provided by University of Sydney

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