

# Importance of Fungal Speciation

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Fungi are very adaptable microorganisms that can be found in almost all known ecological habitats. They have important roles in food production, food spoilage, plant and animal disease, medicine, bio-control, and in decomposition.

Recent medical studies are finding that invasive fungal infections caused by certain molds like *Cryptococcus neoformans*, *Aspergillus fumigatus*, *Candida albicans*, *Candida auris* (<https://www.npr.org/sections/goatsandsoda/2022/10/26/1131602076/>) and others are increasing, especially in immuno-compromised patients. Additionally, these invasive fungi are becoming more resistant to anti-fungal drugs, particularly with *Aspergillus* infections.

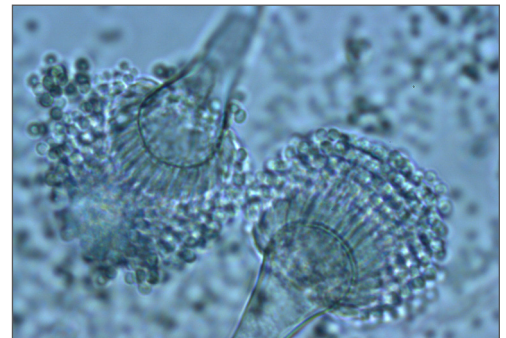
Many of these fungi can produce mycotoxins, which are fungal metabolites that have been implicated in a range of human and animal health conditions. They have been shown to be carcinogenic, immunosuppressive, hemorrhagic, hepatotoxic, mutagenic, nephrotoxic, neurotoxic, and teratogenic.

Fungal speciation is becoming critically important for the selection of appropriate therapies. Recent discoveries of new fungi are changing traditional views on indoor fungal contaminants.

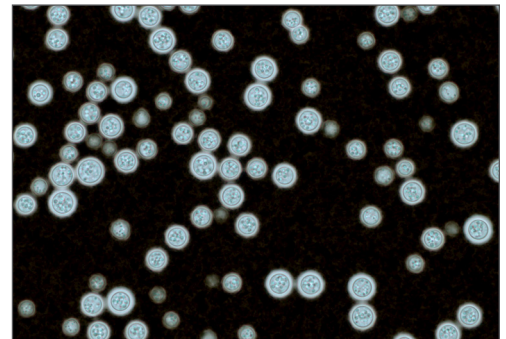
At EMSL Analytical, Inc., we are routinely testing for *Cryptococcus neoformans*, *Aspergillus fumigatus*, *Candida albicans* and *Candida auris* and many other invasive fungal pathogens found in the environment. To identify these fungi to the species level we must use fungal culturing, molecular DNA tests or a combination of both.

Some of our most popular, fast, and reliable tests are:

- M432 – Opportunistic Fungal Pathogen Screen
- M433 – *Aspergillus* Nosocomial Culture Panel
- M188 – PCR, *Aspergillus* Nosocomial 6 Panel
- M286 – *Candida auris* qPCR



*Aspergillus fumigatus*



*Cryptococcus neoformans*



*Aspergillus fumigatus*