



SA Science Lens® 2019/2020 Science Close-Up Third Place: "Poisonous Beauty" by Neriman Yilmaz

3rd Place

Third Place – “Poisonous beauty: dog food gone wrong” by Neriman Yilmaz

One sometimes needs a microscope to spot beauty. As mycologists, we characterize fungi using a microscope and come across many beautiful features. In this image, you can see the fungal diversity on dog food pellets kept in a damp chamber for three days. Fungi are the second most species-rich organism group after the insects. Molecular studies showed that fungi are more closely related to animals than plants in the tree of life. The kingdom Fungi includes organisms such as mushrooms, yeasts, moulds, lichens, rusts, and smuts. Fungi play a key role in the ecosystem as decomposers. Fungi have a very important role in food and drink production. Fungi can also produce the toxic compounds named mycotoxins. The word has a Greek origin, “myco” for fungus and “toxin” for poison. There are more than a hundred known mycotoxins, but most countries have regulations for only five of them. It is estimated that 30% of crops are contaminated with mycotoxins, which causes a huge loss to countries’ economies. Some mycotoxins can cause cancers. In this photo *Aspergillus flavus*, a fungal species that produces carcinogenic aflatoxin, can be seen in the centre with the light green colour. Around it, the dog food is covered with another xerophilic *Aspergillus* species, *A. glaucus*.