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Bioprospecting as a conservation tool: the genus *Aspergillus* (*Eurotium*) in Egypt [42]

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The search in nature for useful biochemical compounds and other potentially valuable biological products is a very old practice now sometimes described as “biodiversity prospecting” or “bioprospecting”. Recent advances in biotechnology have generated bioprospecting interest in the fungi as organisms important not only for the crucial roles they undertake in nature but because many human activities depend on them. We report a bioprospecting study involving *Aspergillus* section *Aspergillus*, which contains economically important xerophilic fungi widely distributed in nature and the human environment and known for their ability to grow on substrata with low water activity. A range of soils (desert, cultivated, salt marsh), stored materials (seeds and grains, spices, dates) and medicinal plants were screened to give a picture as true as possible about the ecology and distribution of these fungi. The six taxa isolated from the different sources were identified and are now conserved in the Fungarium of Suez Canal University. They were screened for novel metabolites.

Projects like this raise interesting and often difficult questions about how management and exploitation of fungal diversity (with industrial and commercial applications potentially worth millions of dollars) can be kept sustainable and reconciled with conservation. Given the enormous potential of fungi to provide novel pharmaceuticals, chemicals and new technologies, the biotechnology industry has a vast, largely untapped resource for discovery of new chemicals and novel processes. It is important to protect the ecosystems and the organisms which provide that resource, and to ensure that rights of indigenous people to an appropriate share in resulting benefits are recognized. At present, desert ecosystems are typically viewed as economically worthless. This has led to extensive destruction of their natural habitats and over-exploitation of their biological resources. Egyptian mycologists have a responsibility to communicate these issues to public and politicians. This is difficult, as even the scientific community rarely acknowledges the true importance of fungi and their fundamental role in the conservation and protection of ecosystems. Obtaining the attention of politicians is even more difficult. Egyptian conservation legislation is strongly focused on protecting animals and plants and their habitats. Fungi are still neglected. To solve such problems there should be collaboration between mycologists, amateur fungal groups, fungal conservation societies, regional natural parks and environmental agencies.

Effect of plant-derived smoke on mycelial growth of six macrofungi [43]

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Wildfires are a common disturbance with important impacts on vegetation structure and function in many ecosystems. With climate change, their incidence is increasing in many parts of the world. Studies have shown that post-fire germination of a wide range of plant species is regulated by plant-derived smoke. Smoke also stimulates seedling growth of both native and economically important plants. Larger fungi are integral to forest ecosystems, playing a key role in nutrient cycling and decomposition. They are also widely used in the pharmaceutical industry and food production. Impact of fire on fungal