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BOOK OF ABSTRACTS

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EXPLORING THE BIOACTIVE POTENTIAL OF MUSHROOMS: MODERN ANALYSIS TECHNIQUES AND APPLICATIONS

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Mushrooms have been widely used by our ancestors. The first gastronomic evidence dates to 18.700 years ago (“El Mirón” cave, Spain). Subsequently, 5.300 years ago, Ötzi the Iceman (Ötztal Alps, Italy) carried *Fomitopsis botulin* possibly for medicinal purposes, followed by the Maya used genera *Psilocybe* and *Strofaria* in their rituals, calling them "teonanacalt" or "flesh of God". However, the most mycophilic cultures located in the East Asia are the ones that have progressed the most in the medicinal use of mushrooms, attributing them anti-inflammatory, antimicrobial, or immunomodulatory properties, among others. Today, the Species Fungorum lists about 34.000 species with gastronomic, technological, and/or medicinal properties, of which 14.000 are macrofungi. Bioactive compounds are molecules found in natural products that have the potential to positively impact our health, which in mushrooms are primarily attributed to β-glucans, chitins, phenolic compounds, organic acids, and sterols. In this regard, it has been a growing research interest evidenced by the publication of 1317 articles in the last decade. The use of new extraction technologies, such as supercritical fluids, pressurized liquids, ultrasounds, or microwaves, along with novel chromatographic and spectrometric analysis techniques, has deepened the knowledge of the bioactive properties of mushrooms. In contrast to epigeous fungi, hypogeous fungi have traditionally been valued just for their culinary potential. However, the implementation of these new technologies has succeeded in revaluing them for their bioactive potential as well. This advancement has sparked the interest of the functional foods and pharmaceutical industry, which, until now, had developed its drugs from microfungi.