Content

6. *Mushrooms & truffles*

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6.1 Introduction

Fungi are one of the most diverse groups worldwide (Tedersoo *et al.* 2014), playing a key role in the ecosystem functioning. Their relevance is not exclusively restricted to their ecological role, but also to the economic potential mainly as a food source of their fruit bodies. Wild forest mushrooms are among the most important non-timber forest products and they have been collected and used by humans worldwide for thousands of years. They have been valued as food, traditional source of natural bioactive compounds, medicine, tinder, handicrafts, cloths, ritual praxis, spiritual enlightenment, recreation and a number of other purposes ranging from insecticides to soil fertilizers (Wu et al. 2016; Yamin-Pasternak 2011; Peintner and Pöder 2000). Archaeological findings also suggest that mushrooms have been used in religious ceremonies in many ancient cultures. Their sudden appearance after rain and thunderstorms, short life, polysemy and marginal place between the pure and the dangerous are the main reasons for connecting them with the supernatural and the spirits world. One of the most recognizable and widely encountered mushrooms in popular culture is the magic red mushroom with the white warts, which illustrates children books, the fly agaric (*Amanita muscaria*). It has been claimed to be the basic component of *soma*, the good narcotic of ancient India, and is also known for its hallucinogenic and magico-religious use by the Siberian shamans, the Mayas, the Aztec Indians, the modern inhabitants of Mesoamerica, while it is well known worldwide in modern times for its psychoactive properties (Schultes *et al.* 1992; Lowy 1974) together with other psychoactive magic mushrooms, e.g. *Psilocybe spp.*

Fungi play also an important role in our life as a food. Yeasts are essential for the making of wine, bread and beer, molds are important for cheese and sausage production, as well as for fermentation (Miso, Tempeh, Sufu, Soja-Sauce) while mushrooms are known to be used as food from archaeological records that associate edible mushrooms with people who lived in Chile 13 000 years ago (Boa 2004). According to Boa (2004) there are over 200 mushroom genera, which contain species of use to people worldwide, of which 46% (a total of 1154 species recorded from 85 countries) are used as food, 20% have medicinal properties and almost 10% have at present other uses (e.g. ceremonial, as tinder, as natural dyes).

Nowadays, wild edible mushrooms are collected and traded in more than 80 countries worldwide Furthermore, there is a growing awareness that mushrooms make up a vast, and generally untapped, source of new pharmaceutical products (Wu *et al.* 2016; Boa 2004). In Africa, almost half of the countries have some tradition of wild edible mushroom collection, particularly, in central and southern regions, where mushrooms provide a notable contribution to diets during the months of the year when the food supply is extremely low. Moreover, nearly 15% also export small quantities of wild edible mushrooms (e.g. cep, desert truffles, matsutake), mainly to European countries, such as Italy but also to China and Japan. Likewise, 45% of Asian countries also possess tra-