

Entomophagy and Italian consumers: an exploratory analysis

Giovanni Sogari

Department of Food Science, University of Parma

Summary. *Background and aim of the work:* the consumption of insects by humans, entomophagy, is a food practice followed by 2 billion people worldwide. However, in Western countries the majority of the population rejects the idea of adopting insects as food, predominantly for cultural reasons. This study aims to investigate the main reasons behind this in order to stimulate the consumption of edible insects in the future. *Methods:* the experiment involved a mixed group of Italian individuals (n=46) – in terms of age and gender – who tasted three species of edible insects (cricket, honeycomb moth and grasshopper) and afterwards were handed a questionnaire to explore their opinions on the subject of entomophagy. *Results:* the analysis shows that curiosity and environmental benefits are the most important factors in motivating the consumption of insects in the future. Furthermore, the majority of respondents stated that entomophagy would not be endorsed and supported by family and/or friends. *Conclusions:* although the results of this study are exploratory, it seems that other peoples' negative opinions might represent a significant barrier to introducing edible insects to the Western diet. For the moment, it is difficult to predict whether edible insects will become the "food of the future".

Key words: consumer, entomophagy, edible insects, Italy

Introduction to entomophagy

The Food and Agriculture Organization of the United Nations (FAO) has estimated that consumption of edible insects by humans, the entomophagy, is a food practice followed by about 2 billion people worldwide (1).

From prehistory to the present day, insects as food have always been a traditional source of nutrients in many countries of Asia, Central America and Africa, and more than 2,000 species are known to be edible for human consumption (1-4). On the other side in the Western countries most of the population rejects the idea to adopt insects as food, mainly for cultural reasons (1, 5-8). Insects are eaten in all the growth stages (eggs, larvae, pupae and adults) and most of them collected in nature. For this reason, few data are available on the actual amount of edible insect consumed.

According to Jongema (9), most of 2,037 species consumed are within the Coleoptera group, i.e. bee-

flies (634), followed by the Lepidoptera, i.e. caterpillars (359), then the Hymenoptera represented by bees, wasps and ants (302), then the Orthoptera, i.e. grasshoppers, locusts and crickets (279), followed by the Hemiptera, i.e. true bugs (220). Finally among the least consumed species we find the groups of Isoptera, i.e. termites (63), the Odonata, i.e. dragonflies (60) and the Diptera, i.e. flies (25) (Figure 1).

Although several social, environmental, and nutritional benefits about the use of insects in the human diet, especially if replacing other protein products, have been identified (1), Western society generally considers these animals as a food of emergency, associated to a low prestige and belonging exclusively to poor countries (10).

Some authors (11, 12) have tried to explain factors responsible for the aversion of edible insects: from the sensory properties (unpleasant taste and texture) to the perception of health risks. However, as pointed out by

