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Published in:

Sustainable governance and management of food systems. Ethical perspectives.

DOI:

[10.3920/978-90-8686-892-6_43](https://doi.org/10.3920/978-90-8686-892-6_43)

Published: 01.01.2019

Document Version

Peer reviewed version

Citation for published version (APA):

Santaoja, M., & Niva, M. (2019). The missing animal in entomophagy – ethical, ecological and aesthetic considerations on eating insects. In E. Vinnari, & M. Vinnari (Eds.), *Sustainable governance and management of food systems. Ethical perspectives*. (pp. 310-316). Wageningen academic publishers.
https://doi.org/10.3920/978-90-8686-892-6_43

The missing animal in entomophagy. Ethical, ecological and aesthetic considerations on eating insects

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Abstract

Since the publication of the FAO report on edible insects in 2013, insects have been promoted as an ecological and ethical food. Not a traditional part of Western diets, insects are in the West something new and exciting to have on the plate. During the past few years, cricket farming has started in Finland and a variety of insect foods have entered the market. This paper was inspired by the observation that the public discourse seems to emphasize the novelty value of insects as food and to take their ethicalness and ecologicalness for granted. The paper presents an analysis of Finnish media coverage on entomophagy and reflects on the ethics, ecology and aesthetics of eating insects through multidisciplinary research literature. Based on the analysis, the Finnish entomophagy hype seems to lack a notion of insects as *animals*. Edible insects are discussed in terms of raw material or ‘mass’, and likened to plants rather than animals. However, existing studies show that more research is needed before conclusions can be made about the ecological and ethical aspects of the emerging insect industry. In animal philosophy it has been suggested that perhaps to appreciate insects, we need to bring them to our tables. We conclude, however, that relational insect ethics, including other ways of co-habitation with and appreciation of insects deserve to be fostered before starting producing insects at an industrial scale.

Keywords: sustainability, alternative protein, perceptions, edibility, media discourse

Introduction

Since the publication of the FAO (2013) report on edible insects, insects have been eagerly promoted in Western cuisines on ecological, ethical and health grounds. Insects are still part of traditional diets in many parts of the world, but in the West, insects are new and largely unfamiliar as food. In Finland, similarly to many other EU countries, rearing and selling insects for food was banned until lately. In September 2017 the Finnish food authorities decided to reinterpret the EU regulation on novel foods and allowed the selling of insects for human food. Since then, many products such as cricket bread, -sausages, -patties, -chocolate and -snack bars have entered the Finnish market.

The development of insect production is partly driven by the trendiness of entomophagy. Insects are marketed to consumers as an opportunity to experience something new and exciting on the plate. Indeed, Finns seem relatively open-minded towards insect food: 70 percent of the respondents in a survey (with a self-selected sample) found insect foods interesting, and half of them reported they would be willing to buy them (Anon. 2017). In a more recent population survey, 47 percent of the respondents said they would not eat insects in any circumstance, but the other half were willing to eat at least some insect foods (Niva 2019).

More importantly, however, the key argument for entomophagy is its smaller environmental impacts in comparison to conventional animal production. Apart from ecological concerns, it seems, however, that ethical aspects of insect eating have been sidelined while the focus in media coverage has been on entrepreneurship and the economic potential of insect production. In the public discourse a view of insects as *animals* seems to be missing. Against this

background, in this paper we examine insect eating and ‘insect economy’ from the perspective of ethics, ecology and aesthetics. In particular, we ask what ethical aspects are relevant in thinking about insects as a new farmed animal group, and where the arguments of ethical insect food are grounded.

Methodology

We have analysed the entomophagy discourse in Finland using press releases, official documents, newspaper articles and social media content such as blogs. Systematically we collected articles on entomophagy from the digital archive of Helsingin Sanomat, the main daily newspaper in Finland, from May 1999 to November 2017. The search yielded 39 articles, most of which were published in 2015 or after. Helsingin Sanomat is an important thought leader and a source of information for many Finns, so the handling of entomophagy in the newspaper provides a good understanding of the public discourse on insects in Finland. Our main findings from the media analysis were that insects as animals are mostly missing in the discussion, and in the discourse the ecologicalness and ethicalness of insect rearing are taken for granted, without asking, for instance, *how* is eating insects ethical. The space available limits the presentation of the analysis to selected quotes. To critically examine the perception of insect production in media, we turned towards multidisciplinary research literature on entomophagy.

As the allegedly smaller environmental impact of insect production compared to meat is used as a central argument for its ethicalness, we first focus on the environmental impacts of insect production. We then address entomophagy from the different perspectives of animal ethics and finally bring in an aesthetical perspective, since aesthetic attitudes towards insects are significantly linked with human-insect relationships. By aesthetics we understand broadly the cultural meanings attached to human-insect relations and human sensuous experiences of insects. Our discussion aims to broaden the public understanding of insect ethics.

Findings

Ecological aspects and food security

‘In comparison to meat production, insect rearing is economical, environmentally friendly, effective and healthy’, wrote Helsingin Sanomat for instance in February 2017. From an environmental point of view, the advantages of insect production in comparison to conventional animal production include less need for land and water, smaller greenhouse gas emissions, efficient feed conversion rate, the possibility to use side products for feed and the use of insects as animal feed (Raloff 2008, van Huis and Oonincx 2017). The production of a kilogram of insect protein requires significantly less feed than the production of beef. In comparison to poultry or fish the difference is not as clear (Joensuu and Silvenius 2017). Plant-based meat substitutes such as soy products seem to be less environmentally harmful than insect food (Smetana et al. 2016). The ecological footprint of insect production seems smaller than that of conventional animal production, except when it comes to energy consumption. Insect rearing requires heating and ventilation, and the freezers used for killing require a lot of energy (Deroy et al. 2015, Veldkamp et al. 2012). If insects were produced using renewable energy and plant parts that are currently wasted in production for feeding the insects, the production could be almost carbon neutral. However, more research taking into account the whole lifecycle of insect production is needed (Halloran et al. 2016, Rumpold and Schlüter 2013).

In order not to increase environmental impacts of the food system, insects have to substitute something in our current diet. The proponents usually bring forward the environmental impacts of meat production, suggesting that insect food could replace meat. For instance in Finland the official nutrition recommendations place heavy emphasis on plant-based diets for health and

environmental grounds. In line with this, Finnish insect food producers have introduced the oxymoron ‘entovegan diet’ in their marketing, rendering insects as non-meat and compatible with plant-based diet. Curiously the first insect product on the Finnish market was a bread with added cricket flour. Similarly, many other insect foods currently sold are not intended to replace meat but rather use insects as an exciting extra condiment, for instance in snack bars or granolas. If insects are not substituting other protein sources with heavier ecological impact, the promises of environmental friendliness of insect food are hard to meet.

Globally an argument for promoting entomophagy is that in developing countries, where there is lack of food, there is usually lack of water, arable land, and resources to produce sufficient amounts of plant protein. Insect production could provide enough protein with less water, feed and land use (Martin 2014). As diets worldwide are becoming westernized, the consumption of meat is increasing in countries where insects may have traditionally been part of diet. For instance in Sambia, when school children learned of the western aversion towards insects as food, they also refused to eat them (Ramos-Elorduy 1997). DeFoliart (1999) has argued that it is the responsibility of the West to make insects an appealing part of diet in order to have enough food for all. FAO has estimated that if half of meat consumption would be substituted by insect food, the global need for arable land could be reduced by a third. Following the argument, entomophagy should break through in Western countries like Finland to create larger markets and production innovations (Erens et al. 2012).

Ethical perspectives on eating insects

In the media discourse insects are often likened to cereals. The ‘growing season’ of crickets is said to be six weeks, and killing the insects is referred to as ‘harvesting’. Insects are referred to as products, biomass, raw material, grocery, ingredient, mass and particles. The discourse is utilitarian and commodifying, and the insect as animal is present even less than conventional production animals. For instance a columnist in Helsingin Sanomat wrote: ‘I dream of a cricket powder that would allow me to substitute animal protein easily.’ According to the Finnish Food Authority (Evisa 2017), insects are animals and thus under animal protection legislation. Still the instructions on insects as food issued by the Authority seem shaky on the ontological characteristics of insects. Insects are said to resemble vegetables as a research matrix, and in the food security database there was no classification for insects. Primary production was instructed to be categorized as ‘meat production’ under ‘frogs’, and insect processing was to be saved in the database under ‘other, for example coffee roasting’. Insects seem to be culturally difficult to categorize and are easily classified as something other than animals.

Gjerris et al. (2016) have presented a systematic review of ethical aspects in using insects as food. They discuss both anthropocentric ethical concerns, including nutritional value, social acceptability, and food security and safety, as well as various non-anthropocentric ethical perspectives. While in the Finnish entomophagy discourse the ethics of eating insects pertains mainly to anthropocentric concerns, our main interest here are other, broader ethical considerations. Animal ethics and discussion on animal welfare are often based on the view that animals have cognitive capabilities and that they can experience pain and suffering. People tend to place animals on a continuum depending on the cognitive capabilities they are perceived to possess. On top of the hierarchy are mammals and primates and on the bottom fish and invertebrates (Knight and Barnett 2008). People have difficulties to assess the cognitive capabilities of fish (Kupsala et al. 2013), yet studies have revealed that some fish play, and are capable of recognizing musical genres (Telkänranta 2016). Insects are perceived even more alien than fish, and thus evaluating their cognitive capabilities is difficult.

Similarly to other animal production, insect ethics is reduced in public discourse to their living conditions and killing methods. According to FAO (2013), ethical problems in insect production are small. In the 200-page FAO report the issue is touched upon for half a page, stating that animal production must aim to secure the so called Brambell's five freedoms: freedom from hunger or thirst, freedom from discomfort, freedom from pain, injury or disease, freedom to express normal behavior, and freedom from fear and distress. Cynically economic profitability is expected to encourage producers to follow the freedoms: as insects' life cycle is short, they would rapidly respond to unfavorable treatment. The FAO report recommends killing methods that are expected to cause least suffering, such as freezing and shredding. Insects are known to avoid heat, so boiling or cooking them alive may cause suffering.

All animals, insects included, react to harmful stimulus, but knowledge on their *experience* of pain is missing. Researchers have different views on the abilities of insects to experience pain and discomfort, and little is known about insects' sentience and consciousness (Crook and Walters 2011, Erens et al. 2012). Studies on insect brains have suggested that insects are able to produce subjective experiences and that their behavior indicates that they experience pain (Adamo 2016, Barron and Klein 2016). There are many open questions regarding insect welfare and since there is little knowledge on their experiences, their wellbeing is difficult to assess.

Entomophagy enthusiasts often bring up that regardless of our diet, we eat plenty of insects without knowing, so we might as well eat them willingly. Plenty of insects and other animals are harmed as an effect of plant production, so it can be argued that eating insects would cause less suffering (Davies 2014). But if insects are believed to suffer and to have interests regarding their life, entomophagy can be seen to cause even more suffering than conventional animal production due to the sheer number of insects killed (Tomasik 2014). It is also morally different to cause harm to animals involuntarily than to do it knowingly. The different perspectives draw from different schools of animal ethics, with the difference being whether animal welfare or animal rights is emphasized (Erens et al. 2012). Whereas most public discourse emphasizes the reduction of suffering in production, the perspective taken by vegans and animal activists is deontological: the question becomes whether eating insects (or other animals) is in itself right or wrong. The key question is not whether insects suffer or not, but whether industrial animal production as such is morally problematic. The third school with a pragmatic ethical perspective is based on social context and the acceptability of existing practices.

Aesthetics of otherness

The main hindrance for entomophagy becoming more widespread in the West is consumers' negative attitude and disgust towards insect food (Deroy et al. 2015), and this is also highlighted in the articles by Helsingin Sanomat. Insects are perceived as monstrous, as the ultimate other, and inedible. According to Lockwood (2013) our modern perceptions of insects are rooted in our evolutionary past. People shun away from insects as they are associated with illness and rotting flesh (Loo and Sellbach 2013). In the West insects do not easily find their place within established eating practices. Westerners lack the experience of their taste, looks, feel, smell and sounds. Consumer research has confirmed that food where insects are not visible are more easily accepted by consumers than foods that contain visible insects (Tan et al. 2016) and ants and crickets are more acceptable as food than other insects. As a means to mainstream insect food, insects are used as a protein supplement and added into foods in powder form. The insect producers follow, however, a dual marketing strategy, as less prejudiced experimental culinarians are willing to accept also visible insects on their plates. In the media, it is emphasized that in other parts of the world insects are not eaten only out of necessity but as delicacy.

Loo and Sellbach (2013) suggest that bringing insects to the table provides opportunities to familiarize ourselves, to re-categorize and to form new kinds of associations with insects. While the entomophagy discourse sees insects solely as an additional source of protein, from the cultural perspective the western insect relationships are multidimensional. In fact, insect aesthetics and communication have been used as models for human action since ancient Greek philosophy (Parikka 2010). Insects have inspired poetry and art. In the latter half of the 19th century insects were widely discussed as constructors, architects and geometers. Insects have been used as models in developing technology and artificial intelligence (ibid.). From this perspective insects are not self-evidently on the bottom of animal hierarchy, or ‘non-animals’.

Conclusion and discussion

Our analysis of the Finnish entomophagy discourse revealed that the claims of ecologicalness and ethicalness do not quite hold in closer scrutiny, and more research is needed before more conclusive claims can be made. The utilitarian entomophagy approach also sidelines a richness of cultural human-insect encounters. The current hype around entomophagy can be located between the economic strive for innovation and the need to create new, more sustainable forms of life (Last 2014). The concern for animal welfare in production has increased in the last years, and plant-based diets are promoted to tackle global ecological crises. Against this backdrop, it may be asked whether introducing a new source of animal protein into western diets is forward development, particularly if plant proteins are a more ecologically sound option. In the view of Lemelin (2013), we should look for approaches that take into account the many nuances and discontinuities of human-insect relationships and the possible cognitive and emotional capabilities of insects. Insects are in many ways at the heart of our ecological predicament.

Vincent Holt defended entomophagy already in 1885 for it being economic and ecological, but also claiming that by bringing insects to our tables we become aware of what we are doing to them. Loo and Sellbach (2013) concluded that eating insects may be ethically fruitful as it allows new communities and emotions to form. In the case of insects, emphasizing emotions as the base for ethics may be problematic, however, if the emotions towards insects are mainly negative. Aaltola (2010) suggests reflexive empathy instead, which combines experience with rational deliberation. The otherness of insects may so far have protected insects from being harnessed to industrial production, but it may also have prevented insect ethics from being formulated. Curious companionship with insects offers possibilities to learn from otherness and to develop ethical thinking and empathy that extends beyond anthropomorphism. Relational ethics and living with insects may help to contemplate on the moral value of insects also from the perspective of individual insects, without categorizing them based on the species or on their utility. Insects can be, of course, observed without eating them. However, if at some point in the future insect eating becomes necessary due to ecological and food security reasons, it may prove to be useful that the development of relational insect ethics has already commenced.

Acknowledgements

A longer version of the paper was published in Finnish in the philosophical journal *niin&näin* (Santaoja and Niva 2018). The authors wish to thank the reviewers and editors of both the journal and EurSafe for feedback. The work was carried out in the project ‘Politics, practices and the transformative potential of sustainable diets’ (Academy of Finland, 296702 & 296883).

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