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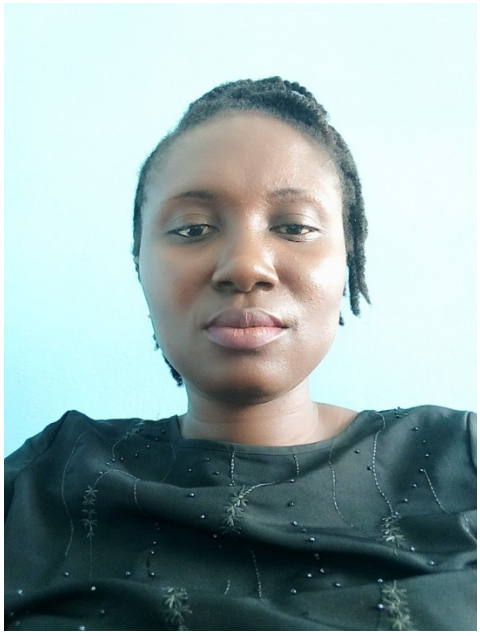
COMMENTARY

THE ROLE OF EDIBLE INSECTS IN PROMOTING HEALTHY NUTRITION AND ENSURING FOOD SECURITY IN GHANA



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Entomophagy entails the consumption of insects of various kinds by humans. This practice has been with humans over three millennia. The insects consumed are mostly crickets, ants, termites and caterpillars and are considered to meet the nutritional needs of individuals in the tropics and subtropics [1, 2]. There are over three thousand ethnic groups in over one hundred and twenty countries, which depend on insects as components of their essential diet. The consumption of insects as a source of food is common especially among rural dwellers.

Exponential world population growth and growing incomes are creating a global demand for protein, especially from animal sources. Climate change and other ecological pressures are also making it difficult to raise most livestock that humans rely on for their protein needs. The world, therefore, needs alternative sustainable food sources to meet its human nutritional requirements. Entomophagy can be revisited to ensure alternative sustainable food sources for protein and other essential nutrients. A lot of research has been done to assess the nutritional value of edible insects and concluded that they contain proteins of high biological value (35.9-61.3%), fat (13.4-33.4%), fiber (5.0%-13.6%) and ash (2.9-10,3%) comparable to beef, pork, poultry and fish [3]. Insects are a considerable source of monounsaturated and polyunsaturated fatty acids which when fed to children and infants, directly correlate with their healthy development. The consumption of these insects can help reduce the cases of macro and micronutrients deficiencies (especially anaemia) in African countries. Likewise, "low income earners" can also rely on the insects for their nutritional needs and also collect and sell them as an additional source of income. This necessitated the International Network of Food Systems (INFOODS) and the FAO to collect and introduce 705 chemical compositions of edible insects at various levels into the INFOODS Food Composition Database for Biodiversity.

In Africa, the exact number of insect types eaten is still under review despite attempts by researchers to collect and identify edible insects on the continent. Different communities have been reported to consume different kinds of insect species; however, the most common ones eaten by Africans are caterpillars, locusts, grasshoppers, crickets, beetles, termites, bees, ants and wasps. The practice of Entomophagy in Ghana was part of our traditional heritage and as such most Ghanaian folklores made mention of some insects consumed by the people. In the past Ghanaians were known to enjoy the locust, termite, cricket, caterpillar and the most popular African palm weevil known in Akan as "*Akokono*" as part of their meals [4]. The practice is dwindling in the country due to negative perception, fear of stigmatization, urbanization and modernity. Influx of foreign culture that does not have a good recognition for Entomophagy coupled with limited knowledge about the nutritional value of insects and fading indigenous knowledge have all, also affected the practice.

In light of the low consumption and patronage of insects, how do we promote the consumption of edible insects as well as how do we promote such progressive heritage passed on by our ancestors? First, it is important for the older generation who patronized the consumption of these insects to encourage the younger ones to do the same because of the nutritional and health benefits. Also, creating awareness on the health benefits of edible insects in our diets is a step to promoting its patronage. Further research on the sustainable farming and safety knowledge of all edible insects in Ghana should be

conducted, since current information is scanty. Food processors and technologists in the country should also raise awareness by providing innovative ways of adding value to edible insects by way of product development. Aspire Food Group Ghana is one of the few companies contributing by way of teaching smallholder farmers in some regions of Ghana the mass rearing of African palm weevil and creating the awareness of the practice.

As a scientist, I want to engage in research on food-to-food fortification of staple cereal-based foods with edible insects to solve problems of micronutrient deficiencies for targeted populations in Ghana and probably Africa.

REFERENCES

1. **Raubenheimer D and JM Rothman** The nutritional ecology of Entomophagy in human and other primates. Annual review on entomology, 2013.

2. **Meyer-Rochow** Traditional food insects and spiders in several ethnic groups of northeast India, Papua Guinea, Australia and New Zealand in M. G. Paoletti, editor. Ecological implications of mini livestock; role of rodents, frogs, snails, and insects for sustainable development. New Hampshire, USA, Science Publishers, 2005.

3. **Rumpold BA and OK Schlulter** Nutritional composition and safety aspects of edible insects. Molecular Nutrition and Food Research, 2013.

4. **Anankware JP**, **Fening KO**, **Osekre E and D Obeng-Ofori** Insects as food and feed. A review. International Journal of Agricultural Research and Review, 2015.