

Edible insects [Entomophagy] beneficial roles for humans.

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Introduction

Many people in the world have been eating insects as part of their meal for many years ago. Edible insects are healthy, nutritional option to beef, pork, chicken and fish. They are rich in protein, fat, and minerals such as calcium, zinc, iron, sodium and potassium. Edible insect consumption is common by some tribes in Africa, Australia and Asia as part of subsistence diets. Most of these insect species are found in the order Isoptera (termites), Lepidoptera (Moths), Orthoptera (Grasshoppers/crickets), Hemiptera (scale insects and true bugs), Coleoptera (Beetles) and Hymenoptera (Bees) [1]. Among the edible insect in Nigeria include: pallid emperor moth (*Cirina forda* Westwood), weevil larva (*Rhynchophorus* spp), snout beetle (*Oryctes monocerus* oliver), caterpillar (*Anaphe venata*), yam beetle (*Heteroligus meles* billberger), Grasshopper (*Zonocerus*) and so on [2].

Discussion

Insects deliver a host of ecological services fundamental to the survival of humankind. For example, insects play an important role in plant reproduction. An estimated 100,000 pollinator species have been identified and almost all of 98% are insects [3]. Insects play an equally vital role in waste biodegradation. Beetles, flies, ants and termites clean up dead plant matter, breaking down organic matter until it is fit to be consumed by fungi and bacteria. Apart from insects serving as sources of food, insects provide humans with a variety of other valuable products such as honey and silk, which are the most commonly insects products. Bees deliver about 1.2million tonnes of commercial honey per year [4], while silkworms produce more than 90000 tonnes of silk [5]. Carmine, a red dye produced by scale insects (order Hemiptera), is used to colour foods, textiles and pharmaceuticals. Resilin, a rubber-like protein that enables insects to jump, has been used in medicine to repair arteries because of its elastic properties [6]. Other medical applications include maggot therapy and the use of bee products – such as honey, propolis. Royal jelly and venom – in treating traumatic and infected wounds and burns [7]. Insects have also inspired technology and engineering methods for example, chitosan, a material derived from chitin that makes up the exoskeleton of insects, has also been considered as a potential intelligent and biodegradable biobased polymer for food packaging. Such natural packaging using the “skin” of insects can acclimatize the internal environment, protecting the product from food spoilers and micro-organisms. In particular, chitosan can

store antioxidants and exhibits antimicrobial activity against bacteria, moulds and yeasts [8-10].

Conclusion

Insects can contribute to food security and be a part of the solution to protein shortages, given their high nutritional value, low requirement for land and high efficiency at which they can convert feed into food. There is also need for technical assistance in sustaining insect harvesting and insect farming through agricultural extension services.

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