ELEMENTAL ANALYSIS OF PRE-PROCESSED EDIBLE BIRDS' NEST (*Aerodramus fuciphagus*) ASSESMENT BETWEEN LOCATIONS IN STATES OF PENANG AND KELANTAN, MALAYSIA

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Abstract

Aerodramus fuciphagus or White-nest Swiftlet is one the species in the genus *Aerodramus* to produce edible birds' nests, which are highly sought after as a delicacy and for its medicinal properties. These edible nests are produced solely from the hardened saliva secretions of the White-nest Swiftlet. The swiftlets' diets are taxonomically diverse arthropod prey which mostly consists of hymenoptera, diptera, coleoptera, homoptera, and arachnida. However, much is still unknown about the elemental properties of these nests and its relation to swiflets' diets. Thus, this study was conducted with the aim to assess the elemental composition of pre-processed edible birds' nests (*Aerodramus fuciphagus*) and their differences between locations in two states in Malaysia. Samples of the edible birds' nests were collected from man-made houses in four different locations in Penang and three different locations in Kelantan. These locations were chosen to represent different habitats which serve as a comparison to the elemental properties of the nests. The minerals analysed were sodium, potassium, calcium, phosphorus, magnesium and ferum. These minerals are essential to many vital processes in humans and animals alike. Concentrations of the minerals were measured by Atomic Absorption Spectrometer and Auto Analyser. There are significant differences ($P<0.05$) observed between the minerals analysed and the locations from which the nests were collected. These may be due to the availability and abundance of insects as food in the area. Overall, sodium remained the highest level of element found in this study followed by calcium and magnesium. These minerals are vital for various body functions which in turn promotes body vigour. Thus, these results indicated that environmental conditions play a key role in affecting the elemental properties of the nests.

Keywords*: Aerodramus fuciphagus*, edible birds' nests, elemental analysis, atomic absorption spectrophotometry, auto analyser