

## Identification of Malaysia's Edible Bird's Nest Geographical Origin Using Gel Electrophoresis Analysis

Ting Hun Lee\*, Syieluing Wong, Chia Hau Lee, Nurul Alia Azmi, Murugiah Darshini, Supparmaniam Kavita, and Kian Kai Cheng

*School of Chemical and Energy Engineering, Faculty of Engineering, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia*

\*Corresponding author. E-mail: leetinghun@utm.my  
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### ABSTRACT

*There is an urgent need to develop a rapid and robust approach to ensure traceability of the Edible Bird's Nest (EBN) products. The main composition of EBN is protein and it plays an important role in EBN. This study shows that there are significant differences in the protein profile of EBN collected from different states in Malaysia. The SDS-PAGE method is used to analyse the protein profile for 65 samples collected from 13 different states of Malaysia. SDS-PAGE gel image showed that all EBN samples analyzed have been well separated between protein bands. Data shows that protein band at 212 kD can only be detected in state P, while 135 kD can only be found in state M. EBN from other states have their unique combination of fingerprints that made them different from one to another. This research demonstrated the possibility of using SDS-PAGE pattern for identification and differentiation of the geographical origins of EBN produced in Malaysia. These findings are the first of its kind in EBN analysis.*

**Keywords:** Edible bird's nest, Identification, Geographical origin, Sodium Dodecyl Sulfate Polyacrylamide Gel electrophoresis (SDS-PAGE), Protein profiling

### INTRODUCTION

Edible bird's nest (EBN) is produced by the secretion of swiftlets *Aerodramus fuciphagus* (white-nest swiftlets) and *Aerodramus maximus* (black-nest swiftlets) during breeding season. EBN or 'Yan Wo' in Chinese is a