Attraction Sound in the Swiftlets House

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Abstract—This research about the analysis of attraction sound for swiftlets to enter the swiftlets house. There are important thing for industry to attract swiftlets enter and build their nests in man-made house. Swiftlet house usually house fitted bird-call recording from original sound in the cave to attract attention bird go inside house to be doing nest. Therefore, this study analyze sound features that has attracted attention bird. Ten samples of swiftlet sound were analyzed by using Fast Fourier Transform in Matlab software to identify sound characteristic that attract swiftlets. Specific sound characteristic for swiftlets attraction on frequency and magnitude of original sound and noise have been identified.

Keywords—swiftlet, sound, attraction, FFT

I. Introduction

Health care is very important to human life. Because of that, we might need to choose health nutrition such as bird’s nest from swiftlets. The nests of some species are built entirely from threads of their saliva, and are collected for the famous Chinese delicacy bird’s nest soup.

Swiftlets’ nest make skin whitening agent and also good for eye’s health. For asthma sufferer, it also became best agent restore respiratory system and strengthens lungs. The bird’s nest benefitting all age level such as collagen nutrient which include in every swiftlets’ nest can launch blood vessel increase appetite and improve alimentary canal.

The nests can give high potential and also benefiting for health although the value added. Within more this a decade, entrepreneurs explored various methods and new technology to increase production. There are a few factors to make swiftlets attract such as aroma, light, temperature, humidity and sound.

The swiftlets character is sensitive toward sound. Previously, sound that produced at swiftlets husbandry premise actually is produced from recording audio sound bird voice. Therefore, the research and development about sound characteristic for swiftlets attraction needed to develop swiftlets industry. This is used for industry to attract swiftlets enter and build their nests in man-made house. The income can give benefits for good economic and healthy.

Nowadays, bird house for swiftlets farming usually developed and equipped with recorded sound of chirping and mating from cave (natural habitat) to attract swiftlets to enter and build nest. These sounds just taken using trial and error method without analysis (frequency, amplitude, wavelength, or other element) of sound involve in signal to attract the swiftlets. This method is sometimes successful to attract the swiftlets, but certainly these sounds contains noisy and disturb by another sound.

The objective of this research is to identify the sound of characteristic for swiftlets attraction. There are 10 samples of sound have placed at external location in swiftlets’s house to be analyzed for frequency and magnitude.

II. Swiftlet Attraction using Sound

This section discusses on topics about swiftlets, sound, swiftlets attraction, sound characteristic, and sound analysis. Furthermore, discussion on sound classification FFT (Fast Fourier Transform) Algorithm and FFT application are presented.

A. Swiftlets Attraction

Swiftlets are birds contained within the four genus Aerodramus, Hydrochous, Schoutedenapus and Collocalia. They form the Collocaliini tribe within the swift family Apodidae. This group contains around 30 species which is mostly confined to southern Asia, south Pacific islands, and northeastern Australia. All of them are within the tropical and subtropical regions. They are in many respects typical members of the Apodidae, having narrow wings for fast flight, with a wide gap and small reduced beak surrounded by bristles for catching insects in flight.

A small-sized swift (Family Apodidae) have 24 species worldwide. The main producers of edible nest are White-nest Swiftlets (Aerodramus fuciphagus) and Black-nest Swiftlets (A. maximus). Two unique characters are salivary gland to build nest and Echolocation [1].

Figure 1. Swiftlets build nest from threads of their saliva