



## A Study on the Habits and Territorial **Behavior of Formosan Blue Magpie**

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APCYS2022

#### Introduction

The purpose of this study is to understand the habits, cooperative breeding behavior, nest-site selection, brooding behavior, and territorial concept of Formosan Blue Magpie, and then to explore the factors that lead to their threat and aggressive behavior. From February 2017 to September 2022, a systematic ecologicalobservation was carried out in front of the courtyard and neighborhoods. By taking photos and video recording, this study finally investigated whether color and distance may affect the territorial behavior of Formosan Blue Magpies. The empirical results show that the breeding season starts in early March and ends in early July. During the brooding stage, the nest is built at 3/4 of the height of the tree and inside four to five chicks are laid. When they begin to nest, do not approach or disturb them, since that Formosan Blue Magpies have territorial concepts, People should be at least 54.4 meters away from the Formosan Blue Magpies, and 7.1 meters away from the nests. Besides, human should also avoid walking under the nest tree wearing red or pink clothes, so as not to cause threat behavior of Formosan Blue Magpies. However, Formosan Blue Magpies are increasingly urbanizing, and empathy for animals is the key to reducing conflict.

### 1.Literature Review

## 2.Observational Method

(1) Research samples

Focus on the Formosan Blue Magpie family living in front of the courtvard (about 7 ~ 11 Formosan Blue Magpies per year)

(2) Research period: February 1st,2017~ September 1st, 2022

(3) Research Process

Take pictures and video first.

② Find out the factors that lead to Formosan Blue Magpies' threat and aggressive behavior.

By controlling the color, distance and other factors, we investigated whether these factors will affect the territorial behavior of Formosan Blue Magpie at different growth stages.

#### Observation results

#### Distribution of Formosan Blue Magpies



low altitude mountain areas







#### 2. The choice of nest position of Formosan Blue Magpie







The nest can contain up to 2 Formosan Blue Magple after it was completed. It's rough and bowlshaped but actually really firm.



The bowl-shaped nest is steady and safe even if it's raining cats and dogs

## Observation results On July 7th 2022, five Formosan Blue Magnier viere poached, and the brooding period ended eater than before. In 2022, the nesting period was from mid-March to early June. Dise to human interference the nests were constantly abandoned and

Analysis of the stages of Formosan Blue Magpie from nesting to leaving their nests

Observation record of Formosan Blue Magpie reproducing

The amount of Formosan Blue Magpie

# Growth and transformation of fledgling in each period.

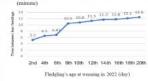




Blue Magnie subadults

(photographed on April 18th, 2019)

Experimental group (2019)



Formosan Blue Magpie's reaction to sounds

feeding frequency of fledglings(Average time between feedings)

## Analysis of the noise tolerance limit of the Formosan Blue Magpie 80 70 85 90 95100110 (decide)



## The time interval of feeding the Formosan Blue Magnie fledglings under different growth conditions.



Analysis of the noise tolerance limit of the Formosan

# Observation results 8. Territorial Behavior in reproductive and broodiness periods Analysis of the distance between researcher and Formosan Blue Macpie when Formosan Blue Magpie shows intimidation Analysis of the distance between researcher and the nest when san Blue Magpie shows intimidation: removing the variables of cover and in foraging) (The researcher is about 10.2 maters away) 9. Territorial behavior of fledgling

## 10. Territorial behavior in moulting period



#### **Current Conclusions and Contributions**

- Papavas are Formosan Blue Magpies' favorite fruit. Therefore, we should avoid using herbicides or pesticides, which may affect the animals' survival through the food chain. Formesan Blue Magpies build their nests at 3/4 of the height of the tree. They build a bowl-shaped nest which is a little bit.
  - rough but firm. Therefore, the plants in the community are advised to be planted in different heights, and the species
- The sound shouldn't be over 95 decibels, which is the noise toleration limit of the Formosan Blue Mappies. The Formosan Blue Magpies will have territorial behaviors when they are brooding. Once we found them building nests, we should be at least 54.4 meters away from the Formosan Blue Magpies, and 7.1 meters away from their nest. Also, aunid wearing red or pink ciothes while walking below the bird's nest
- Fledgings do not show intimidation, so when do they start learning intimidation? From a biological point of view, they may learn intimidation from the "helpers-at-the-nest" period.
- We hope that there will be some urban identities, such as the blue magple friendly communities.

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