

Ecology and Habitat Characteristics of the Yellow-Crested Cockatoo (*Shulpurea cockatoo*) in the Tanjung Pasir Area, Taman Buru, Moyo Island, Indonesia

**Muhammad Yul Fikry^{1*}, Kayla Al Khansa Munthe², Dzar Al Ghifari³,
Muhammad Abdul Rokhim⁴, Hafizh Haritsah⁵**

¹Program Study of Natural Resources and Environmental Management, University of Mataram, Indonesia

²Forestry Study Program, University of North Sumatra, Indonesia

³Forestry Study Program, Syiah Kuala University, Banda Aceh, Aceh, Indonesia

⁴Agribusiness Study Program, Tunas Pembangunan University, Surakarta, Indonesia

⁵Geography Study Program, Jakarta State University, Indonesia

*e-mail: muhammadylfikry0304@gmail.com

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Abstract. This study examines the habitat and ecological characteristics of the Yellow-crested Little Cockatoo (*Cacatua sulphurea*) on Moyo Island, West Nusa Tenggara, to identify the types of trees used as habitats and conditions that affect the existence of the population. Data were collected through direct observation, in-depth interviews, and measurements of tree characteristics. The results of the study showed that this bird perches on Binong (*Alstonia angustiloba*) and Asam (*Tamarindus indica*) trees, with a preference for large-diameter trees and irregular crowns. Trees with a diameter of 53 cm to 220 cm and a height of 4 to 23 meters above ground level have proven to be an ideal perch for the yellow-crested cockatoo (*Cacatua sulphurea*). The large diameter of the tree provides a large surface for perching, while the sufficient height allows the bird to have a wider view of the surrounding environment. This suggests that the choice of a perch by a cockatoo is influenced not only by the size of the tree, but also by the ecological function offered by the tree. However, this bird population is threatened by habitat destruction due to forest encroachment and land conflicts. This study provides important insights into the habitat conservation of the Yellow-crested Little Cockatoo and emphasizes the need for more intensive conservation efforts to protect this species from extinction and maintain the balance of the Moyo Island forest ecosystem.

Keywords: conservation; habitat; small island; yellow-crested small cockatoo

INTRODUCTION

Indonesia is famous for the term archipelagic country because it consists of many small islands (Soemarmi et al., 2019). One of these can be seen in West Nusa Tenggara Province which consists of Sumbawa Island and Lombok Island, but not only the two big islands make up NTB, but there are also small islands such as Gili Trawangan, Gili Air, and so on. These small islands hold a lot of potential both from tourism, flora and fauna. One of the islands that has become a conservation area due to its biodiversity is Moyo Island (Cahyaningrum et al., 2023).

Moyo Island is an island located in the north of Sumbawa Island. This island is one of the most visited tourist destinations because it has a beautiful coastline along its side (Darsana, et al., 2023). In addition, Moyo Island is also home to various types of flora such as bintangur, ketimis, kesambi and so on. Not only flora, but the fauna on this island is also very diverse, such as wild boars, deer, burnt birds, cockatoos, bats and others. The existence of various kinds of flora and fauna makes Moyo Island a conservation area with the status of a Hunting Park (Yamin, et al., 2021).

Some of the biodiversity on Moyo Island encountered are the Yellow-crested Cockatoo (*Cacatua shulpurea*), the Burnt Bird (*Megapodius bernsteini*), and the Bat (*Chiroptera Sp*) (Arjunari et al., 2022). With the status of this conservation area, Moyo Island has several conflicts that it faces, such as land disputes with the community. Where the community demanded the boundaries of the area by proposing several areas as customary forests. The impact of these problems has resulted in a decrease in the number of animals, even almost

extinct. In addition, many communities are still encroaching on forests for economic purposes, this has resulted in habitat damage from several animals (Safitri, 2022). There is also poaching carried out either by the community or visitors who hunt for protected rare animals to be sold at high prices. These problems arise due to the lack of information to the public that these animals are rare and protected by law. The lack of existing information results in this research being important to conduct.

This study examines the habitat and ecological characteristics of the Yellow-crested Little Cockatoo (*Cacatua sulphurea*) on Moyo Island, West Nusa Tenggara, to identify the types of trees used as habitats and conditions that affect the existence of the population.

RESEARCH METHODS

Time and Location of Observation

This research will be carried out in May 2024. It was carried out at the Moyo Tanjung Pasir Island Nature Tourism Park and Sweet Aik Cave, Labuan Aji Village, Labuan Badas District, Sumbawa Regency, West Nusa Tenggara Province.

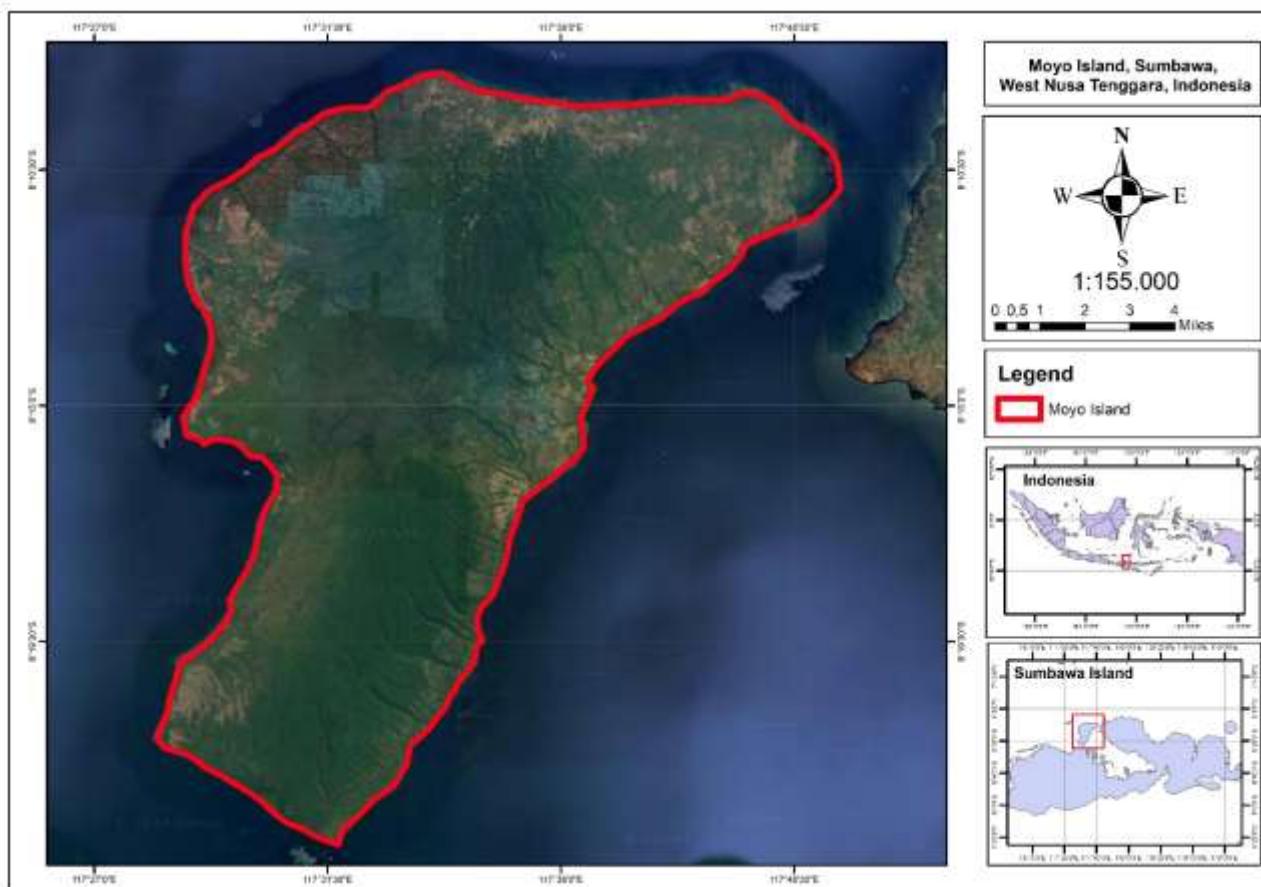


Figure 1. Images of the Research Location

Tools and Materials

Tool

The tools utilized in this study encompass a diverse range of instruments essential for data collection and analysis. These include a temperature measuring device for recording ambient temperature, a light intensity meter to measure the amount of light in the study area, and a moisture meter to assess soil or environmental moisture levels. Additionally, a haga meter was employed for angle measurements, while binoculars facilitated the observation of distant objects or areas. A dragnet was used for sampling, and a camera was utilized to document field conditions and observations visually. To ensure accurate recording of data, stationery and tally

sheets were employed for noting field data systematically. Benchmarks served as reference points for spatial analysis, ensuring precision in the study's measurements and findings. These tools collectively supported a comprehensive and reliable data collection process.

Material

The materials used in this observation include the Parrot (*Cacatua sulphurea*).

Data Collection Method

Interview

The interview method used is an in-depth interview. An in-depth interview is the process of obtaining information for research purposes by means of face-to-face questions and answers between the interviewer and the respondent or the interviewee, with or without using interview guidelines where the interviewer and the informant are involved in a relatively long social life (Rahardjo, 2011).

Observation

According to Moleong (2006) that observation is a method of collecting data by making direct observations of the object of research. Observation techniques are used to determine habitat conditions and recheck the information obtained from interview activities.

Measurement

Measurement method is a method used to obtain quantitative data from a variable. The method can be in the form of using a measuring tool to find out the quantitative quantity or by using a measurement model. This technique is an advanced stage of interview and observation activities. After direct observation of the object is carried out to obtain more accurate results and more detailed results, measurements are taken to find out some information related to other aspects (Ali, 2022).

Data Analysis

Descriptive

Descriptive research, commonly called taxonomic research, as mentioned earlier, is intended to explore and clarify a phenomenon or social reality, by describing a number of variables related to the problem and the unit being studied. This type of research does not question the network of relationships between existing variables, it is not intended to attract generations who explain antecedent variables that cause a phenomenon or social reality (Fathoni, 2006).

Quantitative

Quantitative data analysis is a study whose analysis generally uses statistical analysis. Therefore, in quantitative research, measurement of observed symptoms is important, so that data collection is carried out using a list of structured questions (questionnaires) compiled based on measurements of the variables studied which then produce quantitative data (Nurlan, 2019).

RESULTS AND DISCUSSION

History of the area

Moyo Island has been known to the world since it was first visited by Lady Diana. Moyo Island is suspected to be a coral island (Triyono et al., 2023). This is in accordance with the results of the Moyo Island expedition carried out by LIPI in 1993, in Ai Manis there is an exposure to coral reefs that are more than 3 kilometers long. Previously, this area had the status of a wildlife sanctuary. Then on September 29, 1986, it was designated as a Conservation Area of Buru Park and Marine Nature Tourism Park through the Decree of the Minister of Forestry

No.308/Kpts-II/with an area of 22,250 ha of Buru Park and 6000 Ha of Marine Nature Tourism Park. Initially, this hunting park was managed by PT Moyo Safari Abadi, then due to several conflicts between the community and the manager, the management permit was revoked and returned to the NTB BKSDA, So that the NTB BKSDA has full management rights until now.

Location and Area

Moyo Island Hunting Park is one of 12 hunting parks in Indonesia. This island is one of the tourist destinations that is administratively located in Labuan Aji Village and Sebotok Village, Labuhan Badas District, Sumbawa Regency, West Nusa Tenggara Province. Moyo Island is located on the north side of Sumbawa Island. Astronomically, Moyo Island is located at 117°27'43" - 117°35'42" East Longitude and 8°9'36" - 8°23'19" South Latitude. The area of the hunting park is 22,250 Ha and the marine park is 6000 hectare are (Puspitasari, 2023).

Institutional

In order to preserve forests, various efforts have been made by the Forestry and Plantation Service of Sumbawa Regency and other related officials in forest security and protection activities, including routine patrols, functional patrols, surprise patrols, counseling/socialization to the community so that forest functions can still be preserved, but forest destruction still occurs. In an effort to deal with the problems that occur, the formation of an integrated forest security and protection team is one of the Government's ways in trying to overcome problems that occur in the forestry sector, both illegal logging, encroachment, illegal farming, and others.

Related to the Moyo Island Hunting Park which is one of the conservation areas that functions as an area that can be used for regular animal hunting, this area is a protection area for the life support system as well as an area for preserving the diversity of plant species, animals and their uniqueness. The Moyo Island Buru Park conservation area is one of 20 units of areas managed by the West Nusa Tenggara Natural Resources Conservation Center (BKSDA NTB) on the basis of a decree. The problem that is still faced related to the existence of Moyo Island Hunting Park is the increasing disturbance of forest encroachment by irresponsible community members.

Habitat characteristics of the Yellow-crested Little Cockatoo (*Cacatua sulphurea*)

The small type of cockatoo is a monogamous animal, the movement of cockatoos is almost always in groups except for those who do not have a partner (Ardyansyah, 2023). So that it makes it easier to calculate the overall population. In one habitat, the population of the Yellow-crested Little Cockatoo (*Cacatua sulphurea*) in NTB that remains in the wild is suspected to be only 132 left and the population is at risk of population decline (June et al., 2018). The condition of the population is inseparable from the condition of the habitat which continues to experience damage pressure. One of the areas that is its habitat is the Moyo Island Hunting Park Area which is located in Sumbawa Regency, West Nusa Tenggara Province.

Table 1. Habitat table of the small cockatoo crested bird

No.	Tree	Diameters (cm)	Height (m)	Header Width (m)	Position Object At Tree	Altitude From Ground (m)	Title Form	Type Employers
1	<i>Alstonia angustifolia</i>	200	25	9	Dirantin	15	Irreguler	Perched Er
2	<i>Tamarindus Indica</i>	53	30	7.5	Dirantin	12	Irreguler	Perched Er
Average			126.5	27.5	8.25	13.5		

Source: Primary Data 2023

Based on the data obtained on Table 1, it can be concluded that there is a significant variation in the individual characteristics of the trees studied. The average diameter of the tree is 126.50 cm, with an average height of 27.50 meters. The width of the tree canopy also varies, with an average of 8.25 meters. The majority of trees have an irregular crown shape and are used as perches for animals. This indicates that these trees have an important role in the ecosystem as a shelter and a source of food for various types of animals.

This yellow-crested little cockatoo is the smallest type of cockatoo from other types of cockatoos, this yellow-crested little cockatoo lives on a tree because the nest of this yellow-crested little cockatoo is in the tree. In this study, the yellow-crested little brother whose habitat is on Moyo island, this yellow-crested little brother perches two types of trees on Moyo island, namely the Binong tree (*Alstonia angusteloba*) with a tree height of 25 m, a diameter of 200 cm, a width of 9 meters, and a height of 15 meters from the ground. And for the second tree, namely the Asam tree (*Tamarindus indica*) with a tree height of 30 meters, a diameter of 53 cm, a canopy width of 7.50 meters, with a place height of 12 meters. When perched, a small yellow-crested cockatoo perches on a tree branch with an irregular crown shape.

CONCLUSION

Trees with a diameter of 53 cm to 220 cm and a height of 4 to 23 meters above ground level have proven to be an ideal perch for the yellow-crested cockatoo (*Cacatua sulphurea*). The large diameter of the tree provides a large surface for perching, while the sufficient height allows the bird to have a wider view of the surrounding environment. This suggests that the choice of a perch by a cockatoo is influenced not only by the size of the tree, but also by the ecological function offered by the tree.

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