

**FOOD AND FEEDING HABITS OF *Sclerophrys maculata* IN OKOMU RUBBER
PLANTATION IN OVIA SOUTH-WEST, EDO STATE, NIGERIA.**

BY

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DEPARTMENT OF ANIMAL AND ENVIRONMENTAL BIOLOGY

FACULTY OF LIFE SCIENCE

UNIVERSITY OF BENIN,

BENIN CITY

SEPTEMBER, 2023

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**DISSERTATION SUBMITTED TO THE DEPARTMENT OF ANIMAL AND
ENVIRONMENTAL BIOLOGY IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc. Hons.) IN
ANIMAL AND ENVIRONMENTAL BIOLOGY**

SEPTEMBER, 2023

DEDICATION

This work is dedicated to God Almighty.

CERTIFICATION

This is to certify that this project work was carried out by **Peace Nosazena IGBINOBA (Miss)**, with mat number **LSC1906345** in the Department of Animal and Environmental Biology, University of Benin, Benin City, Edo State, Nigeria.

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EXTERNAL EXAMINER

Date

ACKNOWLEDGEMENT

My sincere appreciation goes to my project supervisor, Prof. M. S. O. Aisien for his assistance, guidance and time invested in making sure this research project was a success. I want to express my gratitude to Mrs. H. J. Ozemoka for her help and support throughout the course of this project.

My gratitude also goes to the Head of Department of Animal and Environmental Biology, Prof. M. O. Omoigberale and to my Course Adviser, Dr. O. C. Asemota for his love and constant encouragement.

I would love to appreciate my ever-loving and encouraging Dad, my late mom and my siblings for their love, support and prayers during the course of my programme in school.

I want to genuinely thank my project mates, Joy, Rachael, Debbie, Blessing, Jeffrey, Isaac and Mofe for their assistance. To everyone who contributed in one way or the other to make this project work a success, may the Lord bless you all abundantly.

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ABSTRACT

A survey was conducted in the month of August, 2023 in order to investigate the food and feeding habit of *Sclerophrys maculata* in Okomu Rubber Plantation in Ovia South -West, Edo State, Nigeria. The study was carried out in order to contribute to the available information on the food and feeding habit of the *Sclerophrys maculata* . The specimens examined were captured at night using visual and acoustic encounter sampling techniques among grasses while they were out to feed or mate. The anurans were euthanized by exposing them to chloroform in a killing jar and then injected through the peritoneum with 10% formalin to preserve the stomach content and then stored in a bottle filled with 10% formalin. A total of nine *Sclerophrys maculata* comprising of 3 males and 6 females were examined for their dietary content. Analysis of the prey items recovered from the stomach of the species showed the occurrence of three prey items category: Hymenoptera, Coleoptera and Blattodea. Hymenoptera was the most abundant prey items accounting for 92.16% while other prey items were Coleoptera (3.92%) and Blattodea (3.92%). There was no significant difference ($P>0.05$) in the feeding rate of both male and female specimens. The high prey abundance of Hymenopterans recovered from the toads confirmed the description that they are sit and wait feeders and myrmecophagous specialist but may opportunistically feed on other prey items.

CHAPTER ONE

1.0 INTRODUCTION

Amphibians have a unique place in the evolutionary history of vertebrates for being the first to establish life on land. The term Amphibian is derived from the Greek term “amphibious” meaning “dual life” (amphi meaning double and bio meaning life) and refers to animals which live both in the water and on land. They belong to the Kingdom Animalia, Phylum: Chordata, Superclass: tetrapoda and Class: Amphibia (Linnaeus, 1758). Traditionally, Amphibians are non-amniotic, ectothermic tetrapods.

The Class Amphibia comprises of three living orders, these are the Anurans which consists of the frogs and toads with about 7645 species, the Caudates/Urodela comprising of the salamanders and Newts with about 814 species and the Apoda/Gymnophiona (limbless amphibians) which are the caecilians with about 221 species (AmphibiaWeb, 2023). The most widespread of Amphibians are frogs which are found just about everywhere except on some islands, the polar region and the driest deserts (Pough, 2007).

Amphibians hatch from eggs laid in waters lowly transition from gills to lungs and upon reaching adulthood, use their fully developed lungs and legs to live the rest of their lives on land. Anurans have specialized sensory systems such as hearing and vision which allows them to detect and respond to environmental stimuli such as light, temperature and sound (Ryan, 1988). They court by using sounds or actions as attractants. The majority of males have vocal sacs which they use to amplify their calls. Anurans are the noisiest of the amphibians possessing effective vocal and auditory systems used during breeding as well as for prey and predator detection (Strüssmann *et al.*, 1984).

Anurans have multiple respiratory surfaces and employ different mechanisms of respiration depending on their environment. These include lung respiration, cutaneous respiration through the skin and buccal respiration (exchange of gases in the buccal cavity). Amphibians live in many environments including the grasslands, rainforests, conifer forest, alpine areas and even deserts, although most species require freshwater habitats such as ponds, swamps, streams or other wet environments for breeding. They are also known for their jumping and hopping abilities which they achieve through powerful hind limb muscles and a unique skeletal structure that allows for efficient propulsion (Emerson and Diehl, 1980).

Anurans are traditionally described as generalist predators with opportunistic foraging behaviour. The main items in adult diet consist of Invertebrates including molluscs, annelids, centipedes, millipedes, arachnids, crustaceans and especially insects (Anderson et al., 1999). Research has indicated that very small terrestrial frogs, especially juveniles; largely consume small leaf litter arthropods (Rödel, 2000, Toft, 1980 and 1981) identified two main diet patterns in tropical anurans: the “ant specialists” that eat more chitinous, slow-moving arthropods such as ants and mites and the “non-ant specialists” that eat larger, less chitinous and more mobile arthropods such as orthopterans and large spiders. These diet specializations are intrinsically linked to foraging strategies (sit-and-wait or active searching behaviour), nocturnal or diurnal activity patterns.

Sclerophrys maculata was most often cited under the old generic name *Bufo*, later allocated to the genus *Amietophrynus* (Frost et al., 2006) and it is commonly known as Hallowell's toad, the flat-backed toad and the striped toad. It's an African member of Bufonidae, the true toad family. It is a medium sized toad. The parotid glands have numerous prominent warts, and the toads have numerous subdigital tubercles. They often have a light vertebral stripe

but never have red colouration or outer parts of the thighs. These toads have very warty skin. Adult males measure 38-54mm (SVL) and females 41-60mm. They contain one marked protruding bulge above each eye and males have single subdigital vocal sacs. The colour of this toad is highly variable. Apart from uniform brown animals, there are, rarely, completely yellow individuals (Rödel, 2000).

Toads are found in humid savanna of West and East Africa, stretching South wards to North-Eastern South Africa. Those found in the Sub-tropical Africa, mainly the *Amietophrynus* species do not hibernate or aestivate due to the average range of temperatures which they can thrive in all year round. They usually obtain their food from their immediate environment which range from grasslands and wetlands (swamps) to rainforests. They are not solely vegetarians so they search for living preys. Most commonly, they eat small insects like ants, beetles, cockroaches, termites and animals like snails, slugs and small fishes. They will look for crickets, spiders, worms, caterpillars, tiny fishes and flies. The prey must be within reach of the toad's tongue in order for the toad to capture it.

This means that the toads must sit still and let the prey come to it instead of hunting out the prey like many animals do. They catch prey with their long skinny tongues that is attached to the front of their mouths. This gives them more of an extension so that they can reach further to surprise their prey. Their tongues are also sticky which serves the toad two purposes. The sticky liquid attaches to the prey so that the prey remains on the tongue until it enters the toad's mouth and the sticky liquid also act as a lubrication to slide the prey down into the toad's stomach. Toad's eyes aid in the swallowing of their prey and the eyes presses against the toad's mouth and pushes the food down into the stomach. The paucity of information on the dietary composition of

Sclerophrys maculata in an altered environment in Nigeria has necessitated this study in Okomu Rubber Plantation. The specific objectives of this study are to;

1. investigate the diet composition of *Sclerophrys maculata*
2. describe the feeding habits of *Sclerophrys maculata*
3. compare results from this study with the previous report by other researchers from the same ecological zones.

CHAPTER TWO

LITERATURE REVIEW

Dietary information is crucial for understanding the impact of habitat modification on anurans (Anderson *et al.*, 1999) and to assess whether anuran species adjust their diets to variations in prey across different environments.

Ileri *et al.* (2007) collected data on the diet of the marbled toad (*Bufo marmoratus*) in conserved and disturbed areas of tropical dry forest on the coast of Jalisco, Mexico during 2000 and 2001. Although the diet of *Bufo marmoratus* consisted of 19 prey taxa, the moderately low dietary diversity measured ($H' = 1.51$) reflected the dominance in the diet of only three groups of prey; ants, beetles and termites. The study showed that the toads in the conserved area consumed greater proportions of ants (35.7% by volume) whereas toads in disturbed forest consumed greater proportions of beetles (53.1% by volume) and also the diet was significantly lower in the disturbed area. However, abundance, size, and weight of toads was similar in both areas suggesting that prey availability was not affected by disturbance.

Augustine (2011) conducted a study on the dietary composition of *Hemidactylus marmoratus* and *Amietophrynus maculatus* in Okomu oil palm plantation, Edo State. In the study, the author examined 22 *Hemidactylus marmoratus* and 36 *Amietophrynus maculatus* and reported that 9 prey items were recovered which belong to Hymenoptera, Chilopoda, Mollusca, Orthoptera, Isoptera, Diptera, Coleoptera including some plant parts and sand grains. From the study, four prey items

was recovered from *Hemisus marmoratus* consisting of Isoptera (45.45%), Hymenoptera (27.27%), plant parts (9.09%) and sand grains (27.27%) while seven prey items was recovered from *Amietophrynus maculatus* comprising of Hymenoptera (82.86%), Coleoptera (65.71%), Diptera (5.71%), Orthoptera (5.71%), Mollusca (2.86%), Chilopoda (2.86%) and plant parts (2.86%). The author reported that there was no significant difference between both species using Chi-square analysis ($P>0.05$). The author concluded that *Hemisus marmoratus* is a sit and wait feeder based on the prey items recovered while *Amietophrynus maculatus* were the ant specialist because of the percentage of Hymenopterans (82.86%) reported.

Monye (2011) investigated the food and feeding habits of *Ptychadena* species in Okomu oil palm and rubber plantation, Edo State, Nigeria. Four *Ptychadena* species were encountered in the study, *P. macareniensis*, *P. bibroni*, *P. pumilio* and *P. longirostris*. In the study, the author recovered a total of 44 prey items belonging to four prey categories; Hymenoptera (ants), Aranea (spider), Orthoptera (grasshopper) and Coleoptera (beetle) of which Hymenopterans were found to be the most abundant. The study confirmed *Ptychadena* species to be active foragers and it showed that there was no variability of diet in relation to the size of the specimen.

Ogoanah and Uchedike (2011) carried out a study on the diet of *Hoplobatrachus occipitalis*, the edible frog in Benin city, Nigeria. In the study, a total of 701 prey items in 16 prey categories were recorded. Most prey items were terrestrial invertebrates although two vertebrates (a rodent and an amphibian) were also recorded in the stomachs of 7 *H. occipitalis* which revealed their cannibalistic tendency. The most abundant stomach contents were Trichoptera (50.37%) with a degree of food preference (DFP2.55) and Hymenoptera (21.27%) with DFP (1.08). Based on their observation, the feeding pattern of *H. occipitalis* was continuous while the large presence of trichoptera showed it was most active at night. The authors concluded

that the result of the study would aid the cultivation of these species which is being hunted greatly in the wild for their fleshy legs and taste and thus help to conserve them.

Okonkwo (2011), investigated the food and feeding habit of the toad, *Bufo maculatus* in Odighi village, a rainforest zone in Edo State, Nigeria. He reported that Hymenoptera (40.28%) made up the highest food content recovered from the toad stomach examined. This was followed by isopteran (27.08%), and Coleoptera (15.07%). Other items recovered from the stomachs included myriapod, earthworm, housefly, cockroach, spider, woodlouse and grasshopper. The author also reported that the toads were found to be voracious feeders, consuming anything edible they came across.

The food preference of 36 specimens belonging to four species of *Ptychadena* (*P. mascareniensis*, *P. pumilio*, *P. bibroni* and *P. oxyrhynchus*) was extensively studied by Ovwah (2011) at Odighi village, a rainforest zone in Edo State, Nigeria. It was observed that *P. mascareniensis* consumed crickets, grasshoppers, caterpillars, spiders, snails, flies, beetles, woodlice, earthworm and a juvenile frog while *P. oxyrhynchus* preyed on spiders, moths and seeds. The author examined *P. pumilio* and discovered that the species preferred grasshoppers, caterpillars, soil roaches, snails and centipedes while the food consumed by the only *P. bibroni* captured could not be identified. The study concluded that the *Ptychadena* species examined were generalist feeders since they did not prey on any specific item.

The diet composition and food preferences in *Bufo bufo*, adult common toads was examined by Crnobrnja-Isailovic *et al.* (2012) in Europe. In the study, the authors examined prey in 142 toad stomachs of which Coleoptera was the most abundant prey followed by diplopoda and

hymenoptera (formicoidea). The study suggested that the European common toad is neither a feeding generalist nor a myrmecophagous specialist.

Dibiajuba (2014) studied a total of 28 specimens of *Silurana tropicalis* consisting of 19 males and 9 females were investigated for their food and feeding habits at Okomu National Park, a protected natural forest habitat in Ovia Southwest Local Government Area, Edo State, Nigeria. On analysis, the prey items recovered from the stomach of the frogs showed the occurrence of five prey categories. They included plant parts (4.98%), vertebrates (23.45%), oligochaete (54.31%), insect (16.04%) and diplopoda (1.23%). Chi-square analysis indicated that there was no significant difference in the feeding habits of both sexes ($P > 0.05$). Based on prey items recovered from *Silurana tropicalis*, a pipid anuran, it was observed that it was a generalist predator and fits into the category of active foragers with cannibalistic tendencies.

In a study carried out in Accra, the capital of Ghana, Ofori *et al.* (2021) compared the diets of the African common toad *Amietophrynus regularis* (now *Sclerophrys regularis*) in urban and agricultural habitats. The authors concluded that *A. regularis* is an opportunistic generalist predator with a broad dietary niche consisting of insecta, arachnida, chilopoda, diplopoda, gastropoda and polychaeta. The study also showed that there were no demonstrable dietary differences between both habitats understudied.

Petrozzi *et al.*, (2021) carried out a study to determine the feeding strategies between *Sclerophrys regularis* and *Sclerophrys maculata* in Nigeria (Port Harcourt and Ikeja), Cotonou (Benin) and Lome (Togo). In the study, the author examined the food contents of 146 toads which included 46 *S. maculate* from Port Harcourt, 13 *S. maculate* and 13 *S. regularis* from Ikeja, 33 *S. regularis* from Cotonou and 41 *S. regularis* from Lome. Across all four cities, the

study showed that formicoidea and oligochaeta were by far the main food items (both categories eaten by 26.7% of the specimens), followed by Coleoptera adults (15.8%) and Coleoptera larvae (14.4%). The study suggested that the toads were selective predators.

There have been extensive research in the dietary composition of Anurans but little information is known about *Sclerophrys maculata*.

CHAPTER THREE

MATERIALS AND METHODS

3.1 STUDY AREA

This research work was carried out at Okomu Rubber Plantation (Longitude 06° 21.335 N and Latitude 05° 11.114 E) located within the Okomu forest reserve in Okomu-Udo, Ovia South-West Local Government Area of Edo State, Nigeria. Edo State is a tropical rainforest region characterized by two distinct conditions of dry and rainy seasons with an average annual rainfall of 150mm in the extreme Northern part of the state and 250mm close to the coastal areas. Temperature remains fairly consistent with average highs of about 30-32°C and average lows of 22-24 °C. In addition, the rainforest is characterized by tall trees, dense undergrowth and a wide variety of plant species including hardwoods like Iroko, mahogany and also various types of palms, lianas and ferns.

3.2 Land use/Layout

Okomu oil palm and rubber plantation is used for the cultivation, processing and marketing of oil and rubber on a large scale. The plantation is laid out in double and single line spacing. The land use for the cultivation of rubber is segmented into four estimated at 5,164.99 hectares based on its use. These sections of the rubber plantation are: the mature area with 3,927.58 hectares, the immature area with 1,852.01 hectares, the nurseries with about 9.2 hectares.

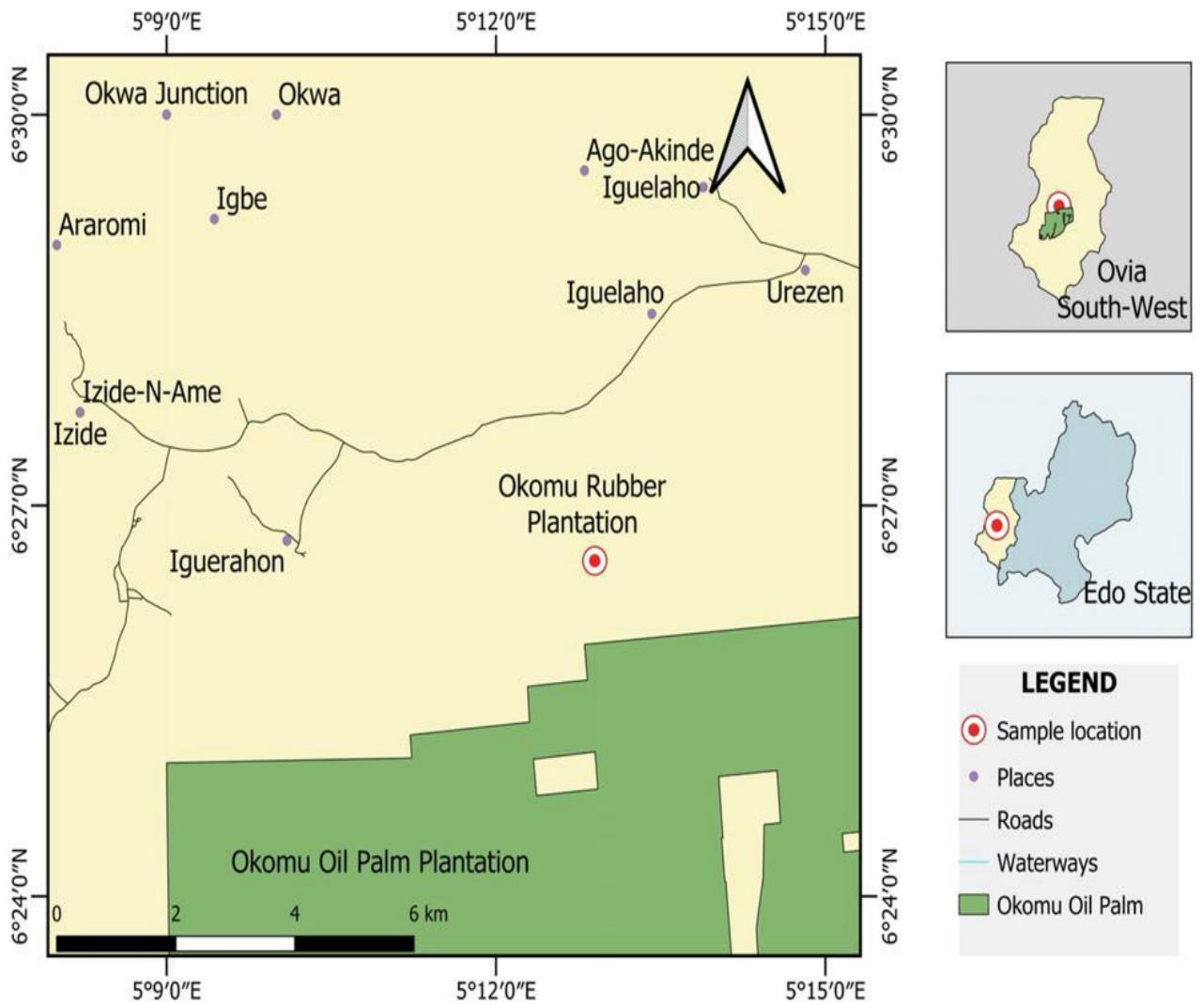


Figure 1: Map of Edo State showing the Study area (Okomu Rubber Plantation at Okomu-Udo in Ovia Southwest Local Government Area of Edo State.

3.3. Field Sampling

Collection of specimens was made in August 2023. Sampling was carried out in the night from 7:00pm to 2:00am with the aid of a torch light. Visual and acoustic sampling method was used which is done with the aid of amphibians' sound (mating calls).

Samples were handpicked at the margins of water bodies, stagnant water and bushes. The toads were put in well aerated baskets and transported to the base camp.

3.4. IDENTIFICATION

Specimens were identified according to the laid-down Protocol of Rödel (2000) which comprises the external morphology (presence of vocal sacs and nuptial spines in males) and internally the presence of gonads.

3.5. EUTHANIZING THE ANURANS

The anurans were euthanized by exposing them to chloroform in a killing jar and then injected through the peritoneum with 10% formalin to preserve the stomach content and then stored in a bottle filled with 10% formalin.

3.6. MORPHOMETRIC MEASUREMENT

The Snout-Vent-Length (SVL) of the toads was measured individually with vernier calliper to the nearest centimetre.

3.7. EXAMINATION OF STOMACH CONTENT

Stomachs were removed through a longitudinal abdominal incision and emptied into a petri dish containing water. They were further preserved in 70% alcohol. Stomach contents were analysed separately into groups.

3.7. DATA ANALYSIS

The rate of feeding activity was estimated as the percentage of stomach containing food with respect to the total number of stomachs examined (Sala and Ballesteros 1997).

$$\text{Rate of feeding activity} = \frac{100n}{N}$$

Where n is the total number of stomachs with food and N is the total number of stomachs examined.

Chi-square analysis was used to ascertain the difference in the number of toads investigated.

CHAPTER FOUR

RESULT

During this study, a total of 9 specimens of *Sclerophrys maculata* (Plate 1), consisting of 3 males and 6 females were examined in August, 2023. The mean snout-vent-length (SVL) and range of male *Sclerophrys maculata* was 6.23cm (0.73cm–0.97cm) while that of the female *Sclerophrys maculata* was 6.73cm (0.63cm–0.97cm).

A total of 7 *Sclerophrys maculata* contained 51 prey items while food items in an advanced stage of digestion were found in 2 *Sclerophrys maculata*. The stomach with prey had a percentage of 78% while the digested stomach content had a percentage of 22% (Table1) (Fig.2). A total of 51 prey items belonging to three prey orders: Hymenoptera, Coleoptera and Blattodea were recorded (Table2). The prey items recovered from the stomach of male *Sclerophrys maculata* were Hymenoptera (20 ants) and Coleoptera (1 beetle) while in female, Hymenoptera (27 ants), Coleoptera (1 beetle) and Blattodea (2 cockroaches) were recorded (Table2) (Plate 2).

The overall percentage abundance was represented in Table 3 with Hymenoptera (92.16%) followed by Coleoptera and Blattodea with percentage frequency of 3.92% each.

The percentage frequencies (%F) of occurrence of prey items recovered from the stomach contents of male *Sclerophrys maculata* examined are as follows: Hymenoptera accounted for 66.67% and Coleoptera (33.33%) (Table4) (Fig.3). Hymenoptera (71.43%), Coleoptera and Blattodea had percentage frequencies of occurrence as 14.29% each as prey items recovered from the stomach of female *Sclerophrys maculata* examined (Table 5) (Fig.4).

The rate of feeding for male *Sclerophrys maculata* was 33.33% while that of the female specimens was 66.67%. Chi-square analysis indicated that there was no significant difference ($P>0.05$) in the rate of feeding for both male and female toads examined.



Plate 1: *Sclerophrys maculata*

Table 1: Stomach contents of *Sclerophrys maculata* examined

Sclerophrys maculata

	Number of stomach	Percentage of the
stomach		
Stomach with prey	7	78%
Digested stomach content	2	22%
Total	9	100%

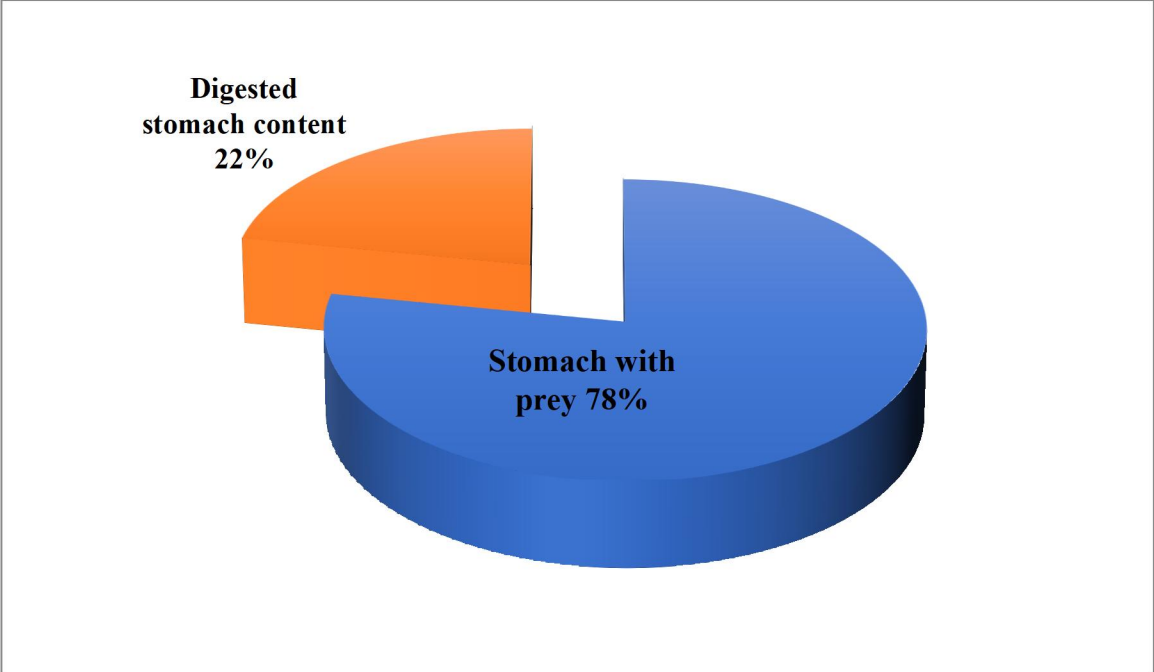


Figure 2: Percentage of the stomach dissected

Table 2: Taxonomic composition of the diets of Male and Female *Sclerophrys maculata* showing the occurrence of different prey category recorded in the stomachs

	Male <i>Sclerophrys maculata</i>	Female <i>Sclerophrys maculata</i>
Prey Category	Number of food items	Number of food items
Hymenoptera (Ant)	20	27
Coleoptera (Beetle)	1	1
Blattodea (Cockroach)	0	2
Total	21	30

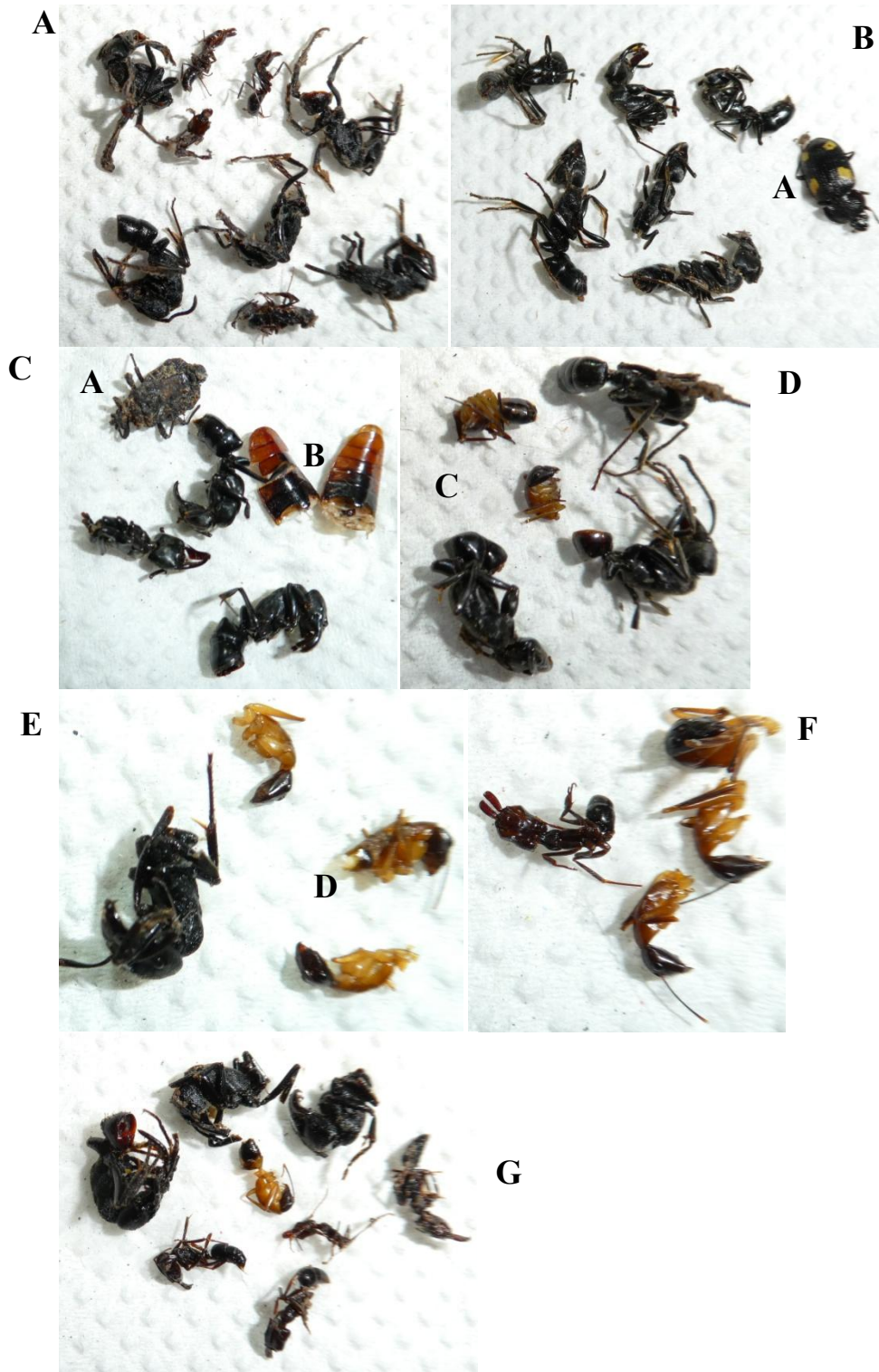


Plate 2: A-G Representative prey items in Toads 1, 2, 3, 4, 5, 7 and 9. The Toads were completely digested and unrecognizable in toad 6 and 8.

A–Beetle, B–Cockroach, C–Ants (Soldier and Worker Ants) and D–Worker Ants

Table 3: Overall percentage abundance of prey item categories for *Sclerophrys maculata* where

N = number of individual prey

PREY CATEGORY	N	Abundance (A%)
Hymenoptera	47	92.16
Coleoptera	2	3.92
Blattodea	2	3.92

Table 4: The number of stomach with prey and percentage frequency (%) of occurrence of the prey items recovered from the stomach of Male *Sclerophrys maculata*

	Male <i>Sclerophrys maculsta</i>	Male <i>Sclerophrys maculata</i>
Prey Category	Number of stomach with prey	Frequency (%F)
Hymenoptera	2	66.67
Coleoptera	1	33.33

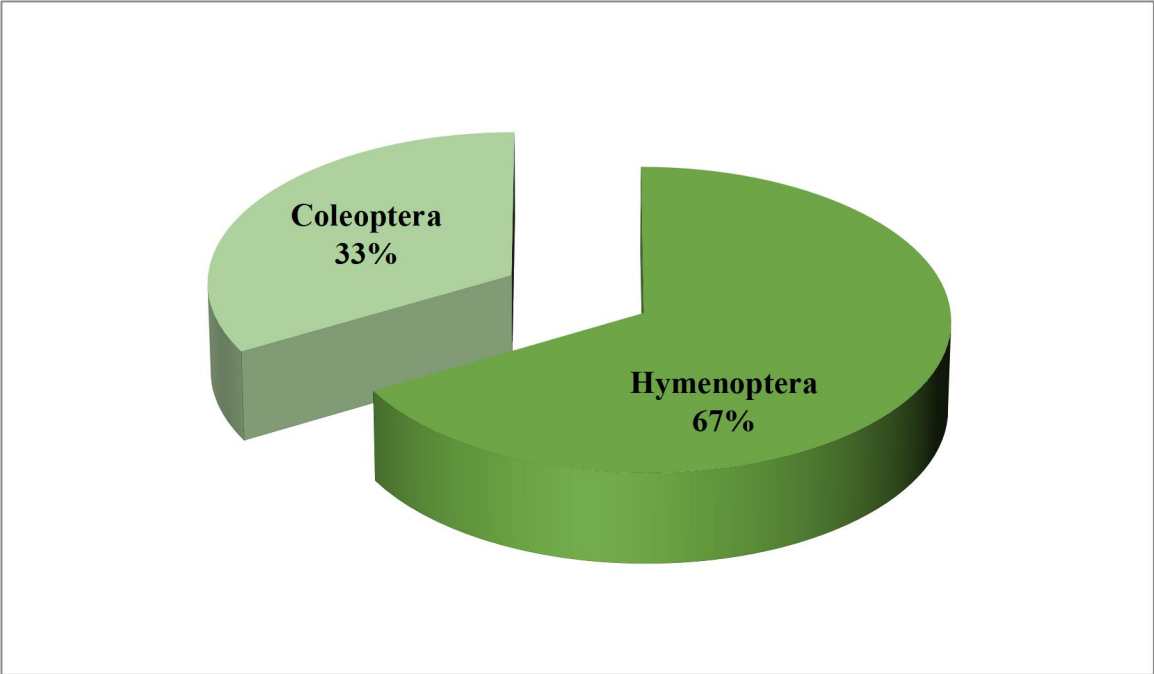


Figure 3: Frequency of occurrence of prey items consumed by Male *Sclerophrys maculata*

Table 5: The number of stomach with prey and percentage frequency (%) of occurrence of the prey items recovered from the stomach of Female *Sclerophrys maculata*

	Female <i>Sclerophrys maculata</i>	Female <i>Sclerophrys maculata</i>
Prey Category	Number of stomach with prey	Frequency (%F)
Hymenoptera	5	71.43
Coleoptera	1	14.29
Blattodea	1	14.29

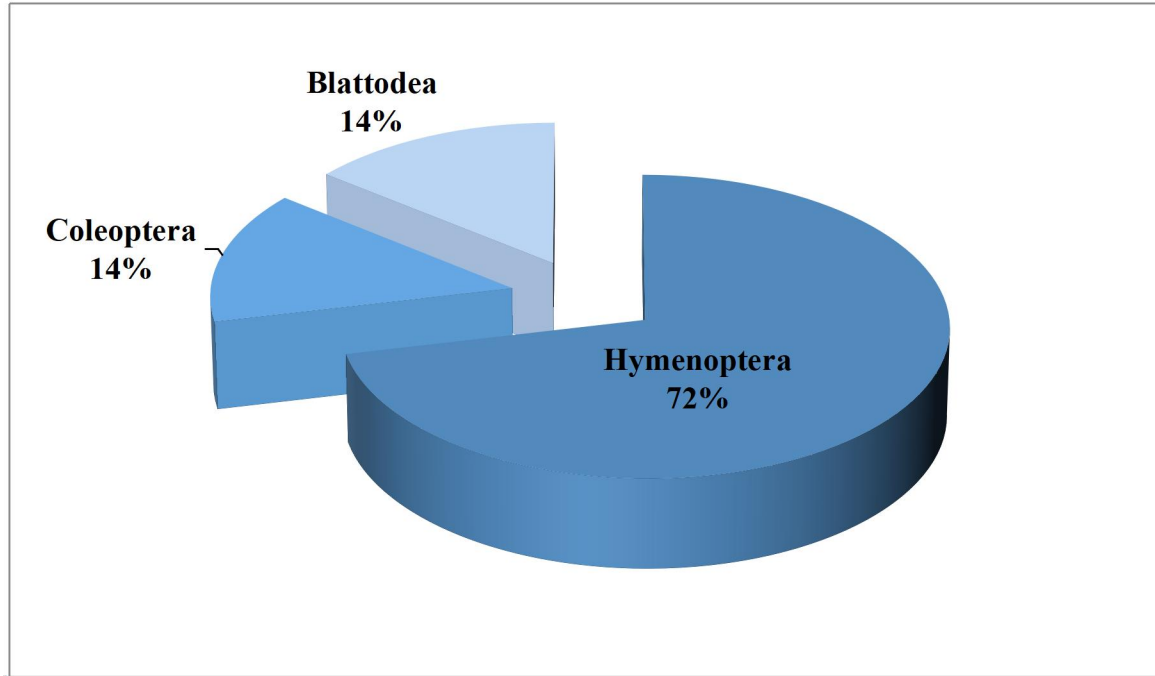


Figure 4: Frequency of occurrence of prey items consumed by Female *Sclerophrys maculata*

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 DISCUSSION

During the study, a total of nine (9) specimens of *Sclerophrys maculata* were examined for their diet, the specimens were collected from Okomu Rubber Plantation. *Sclerophrys maculata* is known to obtain food from their immediate environment which range from grasslands to wetlands (swamps) to rainforests. More female specimen was collected during this investigation.

Data analysis of dietary composition of the toads revealed low range in diversity of prey items. Stomach items belonging to three prey order (Hymenoptera, Coleoptera and Blattodea) were recorded. Hymenoptera, Coleoptera and Blattodea constituted the diets of these toads. This is in agreement with the investigation carried out by Ileri *et. al.*, (2007), who reported dominance in the diet of three prey order; Hymenoptera, Coleoptera and Isoptera from the *Bufo marmoratus* (marbled toad) collected from a conserved and disturbed areas of tropical dry forest on the coast of Jalisco, Mexico. However, Isoptera which was reported by Ileri *et. al.*, (2007), was not recorded in this study which could be as a result of short duration of study and the number of specimens examined.

In this study, the highest percentage abundance of prey items recorded was Hymenoptera (92.16%) which was slightly higher than 82.86% examined by Augustine (2011) in Okomu Oil Palm Plantation in Edo State who examined 36 *Amietophrynus maculatus* and concluded that they were ant specialist because of the percentage of Hymenopterans reported. This is also in conformity with the study conducted by Okonkwo (2011), on the food and feeding habit of the toad, *Bufo maculatus* in Odighi village, a rainforest zone in Edo State where the author reported

that Hymenoptera (40.28%) made up the highest percentage of food content recovered from the toad stomach examined. However, this study is in contrary to Clarke (1974), who reported that Hymenoptera and Coleoptera constituted 81% of the total prey items found in *Bufo woodhousei fowleri*.

Hymenoptera, Coleoptera and Blattodea were the only prey items recorded in this study which is in contrast to Ogoanah and Uchedike (2010), who recorded plant parts and sand grains as the highest frequency in the diet of *Hoplobatrachus occipitalis* and *Bufo maculatus* alongside Hymenoptera and Coleoptera.

There is no available record on differentiation of prey items occurring in *Sclerophrys maculata* in relation to sex.

5.2 CONCLUSION

The prey items recorded in this study have previously been reported by other authors (Ireru *et.al.*, 2007, Augustine, 2011, Clarke, 1974 and Ogoanah and Uchedike, 2010) based on the species examined which confirmed that they are sit and wait feeders. Other prey items which were not recorded in this study but have been reported by other authors could have been attributed to short duration of time and the number of specimens examined. Thus, there is need for further studies to be conducted over a longer period of time in Okomu Rubber Plantation.

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APPENDIX

The Sex, Size and Food Items of the Analysed Specimen

S/N	SPECIES	SEX	SVL (cm)	FOODITEMS
1	<i>Sclerophrys maculata</i>	M	7.20cm	1 Coleoptera and 12 Hymenopterans
2	<i>Sclerophrys maculata</i>	F	6.20cm	5 Hymenopterans
3	<i>Sclerophrys maculata</i>	F	7.70cm	6 Hymenopterans
4	<i>Sclerophrys maculata</i>	F	6.30cm	3 Hymenopterans
5	<i>Sclerophrys maculata</i>	F	7.00cm	10 Hymenopterans
6	<i>Sclerophrys maculata</i>	F	6.10cm	Digested food
7	<i>Sclerophrys maculata</i>	F	7.10cm	2 Blattodea, 1 Coleoptera and 3 Hymenopterans
8	<i>Sclerophrys maculata</i>	M	5.50cm	Digested food
9	<i>Sclerophrys maculata</i>	M	6.00cm	8 Hymenopterans