CLASSIFICATION OF PEST ANIMAL OF FARM CROPS IN NIGER STATE COLLEGE OF EDUCATION MINNA, NIGER STATE; A CASE STUDY OF NIGER STATE COLLEGE OF EDUCATION, MINNA, NIGER STATE;

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BEING A PROJECT SUBMITTED TO
DEPARTMENT OF BIOLOGY
NIGER STATE COLLEGE OF EDUCATION, MINNA

OCTOBER, 2015.

TITLE PAGE

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BEING A PROJECT SUBMITTED TO DEPARTMENT OF BIOLOGY NIGER STATE COLLEGE OF EDUCATION, MINNA

IN PARTIAL FULFILMENT FOR THE AWARD OF NIGERIAN CERTIFICATE IN EDUCATION (NCE)

APPROVAL PAGE

This research has been read and approved in partial fulfillment of the requirement of the award of Nigeria Certificate in Education in the Department of Biology, School of Sciences, Niger State of Education Minna.

Jonathan N. Gana
Project supervisor

10-12-2015.
Sign/Date

Head of Biology Department
College of Education
Minna
Head of Department

Sign/Date

Dean

Sign/Date

DEDICATION

This research work is dedicated to our Lord Jesus Christ in whom lie hidden and all the mighty untapped treasures of wisdom, knowledge, our hope of glory.

ACKNOWLEDGMENT

We wish to express our solemn gratitude to God Almighty for His love, guidance, protection and provision throughout our stay in this Institution, may all Glory, Honour and Power be ascribed unto you O' God forever and ever, Amen.

Our gratitude also goes to the HOD Department of Biology, Mall. Shehu Tabako, all our lecturers for the knowledge impacted on us and to the non-academic staff of the department may God bless you all.

Our special thanks go to our project supervisor Mr. Jonathan N. Gana for his great support academically and morally; for his guidance, corrections, patience, tolerance, advice and vigorous supervision of our drafts.

This acknowledgement would be incomplete if we fail to thank our beloved parents and guardians Mr & Mrs. Daniel Adama, Mr. & Mrs. Jonathan Jiya, Mr. & Mrs. Daniel T. Adama, and my beloved husband Mr. Timothy Musa and Mr & Mrs. Isaiah S. Kolo and Mr. & Mrs. Jeremiah Ndakun, without you we wouldn't have been here. We will not forget to thank other lecturers here on this campus, Dr Ruth Galadima (the Deputy Provost Admin) thanks for your motherly concern, Mr. Jonah Yisa (Chairman Christian Community), Deacon Silas Sule (FCS Patron), Pastor Emmanueal Kolo (FCS Adviser), Aro Ganus Adam and Mr. Imovy Innalegnu (TS) you for your father love, prayer and advice while carrying this project work and to all our friends and well wishers who are numerous to mention.

We love you all.

Abstract

This research was carried out to study the classification of pest animals of farm crops in Niger State College of Education, Minna. The result shows that there are a lot of pest animals that destroys crops daily (morning, afternoon and evening). Different means where used to collect pests animals, however, both plant and pest animals seen in the farm.

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CHAPTER ONE

INTRODUCTION

..1 Background of the Study

The area of study is Niger State College of Education Farm Minna. The area is strategically located along Minna Suleja expressway. It s bounded to the North by Tunga, to the east by River Suka, in the South by Chanchaga settlement and to the west by Army Barracks.

The area is located in the Southern Part of the State Capital. Shango, Niger State College of Education Farm is blessed with a lot f insects found within the area. Though there are a lot of insects in ne area, but the students know very little about them, most tudent do not know their names especially their scientific names, daptation and their various classification.

The scientific study of insects is called ENTOMOLOGY ntomologist (scientist who specialized in the study of insects) assify insects and study their anatomy and physiology, life cycles nd habits.

Insects comprises, the most extensive class in the animal Kingdom. They belong to the great phylum of jointed legged animals, the Arthropoda.

In this phylum the insects are a highly specialized group comprising the class insect. In the adult stage insects are characterized primarily by having the body divided into three part of legs, both the body regions and number of leg are functional grouping or parts, grouping that are very different from those of their original ancestors.

The number of described species exceeds the number of all other known animals species. Insects have invaded almost every habitable terrestrial environment, some live in fresh water for the whole or at least the earlier stages of their lives.

Some are harmful agricultural pests while others carry diseases. However some animal pests are beneficial in pollinating flowers and crops and also served as food for man consumption. As might be expected in a larger class s diversified in habitant, they are many quite extreme modifications in structure, physiology and behaviour.

1.2 Purpose of the Study

The purpose of this project is to study and describe the effect of pest on crops in Niger State College of Education Farm Minna found n Chanchaga Local Government Area of Niger State Minna, the tudy also aimed at motivating student interest to these insects pest there by creating awareness or understanding on the effect of pests on crops, especially their characteristics and the various classification more importantly the study is intended to provide necessary information about, the useful and harmful effects of nsect pests relations to crops which can be directly or indirectly.

.3 Classification of Insect Pests

he class insect is divided into orders on the basis of the structure f the wings, mouth parts and the types of metamorphosis and ther characteristics.

.4 Significance of the Study

his significance in a number of ways. First it is directed towards erving as a useful guide to man for research and genetics studies r the improvement of medical and agricultural practice.

Secondly, a compiled literature that is being develop in this project, will acquit the students with the economic importance or beneficial and harmful effects of the described insects.

Thirdly, this study will provide college of education and entire students some useful academic information on a number of different types of insect pests that are found within the area.

CHAPTER TWO

LITERATURE REVIEW

2.1 About Pest Animals

The existing literature has show that some insects affect virtually every human and animals directly.

However, humans generally regard insects as harmful organisms, most are actually harmless or helpful. In facts more than 3% (percent) of all insects are harmful.

A.S. Packard 1839 in his book titled "Entomology textbooks" creation of the experiment station in 1888 led to a tremendous demand for better trained entomologists for economic position and stimulated teaching in field.

New standard Encyclopedia Volume VII pointed out that insects constitute more than half of the diet of fishes, birds, amphibians, reptiles and small mammals. Even in many countries insects are part of their diet. It is also stated that harmful insect pests are responsible for causing billion of dollars worth of damage each year more than half of species of insects in North America is

considered harmful pests. Most insects that spread disease do so by biting their host passing the disease organisms in their Saliva. Plants and animals including human are subjected to various bacteria, fungal, parasitic and viral disease carried by insects.

According to Manson (1879), stated that there are many insects which affect man. Indirect by destroying harmful insects by either devouring or parasitizing them many harmful plant eating insects or devoured by a host of predaceous insects such as the ground beetles, wasp and sypriphid flies. But such parasitoids destroyed of plant eating insects) are in turn subject of hyper parasitoids which help to regulate or control parasitoid populations.

Also according to Curtic and Kilborom (1889), other insects are scavengers e.g. various types of beetles and flies (house flies) those scavengers feed on vast quantities of dead bodies of animals. Termites and wood eats (beetles) slowly reduces the remains of dead tress and other plants. They further highlighted that some insects are used by man for research and genetic studies for the improvement of medical and agricultural practices e.g. Drosophila Melanegaster i.e. fruitfully.

Ross (1982) was also of the view that many species of insects are harmful to man and also crops. They affect the comfort and health of wild and domestic animals, humans and crops also. They have a severe adverse effect on human welfare. Some species of the following group are among the most harmful, mosquitoes, bed-bugs, body lice, tsetse flies, and houseflies.

The literature has also shown that many plant insect pests damage agricultural crops, stored foods and property. Insect pests destroy forest, stored food stuffs, farm crops, livestock and domestic animals. Some major (notorious) plant pests include bees, beetles, cotton-bud, wood borer and weevil cotton stainer among others.

Insect pests, as estimated by the United State Department of Agriculture, revealed that about 1 million damage were annually done to farm crops, forest, stored food stuffs and domestic animals.

According to Ross (1982) in his titled "Atexbook of entomology" stated that insects pollinate different types of plants, they improve the soil by bringing nutrient, rich soil form deeper layer to the surface. The tree galls made by certain insects contain substances that are used in medicine and dyes and in tanning leather.

Manson (1879) also discovered that mosquitoes transmit the agent of Filariasis.

Barnus (1887) said that insects are of great ecological significance in the terrestrial environment, some of all flowering plants depend on insects for pollination.

It is also discovered that some insects such as the bees produce honey which serves as human food throughout the world. The bees also propelling and way thread. Also note that some insects produce silk which men used as clothing (wears). The dried bodies of some tropical scale insects of Ceotus.

Lastly, this series of discoveries solved the transmission mystery of some of the world's worst diseases and established the importance of the role, insects and other arthropods play in relation to humans health and also crop production.

CHAPTER THREE

METHODOLOGY

.1 Introduction

This chapter has to do with the methods survey and materials hrough which the data were collected. Making a pest animal ollection involved catching, killing, preserving and identification of he insects.

.2 Instrument/Materials Used for the Study

After our observation we are able to know some of the effect of est animals on farm crops.

The observation show that effect of pest animals on farm crops educe the yield, transmission of diseases, to a wide host range ultiply different varieties of plant that attack leaves, succulent by est like spinach and tomatoes belonging to chenopodianceae and olanaceae families.

NSTRUMENT USED IN COLLECTING FARM PEST

The following instrument/materials were used for collection of est animals:

An insect net.

Insect box.

Bucket.

Trap.

Catapult.

Hand.

Polytin bag.

Veil.

Cutlass.

) Hoe.

3 Farm Sites Visited on the Campus

e visited campus farm which is located behind Four-Arm-Zone ilding. And the mean of transportation is through trekking.

.4 Time of Visit to Coe Farm

The time of our visit to C.O.E farm is 8:00am on the 7th-09-015.

.5 Collection of Pest Animals

The following pest animals were collected during our visit to ampus farm e.g.

1. Rat	(Rattus rattus)
2. Lizard	(Agama agama)
3. Hen	(Gallus domesticus)
4. Goat	(Capra hirucus)
5. Fulani Cattle	(Bovis) primingeniou
6. Rabbit	(Oryctolagus cuniculus)
7. Duck	(Ana platyrhycha)
8. Cockroach	(Periplaneta aficana)
9. Termites	(Iemes dirus)
10. Caterpillar	(Larva)
11. Fruit Fly	(Drosophila melanogaster)
12. Carpenter Ant	(Camponotus SPP)
Butterfly	(Rhopalocera)
Grasshopper	(Valanga micgricoynis)
Mole Cricket	(Orthoptera)
Guinea fowl	(Numididae)

.	Parrot	(Psihaciformes)
.	Sparrow	(Passer domesticus)
.	Tsetse Fly	(Glossina)
.	Rice Weevil	(Stophilus orya)

6 Identification/Classification of Collected or Observed Pest Animals

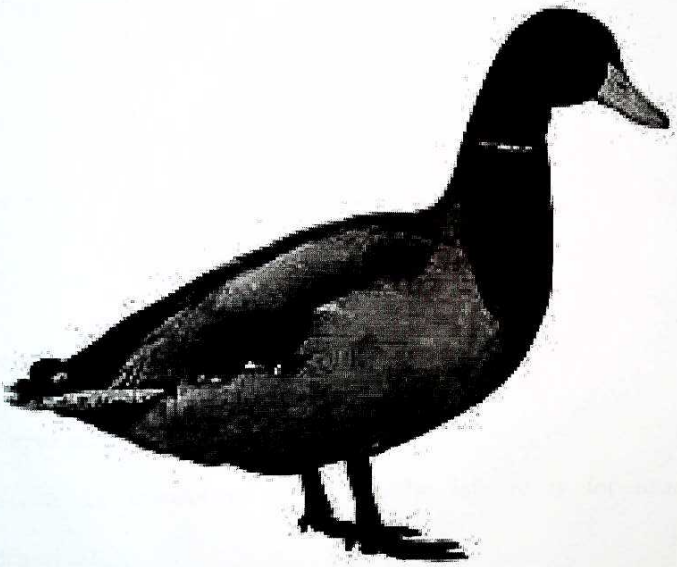
This involves the process through which the insects were entified and this includes: comparison of observation with orphologic, description comparison of observation with ustration and drawing in available practical Biology, Longman one nior secondary school, in idodo and invertebrates taxonomy xtbooks.

Some of the pest animals were also identified through some turers in Biology department. While some of the pest animals re also describe through our project supervisor.

CHAPTER FOUR

RESULTS AND DISCUSSION

Description of Pest Animals on the Farms



DUCK

1. **Common name** **Duck**

Scientific name (Ana platyrhycha)

Order Anseriformes

Family Anatidae

Vernacular names

Nupe: Gbangba

Yoruba name: Kpekpeye

Hausa name: Agwagwa

Effect of Duck on crops

- Tearing up and eating all the leaves of crops.

Economic importance of Duck

- Serve as food for man consumption
- Serve as means of study in the laboratory for students practical.

1. Common name	**Duck**
Scientific name	(Ana platyrhycha)
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Vernacular names	
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Effect of Duck on crops

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Economic importance of Duck

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- Serve as means of study in the laboratory for students practical.

RABBIT

2. Common name **Rabbit**

Scientific name (Oryctolagus cuniculus)

Family Lagomorpha

Vernacular names

Nupe: Kaigi

Yoruba: Ehoro

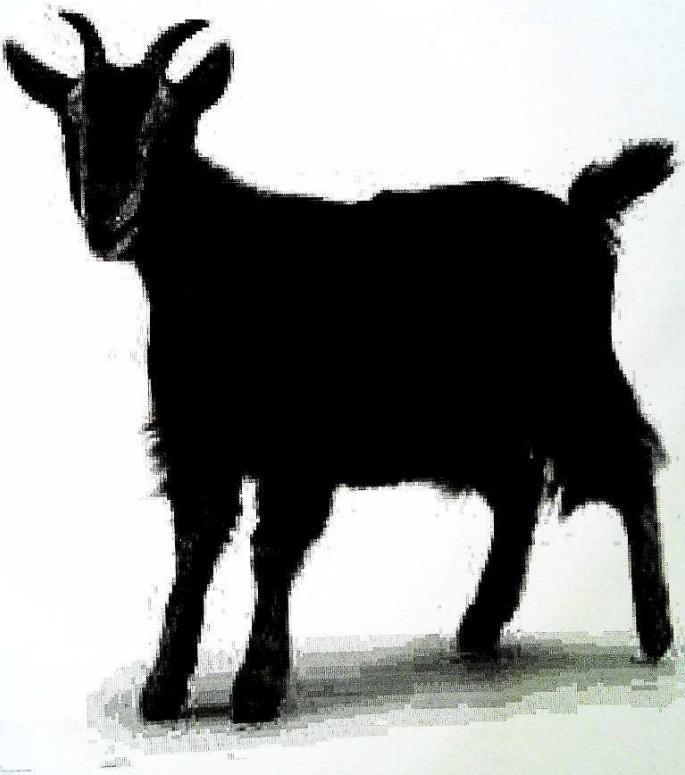
Hausa: Zomo

Effect of Rabbit on Farm Crop

- Causes crops damage
- It reduces the quality and amount of harvested crops in the farm.

Economic Importance

- It serves as food for man consumption
- It also serves as a field of study for students in biology laboratory



GOAT

3. Common Name	**Goat**
Scientific name	(Capra hirucus)
Order	Plastation Trophies
Family	Bovidae
Vernacular Names	
Nupe	Nangi
Yoruba	Ewure
Hausa	Hakuya

Effect of Goat on Crops

- Grazing of farm crops by reducing the growth of crop
- It can also lead to poor yield of crops

Economic Importance of Goat

- Serve as meat [food for man consumption]
- Excreted dump serve as organic manure to crops.

FULANI CATTLE

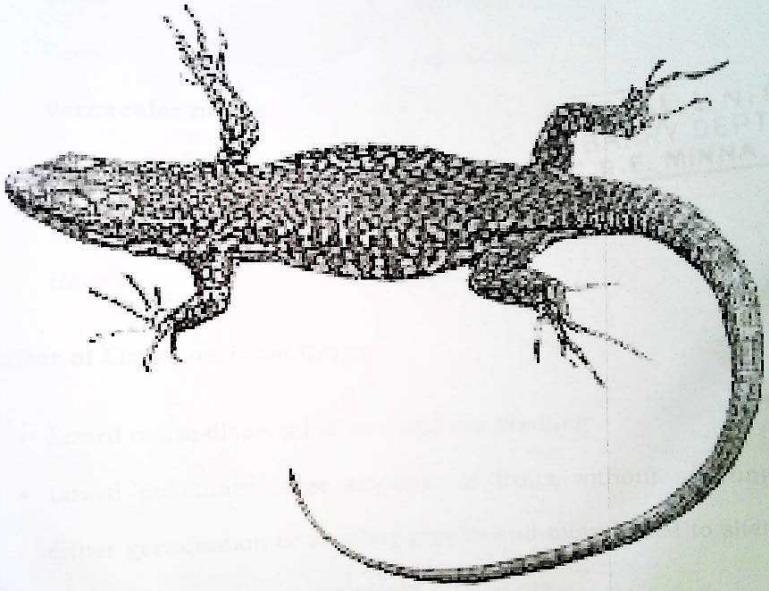
4. Common name	**Fulani cattle**
Scientific name	(Bos primingenious)
Order	Artiodactyla
Family	Bovidae
Vernacular name	
Nupe	Nanko
Yoruba name	Malu
Hausa	Shanu

Effect of cattle on farm crops

- Grazing of farm crops by cow reduce the growth of crops
- It also lead to poor yield of crop

Economic importance

- Serve as meat [food for man consumption]
- Cow dump excreted serve as organic manure to farm crops.



LIZARD

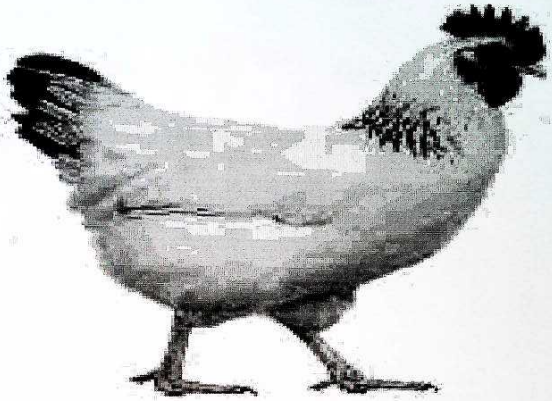
5. Common name	**Lizard**
Scientific name	(Agama agama)
Order	Squamata
Family	Agamidae
Vernacular names	
Nupe	Gbara
Yoruba	Alangba
Hausa	Katangare

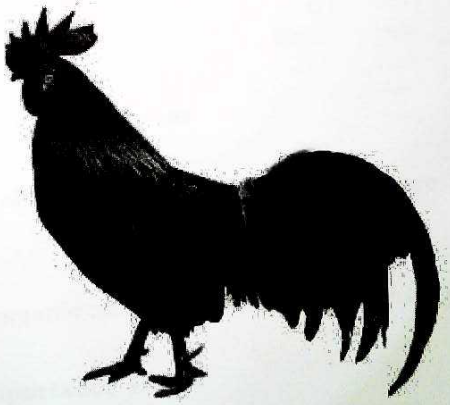
Effect of Lizard on Farm Crops

- Lizard cause dispersal of seed and low seedling
- Lizard consumes large amounts of fruits without affecting either germination or seedling growth and moved seed to sites suitable for plant establishment.

Economic Important of Lizard

- It serves as land for some people
- It also serve as a means of study in laboratory for students practical.





HEN

6. Common name	**Hen**
Scientific name	(Gauus domesticus)
Order	Galliformers
Family	Gauiformers

Vernacular names

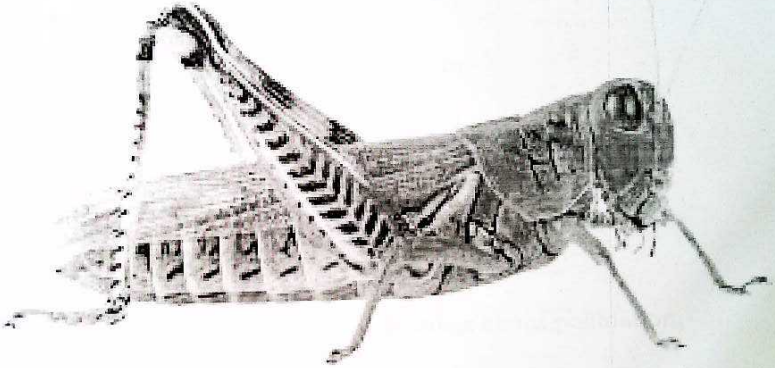
Nupe	Bishe
Yoruba	Adiye
Hausa	Kaza

Effect of Hen on Farm Crops

- Picking of seed planted by hen lead to poor germination of crops.
- Poultry organic manure increase the soil fertility

Economic Importance of Hen

- It serves as food for man consumption
- It also help students to learn in time of practical



GRASSHOPPER

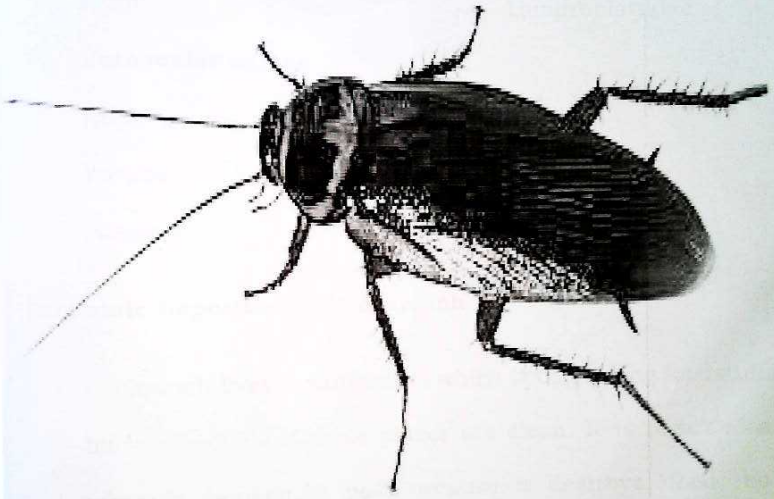
7. Common Name	**Grasshopper**
Scientific name	(Valanga migricornis)
Order	Orithoptera
Family	Acrididae
Vernacular names	
Nupe	Boro
Yoruba	Tata
Hausa	Fara

Economic Importance of Grasshopper

- It also useful as some of them brings about pollination.
- it serve as food for man consumption

Effect of Grasshopper on Farm Crops

- Grasshopper feeds on leafy vegetation and attack nearly all cultivated farm crops.
- It destroys crops and insect vectors transmit serious disease causing germs to humans and domestic animals.



COCKROACH

8. Common name	**Cockroach**
Scientific name	(Periplaneta africana)
Order	Orthoptera
Family	Lamproblattidae
Vernacular names	
Nupe	Pinpipari
Yoruba	Ayon
Hausa	Kenkaso

Economic Importance of Cockroach

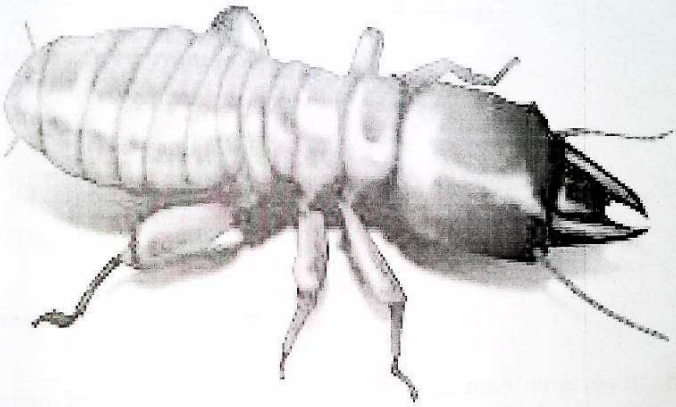
- Cockroach lives in cupboards which is containing foodstuffs or back especially if these places are clean. It is regarded as a common household pest because it destroys, food, books clothes and many other household objects. It has been found to carry the germs of dangerous tropical diseases such as plague, dysentery and tuberculosis on its body as well as in its alimentary anal.

FRUIT-FLY

9. Common name	**Fruit-fly**
Scientific name	(Drosophila melanogastar)
Order	Diptera
Family	Fruit flies
Vernacular names	
Nupe	Dini
Yoruba	Esinsinkekere
Hausa	Karemi Kuda

Economic Importance of Fruit Fly

- It is suitable for genetic studies because it is tiny, the adult is only 5cm long and so could be kept in the laboratory in large numbers, and in the early twentieth century the wonder geneticists tools was the tiny fruits fly.



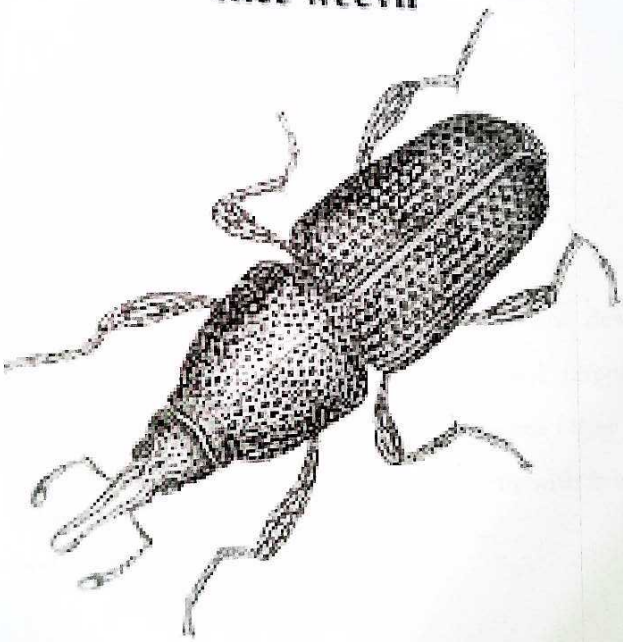
TERMITE

10.	**Common Name**	**Termite**
	Scientific name	(Temes dirus)
	Order	Isoptera
	Family	Termitidae
	Vernacular names	
	Nupe	Eka
	Yoruba	Shinge
	Hausa	Gara

Economic Importance of Termites

Lives in large colonies, they are useful to man as a result, help to speed up the process of decay when they feed on dead plant matter, They live in logs, trees, stumps, wooden parts of building and soil. Termites are destructive insects as they feed on both dead wood and living farm crops. This is beneficial to plants as plants roots being alive required air for breathing.

Rice weevil



11. Common name **Rice Weevil**

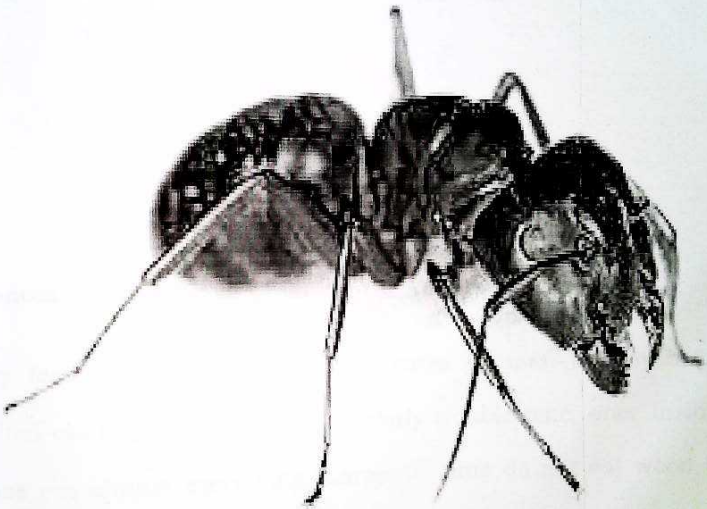
Scientific name	(Sitophilus orya)
Order	Coleoptera
Family	Curculiondae

Vernacular names

Nupe	Efu
Yoruba	Ina
Hausa	Kwari

Economic Importance of Rice Weevil

They are destructives insects as they eat it up and destroy great quantities of rice. However rice is the main important diet especially in tropical Africa. It also destroys some other food such as beans, corn, millet and they compete directly with human being for food.

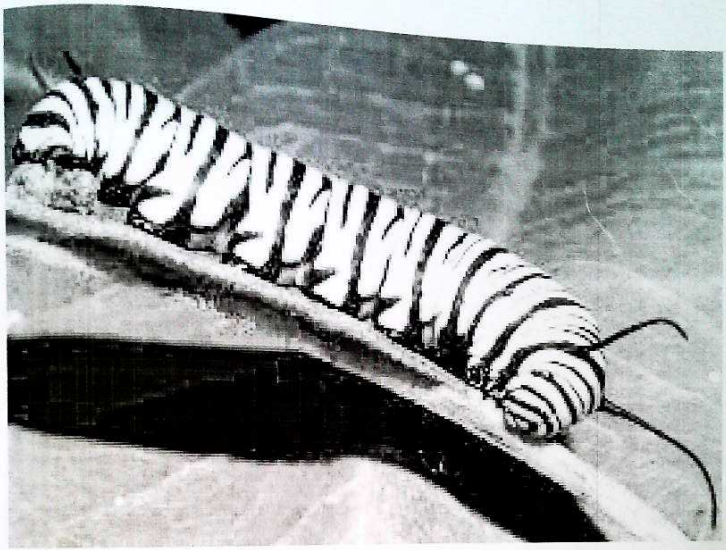


CARPENTER ANT

12.	**Common Name**	**Carpenter Ant**
	Scientific name	(Camponotus spp)
	Order	Heymenoptera
	Family	Formicidae
	Vernacular names	
	Nupe	Kantikanti
	Yoruba	Kain Kain
	Hausa	Cinaka

Economic Importance of Carpenter Ant

They feed upon practically goods, eaten by man and even food spelted clotting. The ant is particularly troublesome, once inside a house eat almost everything. Carpenter ants do not eat wood but feed on plant juices, animal's remains and the honey bee of Aphid.



CATERPILLAR

13. **Common Name** — **Caterpillar**

Scientific name — (Larva)

Order — Lepidoptera

Family — Clavicpitaceeae

Vernacular names

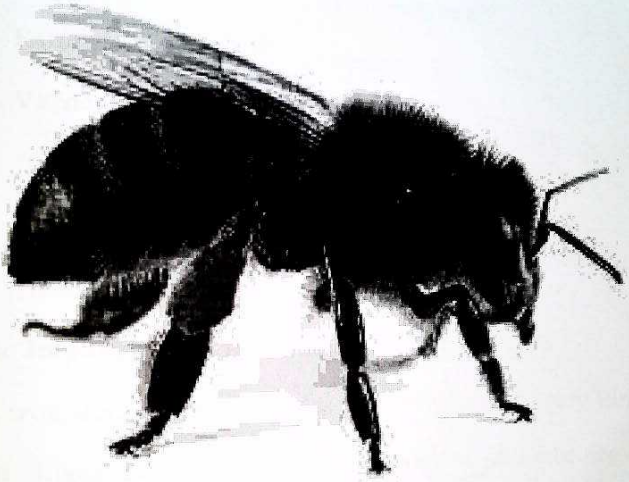
Nupe — Manimani

Yoruba — Kanni

Hausa — Manimani

Economic Importance of Caterpillar

- Caterpillar causes damage to crops, trees e.g. melon, millet and sheabutter plant and it also serve as food consumption for human use.



HONEY BEE

14. **Common Name** — **Honey Bee**

Scientific name	(Apis mellifera)
Order	Hymenoptera
Family	Apidae

Vernacular names

Nupe	Efu
Yoruba	Oyin
Hausa	Zuma

Economic Importance of Honeybee

It is true that many flowers are visited by almost every kind of insect but if you fasten your eyes on the violets, you will see that the child visitor is honey bees. Their short tongue are just the right are honey bees. Their short tongue is just the right size to reach the nectar in the bottom of these flowers. Apple blossoms too are visited mostly by honey bees' in fact if it were not for honey bee our apple, cherry and pluna trees would not produce fruits. Honey bees lives are often put in fruit orchard and to make sure that these flowers will be pollinated when blooming times comes.

BUTTERFLY

BUTTERFLY

15. **Common Name:** **Butterfly**

Scientific Name: (Rhopalocera)

Other Name: Lepidoptera

Family Name: Iyeaenidae

Vernacular Name:

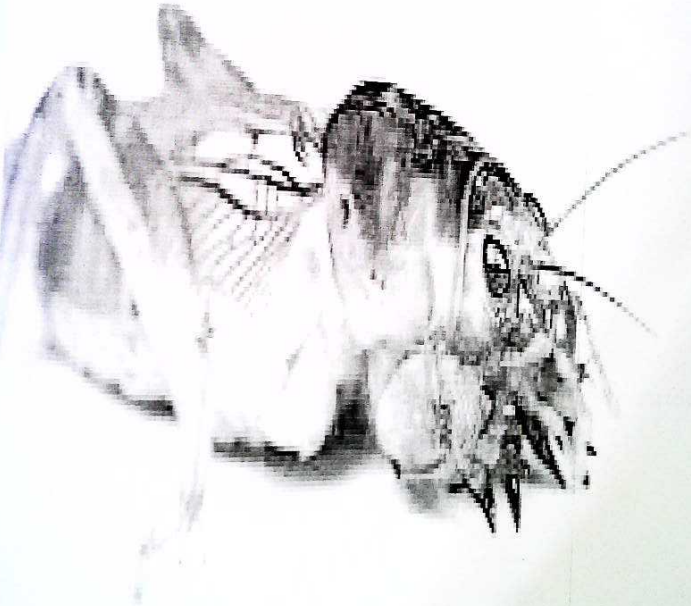
Nupe: Enapaparagi

Yoruba: Labalaba

Hausa: Aku kuturu

Economic Importance of Butterfly

It pollinates flowers of crops and other plants and it is also use for scientific studies. It also sucks nectar from flower and it adds to the beauty of the environment.



MOLE CRICKET

16. **Common Name:** **Mole Cricket**

Scientific Name: (Orthoptera)

Other Name: Orthoptera

Family Name: Gryllotalpidae

rnacular Name:

Nupe: Chini

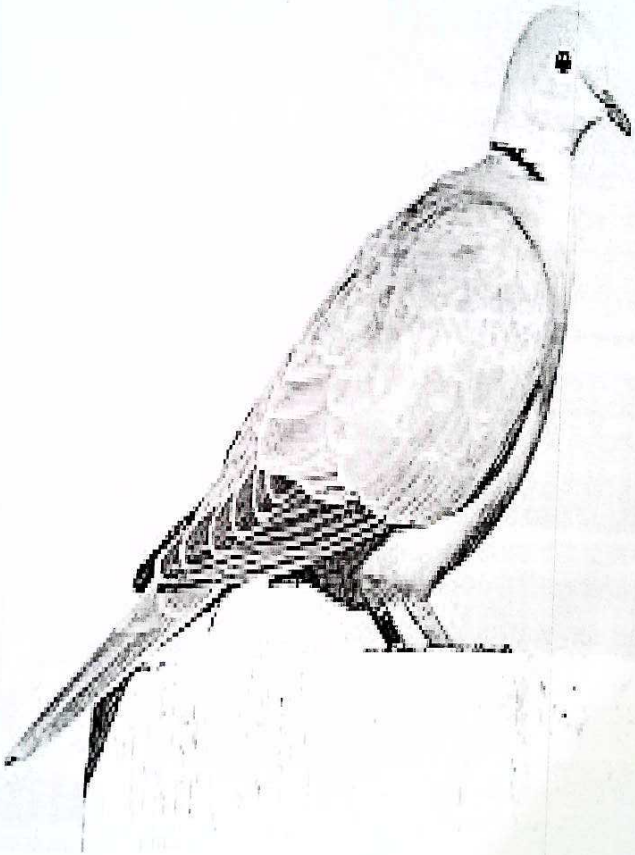
Yoruba: Gyare

Hausa: Moolu Cricket

nomic Importance of Mole Cricket

It serves as food for man consumption.

It serves as means of study in laboratory for students practical.



DOVE

17. **Common Name:** **Dove**

Scientific Name: (Zenaida asiatica)

Other Name: Columbiformes

Family Name: Columbidae

Vernacular Name:

Nupe: Lukongi

Yoruba: Tantabara

Hausa: Adaba

Economic Importance of Dove

i. It serve as meat for man consumption

ii. It serve as means of study in laboratory for student practical

GUINEA FOWL

18. **Common Name:** **Guinea fowl**

Scientific Name: (Numididae)

Other Name: Galliformes

Family Name: Phasianldae

Vernacular Name:

Nupe: Shelu

Hausa: Zabo

Yoruba: Awo

Economic Importance of Guinea fowl

i. It provide eggs and meat for man consumption.

ii. It serves as means of study for students in laboratory for practical.

PARROT

19. **Common Name:** **Parrots**

Scientific Name: (Psihaciformes)

Other Name: Psihaciformes

Family Name: Psittacidae

Vernacular Name:

Nupe: Tswarwàngi

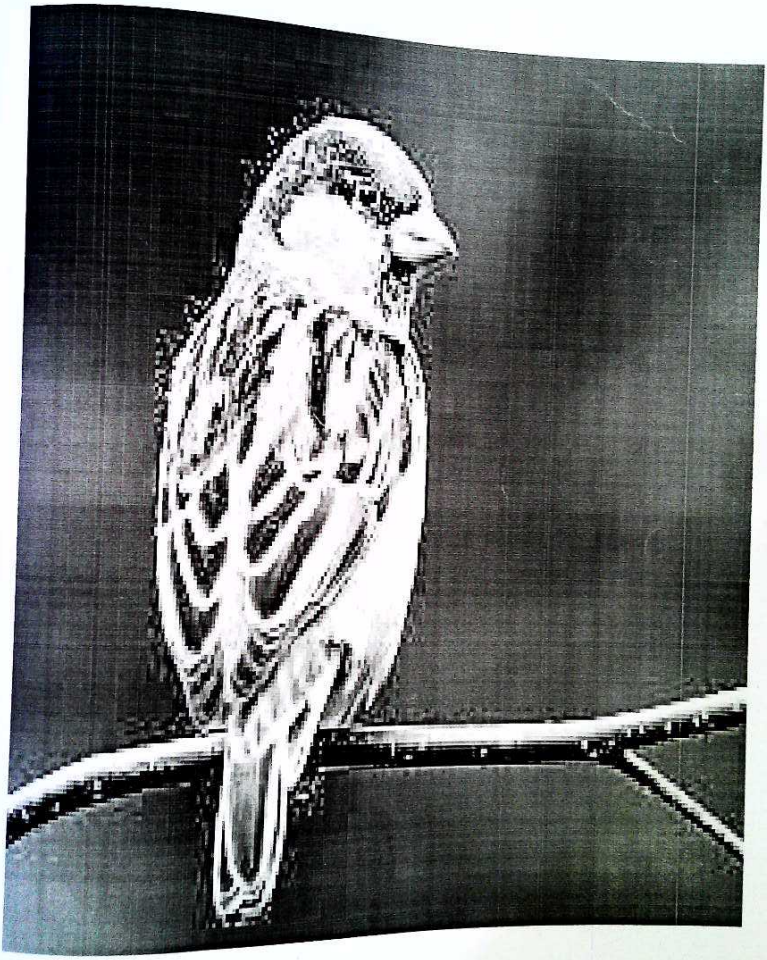
Yoruba: Akukuturu

Hausa: Ayekooto

Economic Importance of Parrot

i. It serve as food for man consumption

ii. It serve as means of study in the laboratory for students practical.



SPARROW

20. **Common Name:** **Sparrows**

Scientific Name: (Passer domesticus)

Other Name: Passerriformes

Family Name: passerridae

Vernacular Name:

Nupe: Egwangi

Yoruba: Gizo

Hausa: Ega

Economic Importance of Sparrows

i. It serves as meat for man consumption.

ii. It serve as means of study in laboratory for students practical.

CHAPTER FIVE

CONCLUSION

5.1 Summary

Species of animal pests are beneficial to man: the cows, goats supplies us with milk and meat and the animal pests such as bee supplies us with honey, the silk worm with one type of scale insect provide us with dye stuff.

Animal pests are beneficial to man either directly or indirectly. In many ways, animal pests helps to pollinates crop which would be deprived of most of our fruits tree. Our water fish feeds on pest animals and also man feed on animal pests such as goats, cows, rabbits, etc. however it is through that they destroy some of our most cherished plants, but they also attack weeds. They are among our most effective allies in the war against animal pests. Above all, they play an important part in maintaining the balance of nature upon which our very existence depends.

Effect of Pest Animal on Human Health

Most of the pest animals that seriously affect man's health belong to the order Dipteral e.g. tsetse fly, carpenter ant, cockroach.

Some other Dipteral species are parasitic on man and other mammals. The common tsetse fly spreads diseases by wailing first over germ and next over human food.

Typhoid fever, dysentery and cholera have been transmitted in this way. Many pest animals irritate us without seriously disturbing our health. We are annoyed by the bite of tsetse flies and destruction of our farm crops by goats, rabbit, rat, etc.

Effect of Pest Animal on Crops

Pest animals are injurious to our agriculture crops, food products, clothing and wooden building and more numerous than those that affect our health, they belong to many order particularly the coleopteran (rice weevil) isopteran (termites) and Lepidoptera (tsetse flies) and animal such as rabbits, goats, cows beside damaging crops by feeding on them, pest animals often transmit

plant diseases. Aphids leaf hoppers and other plant causing certain blight in this manner, such as tsetse fly.

5.2 Recommendations

Twenty species of pest animal where recorded in this study and one has nearly come to know the various effect of pest animals on crops.

Since man must cultivate land for survival and pest animals are almost everywhere on the land area of the earth. Not to be surprising few of species are dangerous to crops healthy. It has been estimate that more than ten percent of animal pests in the world have harmful relationship to crops.

But this relatively small percentage takes a heavy toll in health, lives and possessions.

Finally it is hope that this study would be helpful to students and interested to the public.

5.3 Conclusion

After all the research work, it is clear that pest Animals of farm crops in Niger State College of Education, Minna destroyed a lot of farm crops. However, some of these farm crops also serve as food for man consumption.

Though there are a lot of pest animals of farm crops but students know very little about them, most especially their scientific name, adaptation, method and material used in collecting pests animal and their various classification.

However, the higher occurrence of destruction of crops by pest animals is difficult to completely eradicate them. But this study research has identified the possible instrument and materials used in collecting pest animals, their classification and their economic importance.

REFERENCES

LITERATURE CITED

Ademola S.O (1998) Tropical Zoology Fax book First Edition Publisher V.C University Press Pgs 113-128.

Certificate 2nd Edition Longman Publisher Ltd. Pgs 23-40.

Herbert H.R (1982) Textbook of Entomology 3rd Edition Publisher John Willey and Sons. Pgs 222-231-362.

Lloeje S.O (1991) Practical Biology for Senior Secondary School

Mosby C.VB (1979) Integrated Principle of Zoology Six Edition Library of Congress Cataloging in Publication Data. Pgs 389-393.

Paul B. Weisg (1968) Textbook of Zoology Publisher by Tata M.C Graw Hill. Pgs 354-356-372-380.

Robert B. (1987) Invertebrate Zoology Fifth Edition Publisher by Saunders College. Pgs 588-539-701-712.

Sarajimi T.R (1993) B.Sc (Hons) Ph.d, Modern Biology for Senior Secondary Science series New Edition Africana Feb Publisher Ltd. Pgs 74-76-478-522.