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**6. INTERNATIONAL SYMPOSIUM ON CURRENT DEVELOPMENTS
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September 16-18, 2022 / Malatya, Türkiye

with the paper entitled

NUTRITIONAL VALUE OF INLAND SHELLFISH (CRABS)

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Prof. Dr. Mustafa Tolas
Chairman of The Organizing Board



BILTEK-VI

6. INTERNATIONAL SYMPOSIUM ON CURRENT DEVELOPMENTS IN SCIENCE, TECHNOLOGY AND SOCIAL SCIENCES

September 16-18, 2022
Malatya City Municipality



CONFERENCE PROGRAM

Zoom Meeting ID: 821 8132 3242
Zoom Passcode: 060606

Participant Countries (26):

Türkiye, Pakistan, Vietnam, Nigeria, Indonesia, Kyrgyzstan, Benin, India, Malaysia,
Kazakhstan, Iraq, Azerbaijan, Russia, Indonesia, Iran, Ukraine, Lithuania, Ghana, Morocco,
Tunisia, Algeria, Romania, Kingdom of Saudi Arabia, Burkina Faso, Bulgaria, France

-Opening Ceremony-

Date- 16.09.2022

Ankara Time- 10⁰⁰:10⁴⁵

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Date- 16.09.2022

Ankara Time- 11⁰⁰:12⁰⁰

Miřmiř Parkı, Fuar Alanı Konferans Salonu

Panel Bařlıđı: Gastronomi: Kltr, Turizm ve Őehirlerde Giriřimcilik

Panel Bařkanı: Prof. Dr. Mustafa Talas

Panelistler:

Prof. Dr. Hayati Besirli

Prof. Dr. Ali Yakıcı

Prof. Dr. Kasım Karaman

Prof. Dr. İlkey Őahin

16.09.2022 / Session-1 / Hall-5

Ankara Local Time- 10⁰⁹:12³⁰

Zoom Meeting ID: 821 8132 3242 / Zoom Passcode: 060606

HEAD OF SESSION: Dr. Muhammad SUBANDI

Authors	Affiliation	Presentation title
Olusegun Opeyemi ONI Kingsley Olusola OLURINDE Gabriel Gbenga BABANIYI	Agricultural and Rural Management Training Institute (Nigeria)	PROFILING RURAL AGRIBUSINESSES A CASE OF ARMTI-VADI COMMUNITIES
Dr. Muhammad SUBANDI Muhammad SUBANDI Esty Puri UTAMI Chynlia Indah PRATIWI	UIN Sunan Gunung Djati Bandung (Indonesia)	THE EFFECT OF COW DUNG BOKASHI AND TOFU WASTE ORGANIC LIQUID MANURE ON THE GROWTH AND YIELD OF RED CHILI PLANT (<i>Capsicum annum</i> L.) LINGGA VARIETY
Aneela SHAHEEN Dr. Saira AKHTAR Tehmina IQBAL	University of agriculture Faisalabad (Pakistan)	CERTIFIED SEED ISSUES, PRACTICES AND ADOPTION IN PAKISTAN AND ITS IMPACT ON AGRICULTURAL DEVELOPMENT
Oghenesiwe OSIEBE Prof. Isaac Olusanjo ADEWALE Oladoyin Grace FAMUTIMI Prof. Mutallib Adeniran ADEROGBA	Obafemi Awolowo University (Nigeria)	ISOLATION OF PHYTOCHEMICALS FROM A TRADITIONAL MEDICINAL PLANT (<i>Momordica charantia</i> L) POTENTIALLY USEFUL FOR TMPRSS2 MODULATION FOR THE MANAGEMENT OF VIRAL INFECTIONS
M. Nagalakshmi DEVAMMA	Sri Venkateswara University (India)	IN VITRO INFLUENCE OF BIO-CONTROL AGENTS AGAINST <i>Colletotrichum gloeosporioides</i> CAUSING ANTHRACNOSE OF MANGO (<i>Mangifera indica</i> L.)
Yahaya Abdullahi IBRAHIM Dr. Danladi Bello AL'AMIN	Ahmadu Bello University (Nigeria)	HYDROLOGICAL MODELLING OF GURARA WATERSHED UNDER THE IMPACT OF LAND-USE AND CLIMATE CHANGE
Gideon Yakusak BENJAMIN Paul Isaac OJODALE Danlel MAKOLO	Nuhu Bamalli Polytechnic Zaria (Nigeria) Baze University (Nigeria) Kogi State Polytechnic Lokoja (Nigeria)	ROLE OF HAEMOGLOBINOPATHIES AND DUFFY ANTIGEN RECEPTOR FOR CHEMOKINES (DARC) IN MALARIA
Ogunsola, A. O. Ogunsola T.O.	Oyo State College of Agriculture and Technology (Nigeria)	ASSESSING THE USE OF SOAP OPERA FOR SOURCING ENTERPRISE INFORMATION AMONG ARABLE CROP FARMERS IN OYO STATE
Adama, B. S. Ibrahim S. U. Auta I. Y. Kinta M. Samuel P. O. Saba J. J.	Federal University of Technology (Nigeria)	NUTRITIONAL VALUE OF INLAND SHELLFISH (CRABS)
Jibril IBRAHIM Mariya I. ARAB Zainab K. MUHAMMAD Jaafaru M. SANI	Federal Polytechnic Bauchi (Nigeria) College of Nursing and Midwifery (Nigeria) Kaduna State University (Nigeria)	ARTIFICIAL SWEETENERS IMPAIRED BEHAVIORS AND OXIDATIVE STRESS BIOMARKERS IN <i>DROSOPHILA</i> <i>MELANOGASTER</i>

NUTRITIONAL VALUE OF INLAND SHELLFISH (CRABS)

By

Nutritional Value of Inland Shellfish (Crabs)

By

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ABSTRACT

This study revealed the nutritional status of crab. The sample of freshwater inland crabs was collected and identified as *Afrithelphosa monodosa*. A total of 18 crabs were collected from their burrows by digging at wetlands of permanent site, Federal University of Technology Minna, Gidan Kwano Area in April and June 2021. Crabs were taken to the laboratory of animal biology department, Federal University of Technology Minna, Bosso campus. In the laboratory the crabs were washed to exclude contaminant. The sample morphometric measurement was taken which revealed that carapace width for both samples are between 6.063 ± 0.45 and 5.1800 ± 0.34 . Proximate analysis, Ash, fats, fibres, protein and mineral composition was analysed using standard methods, high Phosphorus content in meat of big and medium crabs recorded are 222.30 ± 9.69 to 204.62 ± 9.69 respectively while there is a least phosphorus content in the small crab which is (188.74 ± 9.69) . High calcium content in meat of big and medium crabs recorded are 60.92 ± 4.88 to 56.26 ± 4.88 , while there is a least calcium content was recorded, a high magnesium content in meat of big and medium crabs recorded were 26.79 ± 0.73 and 24.87 ± 0.73 respectively with least magnesium content in the small crab which is (24.36 ± 0.73) . There is high sodium content in meat of big and medium crabs which are 44.20 ± 0.54 to 44.38 ± 0.54 , high potassium content in meat of big and medium crabs recorded are 59.74 ± 2.04 to 63.35 ± 2.04 . Moisture content recorded ranged from 6.57 ± 0.27 in the big crab to 7.41 ± 0.27 in the medium crab. The mineral composition of *Afrithelphosa monodosa* are Sodium (Na), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg). Phosphorus records the highest value ranging from 222.30 ± 9.69 to 216.40 ± 14.93 . Phosphorus also shows the highest value in all mineral parameters and distantly followed by potassium with the high value 81.35 ± 2.29 . *Afrithelphosa monodosa* is rich in trace element which would be desirable for healthy functioning of the body as good supplements in food of those with health challenge. It could also be used as additives in animal feed production and replacement to fishmeal. The results from this research shows rich mineral sources such as calcium, potassium, magnesium, sodium, phosphorus and also good source of protein and carbohydrates. Hence, vital for human health.

Keywords: Crabs, Shellfish, Mineral, Protein Composition and Wetland

1. Introduction

The interest of the world on fishery products had shifted to shellfish due to their great nutritional value, crabs (crustacean are regarded as shellfish species). Crabs account for about one-fifth or

20g/100g of all the foods obtained from the seas, rivers, lakes, and other aquatic sources (Jimmy and Arazu, 2012). Although, most food sources for humans are provided from land animals, recently crabs have been successfully used as another source of food nutrients especially among coastal dwellers in southern parts of Nigeria. Several studies have indicated that crab is an excellent source of minerals, composed with wide range of polyunsaturated fatty acids and high quality proteins in their tissues, among other healthy components (Oluwole *et al.*, 2020). The importation of crabmeat has increased steadily over the past 20 years, with over 300,000 tons of products worldwide (Dima *et al.*, 2016). The biochemical analysis provides important information for facilitating the fattening, or processing of crabs and crab products (Wan Yusof *et al.*, 2020). One of the many relevant factors that influence the consumption of shellfish such as crab, is the quality of the meats (Moruf *et al.*, 2020). More so, nutritional benefits from fin and shellfishes are limited by its rapidly perishable nature and vulnerability to spoilage (Amuneke *et al.*, 2020). Chemical composition of crabs varies greatly among species and from an individual crab to another, depending on age, sex, size, environment, and season.

Classification

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: Crustacea

Class: Malacostraca

Order: Decapoda

Suborder: Pleocyemata

Infraorder: Brachyura

Crabs are from the order decapoda. There is wide variety of true crabs of more than 5000 species belonging to 700 genera (Moghal *et al.*, 2015). They occur in wide varieties but despite the difference in varieties, they all have the same basic body plan with three body regions (head, thorax and abdomen), the head and thorax are closely joined together or fused to form the cephalothorax. Decapods are omnivorous and act as scavengers, they eat both plant and animal materials. They are found in brackish and fresh waters in Nigeria, they are of great importance to human health due to their richness in essential lipids, proteins, and other nutrients such as minerals, vitamins and omega-3 fatty acid, a daily nutrient requirement recommended by the American Heart Association which helps in brain development and gives protection against stroke and heart diseases (Ayanda *et al.*, 2018). Most crabs show clear sexual dimorphism and so can be easily sexed. The abdomen, which is held recurved under the thorax, is narrow and pencil-like in males. In females, however, the abdomen retains a greater number of pleopods (swimming legs, but also used for brooding the eggs) and is considerably wider. This relates to the carrying of the fertilized eggs by the female crabs (as seen in all pleocyemates). In those species in which no such dimorphism is found, the position of the gonopores must be used instead. In females, these are on the third pereopod (primarily walking legs and are also used for gathering food), or nearby on the sternum in higher crabs. In males, the gonopores are at the base of the fifth pereopods or, in higher crabs, on the sternum nearby.

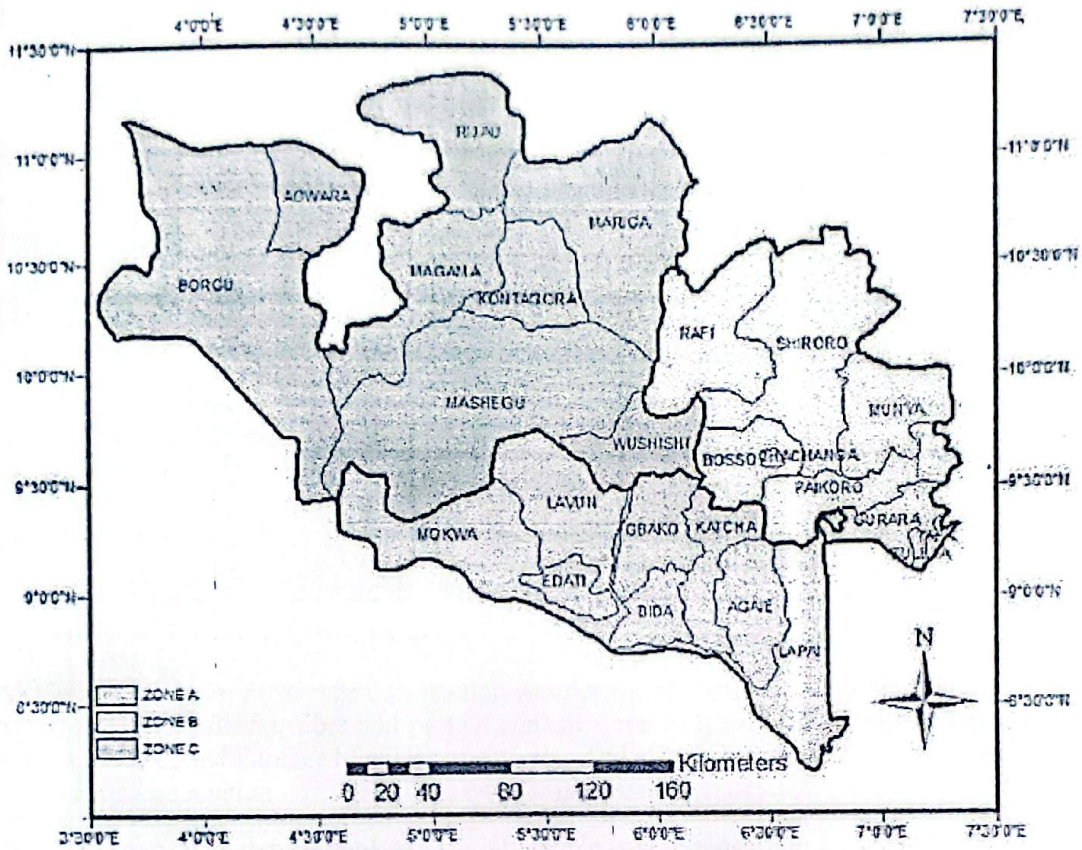
Crabs are omnivores, consuming both animal protein and plants. They feed primarily on algae but take any other food, including mollusks, worms, other crustaceans, fungi, bacteria and detritus, depending on their availability and the crab species (Woods, 1993). For many crabs, a mixed diet of plant and animal matter results in the fastest growth and greatest fitness (Buck *et al.*, 2003).

Statement of Problem of Studies: Crabs are highly nutritious and healthy owing to its protein, essential amino acid, unsaturated fatty acid and minerals content (Adeyeye, 2008). Despite the richness of crab, it is not considered as food in the northern Nigeria such as Minna and environs. **Justification of Studies:** In Northern Nigeria crabs are not considered as food, but are of great nutritional value. Economically people should be made aware of nutritious value of crab which is available in this region. Therefore this study is initiated to show the nutritional composition of crabs.

2. MATERIAL AND METHODS

Study Area and Sample Collection: The site considered in this research is the Federal University of Technology permanent site Gidan Kwano, Minna, Niger State. It is approximately 11,000 hectares in land mass, and located at about 15 km from the city of Minna. It lies within the Latitude 9.5336° N and longitude 6.4492° E.

A total number of 18 crabs were collected from their burrows by digging at wetlands of permanent site, Federal University of Technology Minna, Gidan Kwano Area in April and June 2021. Crabs were taken to the laboratory of Animal Biology Department, Federal University of Technology Minna, Bosso campus. In the laboratory the Crabs were washed to exclude contaminant and identified. The body weights were measured using a Digital scale. The crabs were separated into Big, Medium and Small. And also, the crab were dried in a Hot air oven at 105°C for 6 hours, milled and then taken for proximate and minerals analysis at the laboratory of Water Resources, Aquaculture and Fisheries Technology, Federal University of Technology, Minna Gidan Kwano campus.



Source: Geography Department 2021
 Figure 1: Map of Niger state showing study area

Identification of Crab: The sample Crab harvested was thus identified as *Afrithelphosa monodosa*, using pictorial, diagnostic features as well as morphological and meristic features.

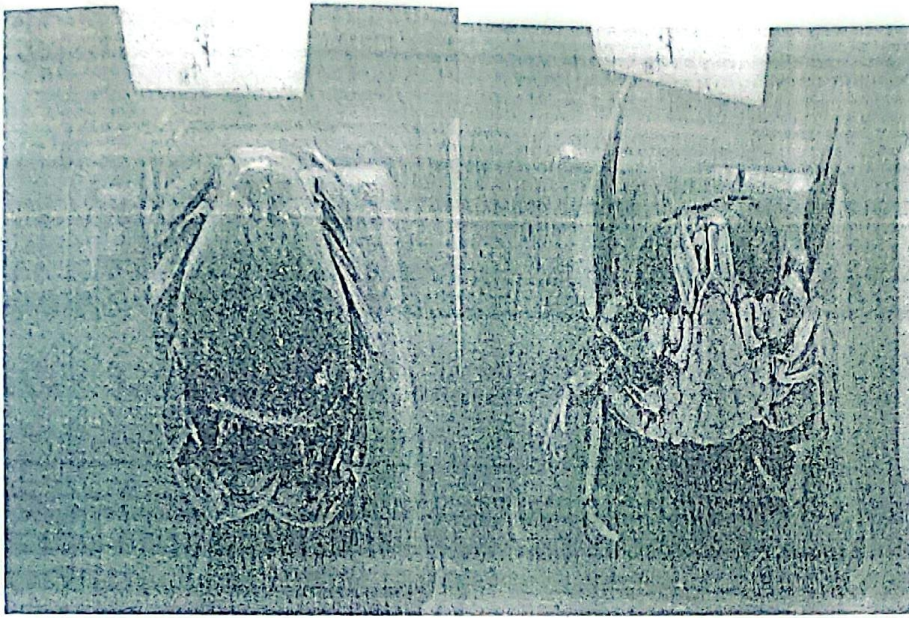


Plate 1: Ventral view of male *Afrithelphosa monodosa*

Plate 5: Dorsal view of *Afrithelphosa monodosa*

Proximate Analysis: Proximate composition was determined using standard procedures (AOAC 2005). Moisture, ash, fat, fibre and protein content were analyzed using the oven method, the Soxhlet Method, and Furnace Method respectively. And also carbohydrate content was estimated by difference calculation.

Determination of moisture content: 10g of sample was weighed into a dry petri dish using a spatula. The weighed sample was loaded into the oven and dried at 105°C for temperature until a constant weight achieved. The sample was removed, cooled and weighed.

Moisture content was calculated as.

Initial weight of sample - weight of dry sample / initial weight of sample x100.

Determination of Ash: 2g of sample was weighed into a crucible and ash in a muffle furnace at about 150°C for three hours. The crucible with its content was removed cooled and weighed. to get the percentage ash contents.

The percentage Ash was calculated as :-

Weight of ash / weight of initial sample x100 = mg/g

Determination of fats: 5g of the sample was taken and introduced into the thimble which it was then corked with cotton wool. 200ml of petroleum ether was poured in the round bottom flask of the soxhlet apparatus and corked with soxhlet chamber. The corked sample in the thimble was introduced into the soxhlet and heated at 40-60°C for three hours after which the extracted sample removed and weighed.

Percentage Fat was calculated as :-

Weight of fresh sample - weight of extracted sample / weight of initial sample x100.

Determination of Fibre: 2g of defatted sample was weighed into a 250ml conical flask, and followed by addition with 200ml 1.25% of H_2SO_4 using a measuring cylinder and boil for 30min on a hot plate, after which it was filtered and the residue poured back into the same conical flask. 200ml of 1.25% of NaOH was added and boil for another 30min and filter. The residue was washed with 10% HCl and later ethanol. The residue was poured into a crucible and dried in the oven and weighed. After the weighing, the crucible and the content were further ash using the furnace at $550^\circ C$ for 30min.

Percentage Crude fibre was calculated as :-

Weight of dry sample- weight of ash sample x100/weight of Sample = mg/g

Determination of Protein: 0.5g of sample was taken and added into the digestion tube where also 20ml of concentrated sulphuric acid was added. One selenium tablet was added as catalyst. The content in the tube was heated at a temperature of $350^\circ C$ for 6 hours until a clear digest was achieved that is a clear solution. This solution was poured into a standard flask and made up to 100ml.

Distillation stage: 10ml of 2% boric acid was taken into a 100ml conical flask and added with three drops of mixed indicator (Bromocresol green and Methyl red) and the color changes to pink which was then placed under the collecting spot. 10ml of the digested sample was pipetted into the open chamber of the makhamps apparatus then followed by 10ml of 40%NaOH. The mixture was force to boil by the steam produced by the boiling water in the flat bottom flask. As the mixtures boil, a gas (ammonia) was evolve and condense by the condenser of the apparatus which was collected inform of liquid into the boric acid. As the ammonia was collected in the boric acid, the solution turn blue.

Titration stage: The distillate collected was titrated using 0.1M HCl until an end point was reached by the color of the distillate changing to pink color which was the initial color of the boric acid and the mixed indicator.

titre value x0.014x molarity of acid xdfx100/ weight of sample

0.014=nitrogen standard.

Mineral Analysis: The samples were digested inserted with HNO_3 at ratio 1:1 for mineral determination. Calcium (Ca), phosphorus (P), magnesium (Mg), sodium (Na) and potassium (K) were then calculated by the Buck Scientific 210 GVP model of the Varian Spectra Atomic Absorption Spectrophotometer (Santoso, 2006).

3. DISCUSSION

Table 1: The average body measurement of Crabs collected in Wetlands of Permanent Site Federal University of Technology in April and June, 2021

Parameters	APRIL	JUNE
Weight (g)	38.250±5.88 ^a	29.6000±5.43 ^a
Carapace Length (cm)	4.837±0.48 ^a	4.0800±0.34 ^a
Carapace Width (cm)	6.063±0.45 ^a	5.1800±0.34 ^a
Total Body Part	16.383±3.73 ^a	12.9533±2.80 ^b

In each row, mean with a common letter are not significantly different ($P>0.05$)

Table 1 shows the morphometric measurement of the crab for both April and June. The result revealed that carapace width for both samples are between 6.063±0.45^a and 5.1800±0.34^a. Also there is significant different between the total body part measurement which is between 16.383±3.73^a to 12.9533±2.80^b. This difference could be due to different in season of collection of the species. There is little or no difference in the weight which is between 38.250±5.88^a to 29.6000±5.43^a. There is no difference between the Carapace Length which is given as 4.837±0.48^a to 4.0800±0.34^a.

Table 2: Proximate properties of Crabs collected in wetlands of permanent site Federal university of technology in April 2021

Sample	% Moist Content	% Ash	% Fat	% Crude Fibre	% Crude Protein	% Carbohydrate
Big	11.70±1.12	43.10±0.85	14.90±0.13	13.85±0.78	20.89±1.68	31.30±3.92
Medium	8.20±1.12 ^a	40.20±0.85 ^a	14.90±0.13	14.64±0.78	20.40±1.68	36.11±3.92
Small	8.50±1.12 ^a	41.10±0.85	15.30±0.13 ^a	12.00±0.78 ^a	15.60±1.68 ^a	44.72±3.92

In Table 2 . The result represents the moisture content ranged from 8.20±1.12^a in the medium crab to 11.70±1.12 in the big crab. Big and medium crabs showed high in crude protein (20.89±1.68 and 20.40±1.68, respectively) ($p>0.05$) and least values in fat (14.90±0.13 to 14.90±0.13, respectively) ($p>0.05$) and carbohydrate (31.30±3.92^a to 36.11±3.92^a, respectively) ($p<0.05$). In contrast, the small crab had the highest in contents of moisture (8.50±1.12^a) carbohydrate (44.72±3.92^a), and fat (15.30±0.13^a), which showed lowest in crude fibre (12.00±0.78^a) and crude protein (15.60±1.68^a)

Table 3: Mineral analysis of crabs collected in Wetlands of Permanent Site Federal University of Technology in April 2021

Sample	P (Mg/100)	Ca (Mg/100)	Mg (Mg/100)	Na (Mg/100)	K (Mg/100)
Big	222.30±9.69	60.92±4.88	26.79±0.73	44.20±0.54	59.74±2.04
Medium	204.62±9.69	56.26±4.88	24.87±0.73	44.38±0.54	63.35±2.04
Small	188.74±9.69	44.50±4.88	24.36±0.73	42.65±0.54	56.28±2.04

In Table 3. There is a high Phosphorus content in meat of big and medium crabs which are 222.30±9.69 to 204.62±9.69 respectively while there is a least phosphorus content in the small crab which is (188.74±9.69). There is a high calcium content in meat of big and medium crabs which are 60.92±4.88 to 56.26±4.88 respectively while there is a least calcium content in the small crab which is (44.50±4.88). There is a high magnesium content in meat of big and medium crabs which are 26.79±0.73 and 24.87±0.73 respectively while there is a least magnesium content in the small crab which is (24.36±0.73). There is a high sodium content in meat of big and medium crabs which are 44.20±0.54 to 44.38±0.54 respectively while there is a least sodium content in the small crab which is (42.65±0.54). There is a high potassium content in meat of big and medium crabs which are 59.74±2.04 to 63.35±2.04 respectively while there is a least potassium content in the small crab which is (56.28±2.04).

Table 4: Proximate Analysis of crabs collected in wetlands of permanent site Federal university of technology in June 2021

Sample	%Moist Content	% Ash	% Fat	%Crude Fibre	%Crude Protein	%Carbohydrate
Big	6.57±0.27	14.81±0.43	8.89±0.93	22.93±1.29	8.89±0.58	33.11±4.00
Medium	7.41±0.27	13.61±0.43	6.93±0.93	22.42±1.29	6.92±0.58	38.05±4.00
Small	7.40±0.27	13.44±0.43	5.69±0.93	18.81±1.29	8.30±0.58	46.80±4.00

The proximate composition of Crabs in Table 4 shows that moisture content ranged from 6.57±0.27 in the big crab to 7.41±0.27 in the medium crab. Small and Big crabs showed highest in crude protein (8.30±0.58 to 8.89±0.58) ($p>0.05$). The small crab showed least values in fat, Ash and percentage Crude fibre (5.69±0.93, 13.44±0.43 and 18.81±1.29) and highest in carbohydrate (46.80±4.00). In contrast, the big and medium crabs had the highest in contents of Ash (14.81±0.43a to 13.61±0.43) ($p>0.05$), fat (8.89±0.93 to 6.93±0.93) ($p<0.05$) and crude fibre (22.93±1.29 to 22.42±1.29) ($p>0.05$). The big and medium crabs showed least in the constituents of carbohydrate (33.11±4.00 to 38.05±4.00) ($p<0.05$)

Table 5: Mineral Analysis of Crabs collected in Wetlands of Permanent Site Federal University of Technology in June 2021

Sample	P (Mg/100)	Ca (Mg/100)	Mg (Mg/100)	Na (Mg/100)	K (Mg/100)
Big	216.40±14.93	72.44±11.04	35.72±3.79	44.28±2.69	81.35±2.29
Medium	188.62±14.93	65.45±11.04	30.40±3.79	41.75±2.69	74.58±2.29
Small	164.70±14.93	36.38±11.04	22.65±3.79	35.22±2.69	74.36±2.29

In Table 5 there is a high Phosphorus content in meat of big and medium crabs which are 216.40±14.93 to 188.62±14.93 respectively while there is a least phosphorus content in the small crab which is (164.70±14.93). There is high calcium content in meat of big and medium crabs which are 72.44±11.04 to 65.45±11.04 respectively while there is a least calcium content in the small crab which is (36.38±11.04). There is high magnesium content in meat of big and medium crabs which are 35.72±3.79 to 30.40±3.79 respectively while there is a least magnesium content in the small crab which is (22.65±3.79). There is high sodium content in meat of big and medium crabs which are 44.28±2.69 to 41.75±2.69 respectively while there is least sodium content in the small crab which is (35.22±2.69). There is high potassium content in meat of big and medium crabs which are 81.35±2.29 to 74.58±2.29 respectively while there is least potassium content in the small crab which is (74.36±2.29).

4. Discussion

Proximate composition: The high crude protein value 20.89±1.68 agree with 20.12±0.01 as reported in *Callinectes amincola* by Jimmy and Arazu (2012) in Cross River State, Nigeria. Protein content in *Callinectes amincola* can supply protein and energy in diet and it is essential for growth and body defense. This study shows that there is high moisture content in *Afrithelphosa monodosa* 11.70±1.12 agrees with 11.14±0.02 as reported in the male exoskeleton of *Sudanonautes africanus* by Omotayo *et al.*, (2014) in Ifaki-Ekiti, Ekiti State, Nigeria. This may be an advantage as regard to the shell-life of the crab meat. The Ash content of species is an indication of mineral content in the organism. The high value 42.10±0.85 agrees with value of 42.23± 0.02 reported of *Cardisoma armatum* and by Omotoso, (2005) in Ado-Ekiti, Ekiti State, Nigeria. The Ash content determines mineral content of these species. The high 14.64±0.78 disagree with 2.31±0.01 in female flesh of *Sudanonautes africanus* by Omotayo *et al.*, (2014) in Ifaki-Ekiti, Ekiti State, Nigeria. Fibre is known for the absorption of water as well as in the provision of assistance food miller during transit in the alimentary system krzynowek *et al.*, (1982). Carbohydrates high value 46.80±4.00 disagree with the value obtained on crab *Callinectes pallidus* 6±0 as reported by Bello *et al.*, (2021) from Badagry Creek, Lagos, Nigeria. The implication of the value of carbohydrates on crab is that the flesh of trace of glucose, fructose, sucrose and other mono and disaccharides. The high Fat content recorded in this study 28.98±0 disagree with the value obtained on crab *Cardisoma armatum* 5.35±0.01 by Omotoso (2005) in Ado-Ekiti, Ekiti State, Nigeria. Fats are known to be essential in the diet as they increase palatability of foods by absorbing and retaining their flavors. It helps in transportation of nutritionally essential fat-soluble vitamins.

The mineral composition of *Afrithelphosa monodosa* are Sodium (Na), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg). Phosphorus records the Highest value ranging from 222.30±9.69 to 216.40±14.93. Phosphorus also shows the Highest value in all mineral parameters and distantly followed by potassium with the high vital 81.35±2.29

Afrithelphosa monodosa is rich in trace element which would be desirable for healthy functioning of the body as good supplements in food of those with health challenge. It could also be use as additives in animal feed production and replacement to fishmeal.

Conclusion: *Afrithelphosa monodosa* collected from Federal University of Technology Permanent Site Gidan Kwano Area is rich in mineral sources such as calcium, potassium, magnesium, sodium, phosphorus and also good source of protein and carbohydrates. Sodium is a vital mineral that act as the main monovalent ion of extracellular fluids constituting 93% of the ions (bases) found in the blood. The present study revealed that *Afrithelphosa monodosa* collected from Federal University of Technology Permanent Site Gidan Kwano Area can provide good sources of protein at different levels, therefore, they can be used as substitutes for meat. Mineral components are needed for human nutrition.

5. **Recommendation:** More research should be conducted on the nutritional component of other species of Crabs.

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