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Nutritional analysis of *Astacoides parastacoidea* and *Macrobrachium rosenbergi* obtained in Ishiet Uruan, Akwa Ibom State.

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ABSTRACT: *Astacoides parastacoidea* and *Macrobrachium rosenbergi* are the major species of crayfish consumed in Akwa Ibom state and it is mostly gotten from Ishiet in Uruan LGA of Akwa Ibom state which prompted the conducting of this research to ascertain their nutrient content based on proximate analysis using standard analytical method. The results for these species of crayfish respectively are as follows : moisture content of 88.08 % and 63.00 %, ash content of 0.30 % and 0.30 %, crude fibre of 1.2 % and 1.55 %, crude protein 8.06 % and 9.65 %, crude fat 1.25% and 1.5 %, carbohydrate 1.4 % and 25.28% and a high calorific value of 48.73 Kcal and 152.32Kca. These shows they are very nutritious.

Keywords: Crayfish, proximate analysis, nutritious, species.

INTRODUCTION

Crayfish is among the most popular sea foods consumed by the people living in the coastal region of Nigeria [1]. This is why proximate analysis was done to estimate the amount of protein, lipid, ash, carbohydrate, fibre and moisture in these species to ascertain the nutritional content. Food is defined as any substance in which when taken into the body gives the energy, materials for growth and repairs of worn part [2]. Food is known to contain the following chemical composition, carbohydrate, protein, fat and oil (lipid), water, vitamins and minerals. Hence, these six constitute the proximate composition of any food in which crayfish is among [2]. Sea foods are beloved delicacies, rich in nutrient and helps in

the reduction of common diseases [3]. Some of the health benefits of sea foods include providing essential nutrients, promoting heart health, maintaining good eyesight, boosts brain power, fight against depression, reduces preterm delivery in pregnant women and improves immune function Andrew et al 2016. Globally, seafood provides more protein than cattle, sheep or poultry [4]. It is however dangerous to eat some of the sea foods raw and some of the dangers include hygiene concerns, exposes body to salmonella, can induce non pulmonary tuberculosis and can cause gastrointestinal issues [5].

MATERIALS AND METHOD

SAMPLING AND SAMPLE PREPARATION

Fresh samples of *Astacoides parastacoidea* and *Macrobrachium rosenbergii* were collected from Ishiet Uruan beach in Akwa Ibom state and were identified in the department of fisheries and aquaculture, University of Uyo. It was dried at 40°C for 45 hours to attain a constant weight, then ground into powdered form and stored in airtight container.

PROXIMATE ANALYSIS

Proximate analysis of the sample was carried out according to the standard methods as recommended by the Association of Official Analytical Chemist [6].

RESULTS AND DISCUSSION

TABLE 1: PROXIMATE COMPOSITION (%) OF *Astacoides parastacoidea* and *Macrobrachium rosenbergii* obtained in Ishiet Uruan, Akwa Ibom State.

Parameters	samples	
	<i>Astacoides parastacoidea</i>	<i>Macrobrachium rosenbergii</i>
Moisture	88.08	63.00
Ash	0.30	0.30
Crude fibre	1.2	1.55
Crude protein	8.06	9.65
Crude fat	1.25	1.5
Carbohydrate	1.4	25.28
Calorific value (Kcal)	48.73	152.32

The proximate composition of the crayfish species presented in table 1 shows that these crayfish species in has high moisture content of 88.08 % and 63.00 % when compared to $10.33 \pm 0.29\%$ reported by [7]. The ash content of 0.3 percent obtained from each of the sample were lower than that obtained by [7] but similar to that obtained by [8] for *Procambarus clarkii*. These might be due to the fact that Ahmad et al was not working on particular specie of crayfish but on a combination of species since it was gotten from the market. The value of crude fibre was found to be 1.2 and 1.55 % respectively similar to that reported by [7]. The crude protein of 8.06 and 9.65 % was obtained in this work which is lower than 13.88% reported by [8].The value of crude fat of 1.25 % and 1.5 % obtained in this work was lower than 3.83 ± 0.76 reported by [7] but similar to that reported by [8] for *Procambarus clarkii*. Carbohydrate content was higher in *Macrobrachium rosenbergi* than in *Astacoides parastacoidea*. Both species has a very high calorific value of 48.73 Kcal and 152.32 Kcal. These peculiar parameters are likely location and species dependent.

CON CLUSIO N

The two species of crayfish analyzed contains appreciable levels of proximate composition which provides essential nutrients, promote heart health, maintaining good eyesight, boosts brain power, fight against depression, reduces preterm delivery in pregnant women and improves immune function. It consumption may not pose any possible health hazard at the time of the study.

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