JOURNAL OF FOOD PROCESSING TECHNOLOGY

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The abstract should be informative and completely self-explanatory, briefly present the topic, state the scope of the experiments, indicate significant data, and point out major findings and conclusions. The Abstract should be 200 to 300 words in length. Complete sentences, active verbs, and the third person should be used, and the abstract should be written in the past tense. Standard nomenclature should be used and abbreviations should be avoided. No literature should be cited.

Following the abstract, about 3 to 10 **key words** that will provide indexing references should be listed.

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The introduction must be a clear and concise statement of the problem in simple and unambiguous terms. In this section authors should also clearly state the objectives of the work being presented. Relevant literature on the subject, and the proposed approach or solution should be indicated and be comprehensible.

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Materials and methods should be complete enough to allow experiments to be reproduced accurately. However, only truly new procedures/protocols should be described in detail; previously published procedures should be cited, and important modifications of published procedures should be mentioned briefly. Capitalize trade names and include the manufacturer's name and address. Use subheadings where necessary to improve clarity.

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Results should be presented with clarity and precision. The results should be written in the past tense when describing findings in the authors' experiments. Results should be explained, but largely without referring to the literature.

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The discussion should interpret the results in view of the findings obtained in this and in past studies on studied topic. The Results and Discussion sections can include subheadings, and when appropriate, both sections can be combined.

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Sample Article

Mopane Worm (*Gonimbrasia belina*) Utilisation, a Potential Source of Protein in Fortified Blended Foods in Gwanda, Zimbabwe [Times New Roman, size 12, Bold]

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Abstract [Times New Roman, Size 12, Bold, 1.5 spacing]

Primarily, Mopane worm (*G. belina*) forms a major part of the most consumed and highly nutritious (protein averages 55.41%) insect in Zimbabwe. The insect offers a great potential source of protein that could be utilised to alleviate diet deficiencies diseases among most vulnerable groups in society. The insect could form a foundation for new food products that are based on its substantial nutritive value. The paper reviews nutritional potential of *G. belina* to the human diet through its use in fortified blended foods (FBFs) formulations, making it an alternative substitute for conventional sources of protein, such as soybean, common bean and nuts. **[Times New Roman, Size 12, 1.5 spacing]**

Introduction [Times New Roman, Size 12, Bold 1.5 spacing]

Entomophagy is regarded as a practice of eating insects as food (Srivasatva and Naresh Badu, 2009; Gahukar,2011). FAO/WHO (2013) estimated that, nearly 1,900 insect species has shown to be edible worldwide, mainly in developing countries such as Zimbabwe (Glew *et al.*,1999; Ghazoul, 2006; Dube and Dube, 2010). Guhukar (2011) considered, edible insects as natural renewable resource of food that provides nutritional, economic and ecological benefits to the communities. According to Dube and Dube (2010), *G.belina* is the most consumed insect in most communities of Zimbabwe in both rural and urban settlements constituting parts of the traditional diets. As a global obligation, the Food and Agriculture Organization (FAO, 2010a; FAO., 2010b) of the United Nations initiated a policy and recommended programs that will use insects as a source of protein to feed people.Several authors confirmed that, insects are nutritious food that provide proteins (amino acids including methionine, cysteine, lysine, and threonine), carbohydrates, fats, some minerals and vitamins, and have high energy value (Capinera, 2004; Johnson, 2010; Xiaoming *et al.*, 2010). For instance caterpillars to which *G. belina* belongs, contain proteins to the extent of 50–60 g/100g dry weight. In addition insects proteins are highly digestible (between 77% and 98%) (Ramos-Elorduy, 1997a), although presence of chitin lowers their digestibility, but its removal greatly increases the quality of insect protein (DeFoliart, 1997). **[Times New Roman, Size 12, 1.5 spacing]**

Methodology

Site and sample selection **[Times New Roman, Size 12, 1.5 spacing]**

This study was conducted in Samlodi ward of Gwanda district located in the South Western part of Zimbabwe, which is one of the biggest sources of the MW. A total of 15 women were selected to conduct the harvesting and processing of MWs. The selection was done following community consultations for people involved in MW harvesting, processing and trade. Harvesting and processing of MWs was done on 5 separate days during the April-May season in they will be abundant. Approximately 28kg of fresh MW were harvested at various points confined to an area of 3km2. The harvested MWs were divided into 2 equal portions and degutted at the harvesting site either using a) bare hands and b) by personnel wearing vinyl reusable hand gloves. The MWs was put in different plastic buckets and degutted within 4 hours of harvesting before drying. **[Times New Roman, Size 12, 1.5 spacing]**

Tables [Times New Roman, Size 12, Bold, 1.5 spacing]

Table 1. Nutritional value of commonly used food aid commodities (FBFs)

Food commodity (100-200g)	Key ingredients	Energy (kcal)	Protein (g)	Fat (g)
Super cereal plus	Corn/wheat/rice soya, milk powder, sugar, oil, Vitamins &Minerals	394-787 kcal	16-33g (17%)	20g (23%) contains EFA
Super Cereal	Corn/wheat/rice soya, Vitamins & Minerals	376-752 kcal	15-31g (16%)	8-16g (19%)

Source: (WFP., 2013) Specialized Nutritious Foods Sheet

Table 6. Mopane worm (*G. belina*) nutritional composition

Contents	*Mean value
Crude protein (%)	55.41
Digestible protein (%)	53.3
Carbohydrate (%)	8.16
Ash %	8.26
Neutral detergent Fibre %	27.8
Acid Detergent fibre %	16
Acid detergent Lignin	5.2
Acid Detergent Insoluble Nitrogen (%)	0.9
Fat (%)	16.37
Potassium (mg/g)	35.2
Calcium (mg/g)	16.0
Phosphorus (mg/g)	14.7
Magnesium (mg/g)	4.1
Iron (mg/g)	12.7
Zinc (mg/g)	1.9
Sodium (mg/g)	33.3

*Mean value calculated from various sources
Source: (Dreyer and Wehmeyer, 1982; Illgner and Nel, 200 Gardiner, 2003; Gardiner, 2005; Madibela et al., 2009; Moreki et a. 2012; Simone et al., 2013)

Figure [Times New Roman, Size 12, Bold, 1.5 spacing]

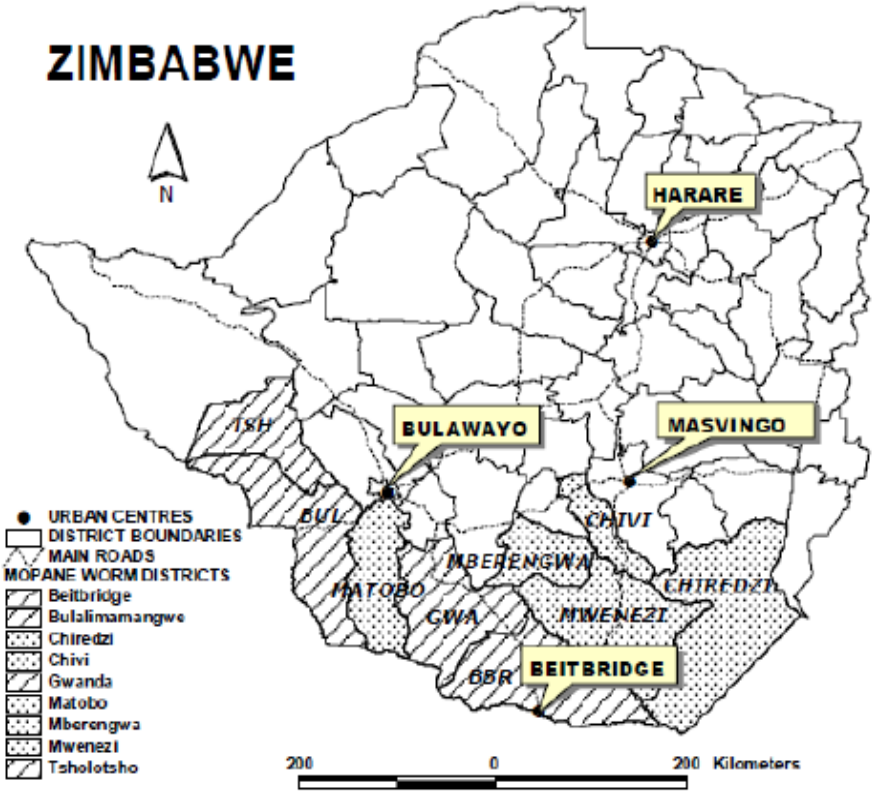

Figure 1. *G.belina* distribution in Zimbabwe by district

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