



# Community Perceptions, Practices and Knowledge of Insects for Food in Kenya: A Case of Saturniidae



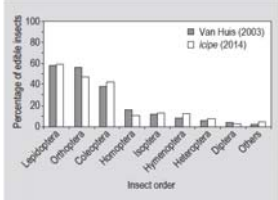
Elizabeth Kusia<sup>1,2</sup>, Sevgan Subramanian<sup>1</sup>, Christian Borgemeister<sup>2</sup>

<sup>1</sup>International Centre of Insect Physiology and Ecology (icipe), Nairobi, Kenya

<sup>2</sup>University of Bonn, Center for Development Research (ZEF), Bonn, Germany

ekusia@icipe.org

## 1. Introduction



Taxonomic groups of edible insects in Africa (Kelemu et al., 2015)<sup>1</sup>

- >2 billion people in the world consume >1900 insect species
- In Africa, insects from the order Lepidoptera are the most popular for food<sup>1</sup>
- >10 insect species consumed in Kenya, including saturniids<sup>2</sup>.

## 2. Importance to the field



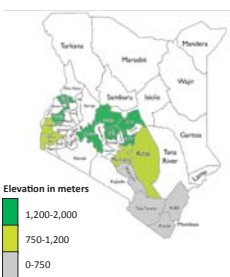
A bowl of delicious saturniid worms (*Gonimbrasia zambesina*)

- >7% of Kenyans are food insecure with 0.3 million children malnourished<sup>3</sup>
- Insects are rich in proteins, fats and minerals with low environmental impact<sup>4</sup>
- Scanty information on the extent of consumption, perception and knowledge on edible saturniids in Kenya.

## 3. Aim

To understand community perceptions, knowledge and consumption of saturniids in Kenya.

## 4. Methodology



- Survey done in 14 Kenyan counties; Homabay, Siaya, Kakamega, Vihiga, Trans-Nzoia, Kilifi, Kwale, Machakos, Kitui, Nyeri, Meru, Taita, Makueni, and Laikipia
- Semi-structured questionnaires were used
- Data were analysed quantitatively

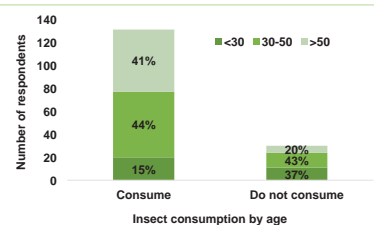
## 5. Results and discussion

Participants: 161; age: 18–85 yrs; gender: 65 male, 96 female

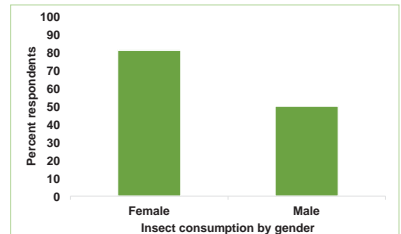


Saturniid species present in the areas surveyed and consumed in Kilifi were *G. zambesina*, *B. alcinoe* and *C. forda*.

## 5. Results and discussion (cont'd)



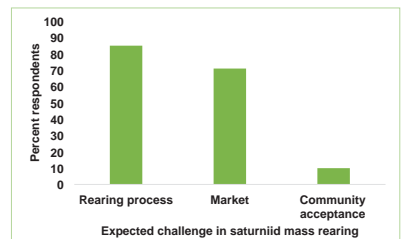
Consumption of insects among participants of the study as influenced by age



Consumption of insects among the participants of the study as influenced by gender

Insect group	Consumption (%)	Region of consumption
Termites	88	All over Kenya
Grasshoppers	28	All over Kenya
Saturniids	8.3	Kilifi
Crickets	6.8	Kwale, Siaya, Homabay
Compost grubs	3	Vihiga, Kakamega
Lakeflies	1.5	Siaya, Homabay

Termites were the most popular and lakeflies the least. Saturniids are consumed by approx. 8% of the respondents.



Challenges for rearing saturniids include rearing process, market availability, and community acceptance.

- >70% of respondents were willing to rear saturniids if trained
- 90% willing to rear saturniids cited income as their motivation
- <10% of respondents were willing to rear them for consumption
- 25% of respondents who do not consume saturniids were willing to consume if taught how to cook them and informed on the nutritional benefits.

## 6. Conclusion and recommendations

- While saturniids offer a great source of nutrients, the study showed that the main motivation for respondents to rear saturniids was to generate income
- Awareness on the nutritional benefits of consuming saturniids is required
- Feasibility of mass rearing and opportunities for trade are critical to mainstream saturniids among the edible insects in Kenya.

## 7. References

- Kelemu, S. et al., 2015. *Journal of Insects as Food and Feed* 1(2), 103–119.
- [www.greainsect.ku.dk](http://www.greainsect.ku.dk)
- <http://www1.wfp.org/countries/kenya>
- Van Huis, A. et al., 2013. *FAO Forestry Paper 171*. FAO, Rome, Italy.

**Acknowledgement:** We gratefully acknowledge the financial support for this research by the following organisations and agencies: German Federal Ministry for Economic Cooperation and Development (BMZ) and icipe core funding provided by UK Aid from the UK Government, Swedish International Development Cooperation Agency (Sida), Swiss Agency for Development and Cooperation (SDC), and the Kenyan Government. EK is supported by BMZ/GIZ, grant number 81194993.



International Centre of Insect Physiology and Ecology (icipe)  
P.O. Box 30772-00100, Nairobi, Kenya  
Tel: +254 (20) 8632000.  
E-mail: [icipe@icipe.org](mailto:icipe@icipe.org)

