



Opportunities and hurdles relating to full exploitation of edible caterpillars in Africa.



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1. INTRODUCTION



Caterpillars for sale at Zigida Market, Kinshasa, DRC
Photo Courtesy: BBC

- Caterpillar consumption is popular in sub Saharan Africa
- Main families consumed; *Saturniidae*, *Notodontidae*, *Noctuidae* and *Sphingidae* (8)
- They are rich in proteins, vitamins, oils, minerals (9)
- They are a source of income for rural communities (2,7)
- Several challenges lead to underexploitation of edible caterpillars in subsaharan Africa

2. AIM

To highlight opportunities, challenges and possible channels to maximise the utilization of edible caterpillars in Africa

3. METHODS

This is a review of available literature. Averages of nutrient composition of edible saturniid were calculated.



4. NUTRIENT COMPOSITION OF SELECT EDIBLE CATERPILLARS

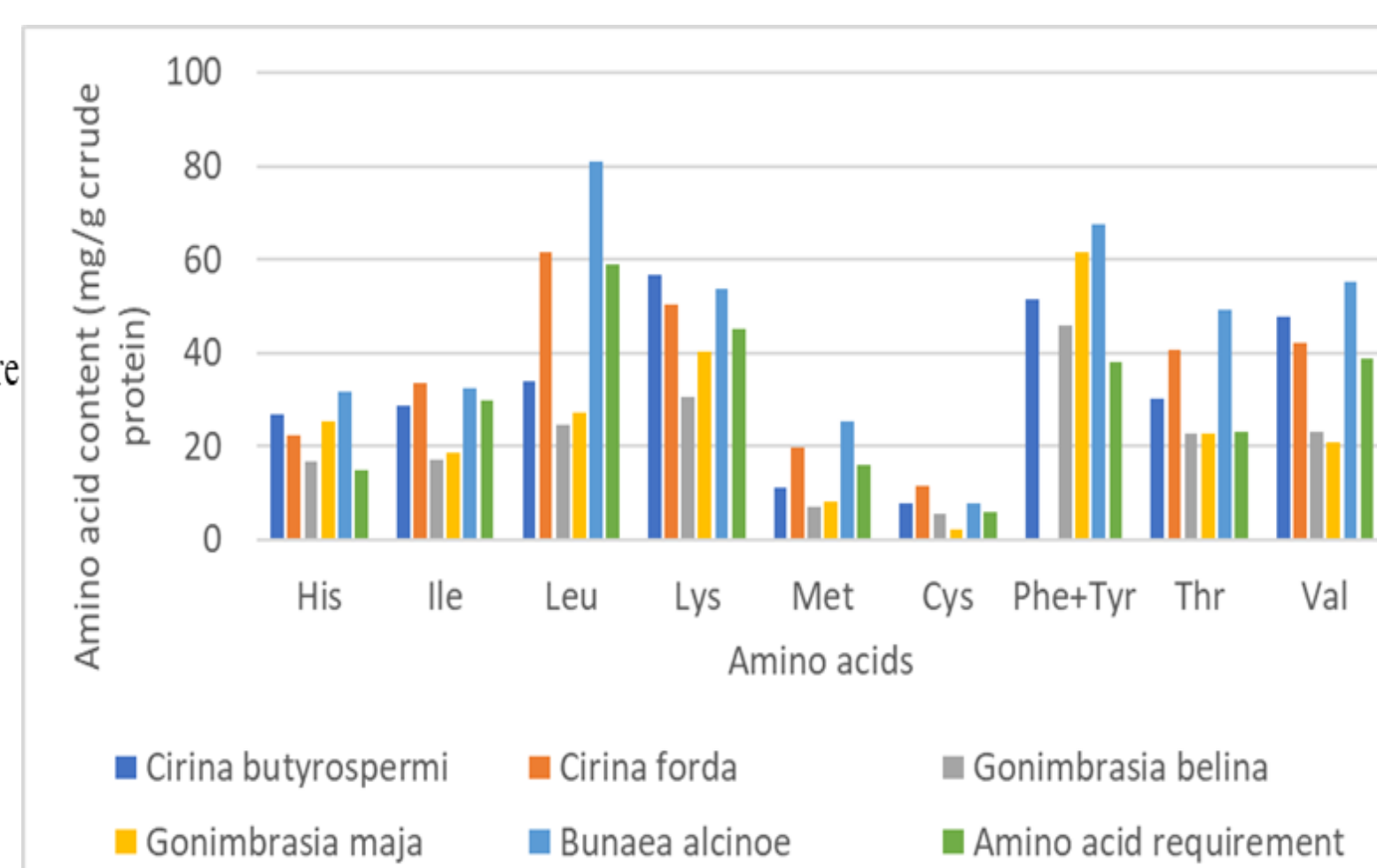
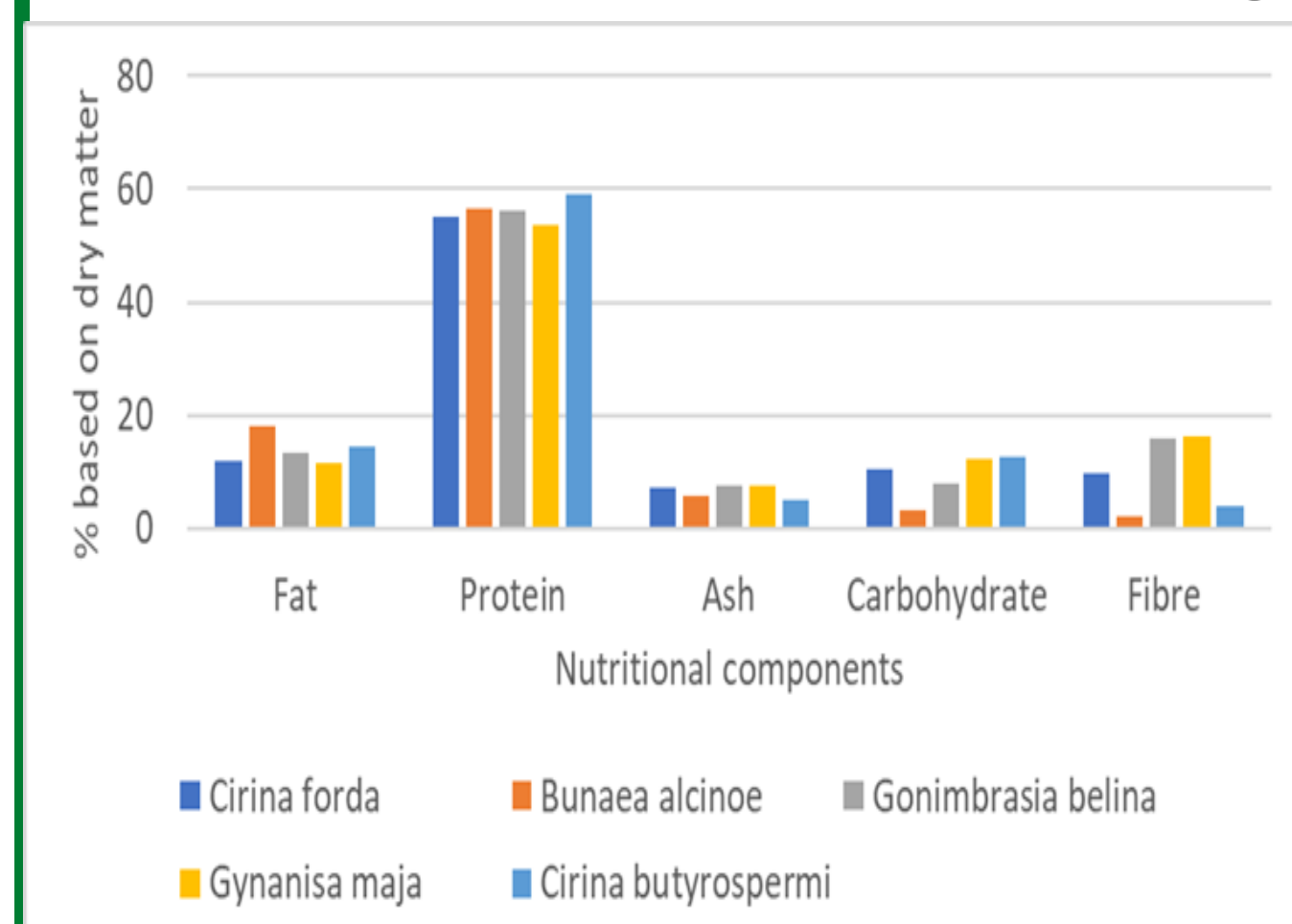


Figure 2. Mean essential amino acid contents [mg/g crude protein] of edible saturniids from literature compared to amino acid requirements for adults (mg/g protein) (WHO 2007)

9. REFERENCES

- Badanaro et al., 2014
- Latham, 2015
- Maboussy et al., 2016
- Ngute et al., 2020
- Odebiyi et al., 2011
- Simpanya., 2000
- Thomas, 2013
- Van Huis, 2003
- Yapo et al., 2017



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5. CHALLENGES

- Habitat destruction- logging and deforestation (4)
- Overharvesting (4)
- Food safety concerns(6)
- Tedious and time consuming collection and processing methods
- Poor storage methods leading to post-harvest losses and contamination
- Poor/lack of policies governing utilization of edible caterpillars

6. CURRENT INTERVENTIONS



Aleiodes trifasciatus – a larval parasitoid of *Gonimbrasia zambesina*



Gonimbrasia cocaulti feeding on *Vachellia tortilis*

- Identification and characterization of edible caterpillars and their food plants (2)
- Nutritional profiling
- Understanding life cycle, seasonality and distribution
- Documentation of traditional knowledge regarding edible caterpillars (3)
- Value chain documented in some countries (1)
- Attempts to produce edible saturniid caterpillars in captivity (2)
- Identification of biotic factors affecting edible caterpillar populations e.g. parasitoids and pathogens (5)

7. RECOMMENDED FUTURE INTERVENTIONS

- Push for laws to govern wild harvesting
- Community involvement in protecting habitats
- Mass rearing to ensure continuous supply
- Improved collection and processing methods
- Gender mainstreaming
- Addressing food safety concerns- developing a standard for safety
- Value addition



A cage set-up experiment for rearing *Gonimbrasia zambesina* in captivity

8. CONCLUSION

Edible caterpillars are an important natural resource that is slowly depleting. Sustainable exploitation and conservation is necessary.

ACKNOWLEDGEMENT: The authors gratefully acknowledge the financial support for this research by the following organizations and agencies: : German Federal Ministry for Economic Cooperation and Development (BMZ); grant number 81194993. UK's Foreign, Commonwealth & Development Office (FCDO); the Swedish International Development Cooperation Agency (Sida); the Swiss Agency for Development and Cooperation (SDC); the Federal Democratic Republic of Ethiopia; and the Government of the Republic of Kenya. The views expressed herein do not necessarily reflect the official opinion of the donors.

EK is supported by BMZ/GIZ, grant



Sida



Swiss Agency for Development and Cooperation SDC

BMZ

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung



Foreign, Commonwealth & Development Office



Federal Democratic Republic of Ethiopia



Government of Kenya



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