HEALTHYNSECT BRIEF #2

PRODUCTION AND CONSUMPTION OF EDIBLE GRASSHOPPER IN UGANDA

GRASSHOPPER '*RUSPOLIA*' - A VALUED FOOD IN UGANDA

The edible grasshopper, *Ruspolia differens* (hereinafter Ruspolia), is a widely known and appreciated edible insect for consumption in Uganda (1). In East Africa, it is also commonly referred to as the African edible bush-cricket or long-horned grasshopper (2). Ruspolia is one of the most abundant and valuable insects commonly collected and consumed in Uganda, with preferences varying by geographical area and ethnic group (1, 3, 4).

Like other edible insects, Ruspolia is a valuable source of protein. In addition, when foraging on native plants, Ruspolia is a valuable source of essential fatty acids (6). Ruspolia is traditionally consumed roasted, after removing the wings, as a delicacy. Experimentally, Ruspolia has been dried and powdered into a protein-rich flour which can be used to nutritionally enhance porridge for children (7). However, over the past decade, the Ruspolia population has declined, likely caused by overexploitation and agricultural intensification.

Picture: The freshly harvested *Ruspolia* (right) turned into a roasted dish (left)

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ADVANCING *RUSPOLIA* FARMING IN UGANDA

The declining wild harvest has motivated exploration of farming Ruspolia, with potential to boost employment and income, and ensure nutritional security. Research supporting the domestication - turning Ruspolia into a form of 'mini livestock' suited for farming - is progressing, though the information about optimal and standardization of rearing techniques remains scattered (2). The HEALTHYNSECT project (see Fact box 1) addressed these challenges by engaging more than 1000 small-scale farmer in Mityana district in a research-based training intervention (8). Farmers without previous experience in insect farming were invited for training, provided with a basic rearing kit, connected to a network of farmers, and some also receiving educational sessions on the nutritional benefits of Ruspolia.

Picture: Farmers training in Mityana in 2023

FARMING RUSPOLIA IN PRACTICE

After a year, 56% of the farmers were still engaged in farming, while the remaining farmers had stopped farming for various reasons. Overall, the farmers were highly motivated and interested in Ruspolia farming. The key challenges were technical, such as successful eggs hatching, feed, maintaining the optimal environment, and avoiding predators entering the cages. The technical challenges are addressed in research at Makerere University. The optimal procedure for Ruspolia to mate, lay eggs and grow a new generation was established (2, 9, 10, 11). In short, *Ruspolia* thrive on a diversified plant diet, and low-value agriculture by-products can be turned into feed, if mixed the right way, for example germinated finger millet mixed with dried maize cob (9), brew waste (11) or oil seed cakes (11). In the rearing cage, a suitable structure for egg laying is required for the successful reproduction of the next generation Ruspolia (2)

THE HEALTHYNSECT PROJECT

- The HEALTHYNSECT project brings together research partners from Ghana, Uganda, Kenya, and Denmark with the aim of accelerating rural insect farming for food and nutrition in Africa.
- The project is supported by Danida, Ministry of Foreign Affairs, Denmark (grant 19-06-KU, 2020–2024).
- Insects are increasingly recognized as alternative food sources through scalable farming practices. Small-scale household farming has the potential to improve food security, nutrition, and livelihoods by generating jobs and income.
- Ghana, Uganda, and Kenya are at the forefront of emerging insect farming innovations.
- HEALTHYNSECT aims to fill critical knowledge gaps in understanding drivers and barriers for insect production and consumption by conducting cutting-edge research in drivers, barriers and impacts of farming crickets in Kenya, grasshoppers in Uganda, and palm weevil larvae in Ghana.
- We investigated incentives for insect farming by providing farmers with start-up kits and training, and by promoting insect consumption by educating caregivers of young children about the nutritional benefits of insects.

Project link: HEALTHYNSECT

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