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“Filling gaps and removing traps
for sustainable resource management”

Which Edible Insects Can Be Found in the Amoron'i Mania Region of Madagascar?

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Abstract

In Madagascar, researchers have been studying the practice of insect consumption or entomophagy for only about a decade. In 2015, Randrianandrasana and Berenbaum mentioned that 53 species of edible insects were identified. According to a preliminary study in 2018, by a research team of the ProciNut project in the Amoron'i Mania region (central highlands), the local population ate insects especially during the rainy season when insects are abundant. That time of the year, food shortages can occur. However, aside from investigating which edible insects are known to the local population, the preliminary study could not determine which edible insects are naturally occurring. Therefore, an entomological inventory was carried out to check the presence of edible insects in the area. A standard method was used for sampling. Insects were collected along linear transects from each stratum of the forest (herbaceous, shrub, and tree level). Insects were actively caught using Japanese umbrella, filleting net, butterfly net, and Malaise trap. Where possible, the identification of captured insects was made in the field, using specific determinations or insect reference collection. As a result, we captured five orders and fifteen insect families in the study site. Coleoptera and Lepidoptera are the most common orders with seven and five families found, respectively. We identified two orders of edible insects: the Lepidoptera, wild silk worm, *Borocera cajani* in the shrub layer and in the Orthoptera order, two locust species, *Cyrtacanthacris tatarica* and *Gastrimargus africanus* on the herbaceous layer consisting mainly of grasses. These locust species are not pests of crops. The results acquired serve as basis for further research: The host plants from which insects were collected will be tested as food sources in feeding trials to assess the suitability of the collected species for farm based rearing. The number of generations per year that can be produced will determine the species potential for rearing.

Keywords: *Borocera cajani*, *Cyrtacanthacris tatarica*, entomophagy, *Gastrimargus africanus* or *africanos*, insect rearing