

EVALUATION OF NUTRIENT COMPOSITION OF COMMON INVERTEBRATE FEEDERS FED DIFFERENT SUPPLEMENTAL DIETS

La'Toya V. Latney, DVM,^{1} Barbara D. Toddes,² Nicole R. Wyre, DVM, DABVP (Avian),¹ Dorothy C. Brown, DVM, MSCE, DACVS,¹ Jeleen A. Briscoe, VMD, DABVP (Avian)¹*

¹*Department of Clinical Studies—Philadelphia, University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA 19104 USA; ²Philadelphia Zoo, Philadelphia, PA 19104 USA*

Abstract

While the complete nutrient composition of invertebrates commonly fed to insectivorous animals has been studied,^{3,5,6,13,23} research evaluating the differences among supplemental diets marketed to improve their overall nutrient composition is limited.^{1,2,7,8,12,14} Previous studies have focused on calcium intake in crickets, and to a lesser extent in mealworms, but diets for superworms have not been evaluated. This study evaluated the proximate and mineral composition of *Zophobus morio* (superworms) and *Tenebrio molitor* (mealworms) offered four different commercial diets (Fluker's® Mealworm Bedding, Kaytee® Exact Avian Hand Feeding Formula, Harrisons® Avian High Potency Mash, Mazuri® High Calcium Cricket Diet) at 48, 168, and 244-hour time intervals. An increase in calcium uptake levels was seen as early as 48 hours during the diet trials. Compared to the control insects, calcium uptake was significantly higher in those fed the Mazuri Cricket diet for both mealworms and superworms ($p < 0.001$). Differences between diets were seen with phosphorous, fat, metabolizable energy, and protein, but none were statistically significant. To the authors' knowledge, this is the first study on insect gut-loading published for *Zophobus morio*. Results of this study will enable pet owners, veterinarians, insect breeders, and zoo curators to optimize nutrition for insectivorous animals.

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