



Pet Hospital of Peñasquitos

Champions for Excellent Care-We are an AAHA-accredited
That means we hold ourselves to a higher standard

Feeding Insectivorous Reptiles and Amphibians

Thomas H. Boyer, DVM, DABVP-Reptile & Amphibian Practice
9888-F Carmel Mountain Road, San Diego, CA 92129 (858)-484-3490
www.pethospitalpq.com www.facebook.com/pethospitalpq

What is an Insectivore?

An insectivore is an animal whose diet consists primarily of insects, but also eat spiders, scorpions, crustaceans and worms. There are many species of insectivorous lizards: bearded dragons, chameleons, geckos, tegus, monitors, skinks, and water dragons, among others, fall into this group. Amphibians and some turtles also eat insects, as do certain species of snakes.

Preparing Insects for Feeding

While rich in protein and fat, insects are naturally deficient in calcium and vitamins A, B, D, and E, and are not a nutritionally balanced diet without supplementation. Reptiles and amphibians that eat only non-supplemented insects will not get enough calcium in their diet. When the calcium level is low, the body tries to compensate by taking calcium from wherever it can, usually from the bones. The animal's bones will subsequently become weaker and more susceptible to fractures. The animal will start to become painful, move less, and may eventually stop eating. Calcium deficiency, also called metabolic bone disease or nutritional secondary hyperparathyroidism, is an entirely avoidable condition. Vitamin A deficiency is also common in insectivores. Gut loading insects, dusting with calcium, and offering a wide variety of prey insects will ensure that your herp receives the proper nutrition.

- **“Gut loading” insects** – Insects are often in poor nutritional condition at purchase. Feeding starved insects to your reptile will lead to nutritional deficiencies over time. Gut loading is feeding insects a calcium and vitamin enriched diet to change the nutritional profile of the insect. By gut loading the insect for 1 to 2 days prior to being fed, the digestive tract is filled with calcium and vitamins that are then passed on to the reptile. We recommend **Mazuri Hi-Ca Gut Loading Diet** (8% Calcium) as the sole source of food for prey insects. The term “gut loading” refers to loading the gut of the insect with important nutrients – it does not simply mean feeding the insect something prior to offering it to a reptile. In fact, fruits, vegetables, dog or bird foods, and even calcium fortified gel water

cubes, are all ineffective at increasing the calcium and multivitamin content of the insect. Do not offer other foods to the insects as they will eat the tastier alternatives preferentially over the high calcium gut loading diet, which likely tastes like chalk, due to the high calcium content. Water cubes only became popular because crickets tend to drown in standing water, they offer no nutrition and should be avoided. Instead of gel water cubes, offer water, either as a water-soaked cotton ball in a bottle cap (for crickets and roaches), or a damp paper towel (for mealworms or super worms). Not all commercially available gut loading diets are the same, and some contain no more calcium than unfortified diets, despite contrary label claims. Use only good quality gut-loading diets, such as Mazuri Hi-Ca Gut Loading Diet.

- **Dust with Calcium** – Even after gut loading, insects may still be deficient in calcium. All insects should be dusted with a calcium carbonate powder at every feeding. We recommend **Repashy Superfoods SuperCal No D**. To dust the insects, place them in a plastic bag or container with the calcium powder and gently shake. The dusted insects should be offered right away as they will groom off the calcium within several hours. Some geckos, particularly reproductively active females and young growing animals, will take powdered calcium directly from a shallow dish left in the cage. In general, multivitamin powder is not a good source of calcium for dusting. If the reptile has ultraviolet lights or exposure to direct sunlight (not filtered through glass or plastic), they will synthesize enough vitamin D that additional supplementation is not needed. If desired, one can dust with multivitamins (make sure they have vitamin A on the label) once or twice a month instead of the Ca.
- **Feed a wide variety of insects** - In the wild, insectivores consume hundreds of different insect species, not just a few. Store-bought insects such as crickets, waxworms, mealworms, super mealworms, and Dubia cockroaches should be supplemented with commercially available silkworms, black soldier fly larvae (Phoenix worms), tomato horn worms, bean beetles, fruit flies, springtails, and wood lice, as well as wild-caught, seasonally available insects such as moths, cicadas, flies, grasshoppers, katydids, bees (remove stingers), cockroaches, and crustaceans, such as pill bugs. Insects are easily collected at night around lights, with funnel traps, or by children, and pill bugs accumulate in damp soil under a piece of shaded plywood. Pesticides are rarely ever a problem, but if the environment was just treated with a pesticide/insecticide, or the insects appear to be dying, avoid using these bugs as a food source. Fireflies are toxic and should never be fed. Larval insects are high in fat and should not be over fed. In addition to insects, many reptiles can be trained to, or will naturally take, baby mice (1-2 day old pinkies), worms, slugs and small snails, which are excellent dietary supplements.

Sound nutrition is essential to the long-term health of your insectivore, whether reptile or amphibian. Make sure all purchased insects are properly gut loaded and dust all insects with calcium just before feeding. Provide a diverse variety of insects, both store bought and wild caught. Good nutrition is essential to ensure a healthier longer life. If you suspect your reptile or amphibian is already suffering from a calcium or vitamin A deficiency, seek veterinary care right away!