

# Herp Diets

All Creatures Animal Hospital

Herp Care Packet  
Handout # 2

## Water

Water is the most important nutrient for every living being. Many of the adaptations we see in various species have developed for the purpose of obtaining, conserving, or eliminating water.

While the need for water is consistent, species vary in the means of obtaining water. Some desert species have developed means of obtaining water metabolically through the processing of the food. Others recycle water very effectively. These adaptations allow certain reptiles to survive in very barren dry environments. Unfortunately it also leads to reptile owners testing the limits with their animals. While uromastix lizards can survive without

water under the right conditions, they fare better when they have regular access to water.

The form in which water is provided makes a difference as well. Some species rarely, if ever, drink from an open water source. They lap at droplets of water from plants or other surfaces, or even from their own bodies. Water droplets can be provided by a misting bottle, a drip system, or other means for species that do not drink from open water containers. For other species, it is best to provide a water dish at all times. The dish should be easy to access and easy to exit as well, especially for turtles and tortoises. Some species prefer to soak in

water when they drink so the container should be large enough to allow this.

The area around the water dish should not be soaking wet all the time, so good drainage in this area is rec-



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ommended.

Bacteria thrives in water, so changing the water frequently is essential. For terrestrial species, daily changes are needed.

## Feeding hazards

Toxic insects:

Fireflies are known to be toxic and there are reported deaths in bearded dragons.

Monarch butterflies

Bedding:

Feeding on a particulate substrate can allow the bedding to be swallowed. Even supposedly "digestible" substrates can cause obstruction, if enough is consumed.

Aggression:

Feeding very large boid snakes in their regular habitat can present a danger to the handler. These snakes may become conditioned to strike at things coming into the enclosure. It is much safer to transfer the snake into another enclosure prior to feeding.

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### Key nutrients:

- Water
- Calories
- Protein
- Calcium
- Phosphorus
- Vitamins
- Trace minerals



Many tortoises are grazers. Grass and hay should make up the bulk of their diets.

*“A captive animal’s diet must provide all of the required nutrients, be consistently available, be safe, and of course, be accepted by the animal.”*

Some lizards are strictly herbivorous, while others will supplement combine vegetation with insects or other foods. Iguanas, prehensile tailed skinks, and checkwallas are strictly herbivorous. (Red-footed and yellow-footed tortoises also have a similar diet). A few other species eat a herbivorous diet similar to this, but also consume an insectivore diet. Bearded dragons, uromastyx, and many other species fit



Many reptiles, and virtually all amphibians are partly or entirely insectivorous, meaning that they consume invertebrates. These herps consume a very wide

## Herbivorous Tortoises

Many of the herbivorous tortoises are grazers. Their diets largely consist of grasses. The digestive tracts have evolved to efficiently process the large amounts of fiber. Insufficient intake of fiber can cause the digestive tract to function poorly.

For most tortoises, about 50-60% of the diet should be hay or fresh grass. During summer, tortoises can be allowed to graze on untreated lawn. Legume hays, such as alfalfa and clover are very nutrient rich. Grass hays such as timothy, oat grass, rye grass, are lower in protein, calories, and

calcium. The best blend depends on the individual needs of the tortoise.

Another 25-35% of the diet should be dark green, leafy vegetables. Several different types should be used to balance the nutrients and chemicals in each. Kale, collard greens, dandelion, Swiss chard, endive, parsley, carrot tops, and mustard greens are all good choices. Lettuce, especially iceberg lettuce, is nutritionally weak.

About 10% of the diet can be red, orange, or yellow colored vegetables. These vegetables are especially rich in

beta carotene (a precursor to vitamin A) and are also calorie rich. Beets, carrots, sweet potato, and squash are good choices. These foods are very useful for helping gain weight prior to hibernation.

Fruits should be limited to no more than 10% of the diet. Dark fruits, such as blueberries, blackberries, and cherries are more nutritious than pale fruits like apples and bananas. Again, fruits are useful for preparing a tortoise for hibernation.

A formulated diet for herbivores, such as rabbit pellets or tortoise pellets can be

## Herbivorous Lizards

this category.

For these species, 75% of the diet should be dark green leafy vegetables. Several different types should be used to balance the nutrients and chemicals in each. Kale, collard greens, dandelion, Swiss chard, endive, parsley, carrot tops, and mustard greens are all good choices. Lettuce, especially iceberg lettuce, is nutritionally weak.

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apples and bananas.

A formulated diet for herbivores, such as rabbit pellets or tortoise pellets can be sprinkled on to make up the final 5% of the diet.



*Iguanas are the most common of the herbivorous lizards.*

## Insectivores

variety of invertebrate life in the wild.

Caretakers of captive herps must devise a diet using available invertebrates. Crickets, mealworms, waxworms, silkworms, are some of the available insects. Earthworms, snails, and bloodworms are some other invertebrates that can be used. Earthworms and snails have good calcium to

phosphorus ratios (provided the worms are kept in soil). Snails tend to carry parasites.

Many invertebrates are very low in calcium and high in phosphorus. To balance this, calcium must be added by either feeding a high calcium diet to the insects (gut-loading) or coating them with the supplement (dusting). The supplement must be high in calcium

and low in (or free of) phosphorus. These supplements will not last long on the insects. They will groom off the powder and empty the gut-load diet from the digestive system, so the herp should consume the prey within an hour of adding the supplement.

Care should be taken to avoid having insects chew on the pet.

## Carnivores

Snakes, monitors, some tegu lizards, snapping turtles, and a few others are carnivorous. Carnivores consume other vertebrates. This type of diet is very balanced provided that the prey items are well fed. Generally the type of prey will depend both on the natural prey of the species involved and on the type of prey that is available.

Most often various sized rodents are used. The size should be appropriate for the species being fed. Generally, it is best to feed rodents that are already dead. Rodents can cause severe bites in reptiles, and it is more humane to the rodent. Rodents can be pur-

chased dead and frozen and simply thawed before feeding to the reptile. Occasionally a reptile will require coaxing to take prey that is not moving. Ask for some advice if your reptile is not feeding on pre-killed prey.

For fish eating (piscivorous) species, small feeder fish can be used. Most commonly goldfish are used. Some goldfish are quite fatty and it may be wise to alternate with minnows to keep the animal from becoming overweight. Fish are best served fresh. Freezing can allow fats to become rancid, and this consumes body stores of vitamin E. Also, some fish contain

thiaminase, an enzyme that destroys vitamin B1. If frozen fish are used often, a multivitamin supplement should be given.

Remember that carnivorous reptiles generally eat the whole prey item, not just (muscle) meat. The bones, organs, and intestinal contents of the prey is an important nutritional component. Feeding meats, organ meats, or other "cuts" can lead to serious nutritional imbalances. Nutritional deficiencies are uncommon when whole animal prey is consistently used.



Rodent bites are common when live prey is fed to snakes.

## Omnivores

Box turtles, many water turtles, bearded dragons, uromastyx, some tegus, some large skinks, and others are omnivorous. This means that the diet consists of both animal and plant material. However, there are many variations in omnivore diets. Box turtles do well on earthworms, canned dog food, vegetables, and fruits. On the other hand the bearded dragon does well with an

herbivorous lizard diet with some supplemented insects.

This makes this type of diet difficult to describe. The keys are to provide the appropriate amount of protein, a balanced calcium to phosphorus (Ca:P) ratio, and other trace nutrients. At the same time, it has to be accepted by the animal.

Many formulated diets can be integrated into the diet. Some

were designed for reptiles, while others are designed for domestic animals. These diets can be carefully integrated into herp diets. The advantage is that they usually have good quality protein, a good Ca:P ratio, and an added multivitamin.

If formulated diets are not a significant part of the diet, careful use of vitamin and mineral supplements is warranted.

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## Supplements

Supplements cannot make a poor diet acceptable. However, supplements may be used to correct specific deficiencies or to provide a safety buffer.

Generally, the nutrients that require supplementation are calcium and vitamins. Calcium supplements should be either phosphorus free or at least

low phosphorus. If a supplement has a Ca:P ratio of 2:1 and the whole diet should be 2:1, then a diet with an inverse Ca:P ratio could never be corrected.

Vitamins should usually be provided in the form of a multivitamin supplement. Most have similar ratios of the various vitamins.

Excessive supplementation can cause as many problems as deficiencies. Excessive calcium can lead to tissue mineralization and eventually kidney failure. Excessive protein and calories can cause growth deformities.

Whenever possible choose supplements with dosing recommendations on the label.



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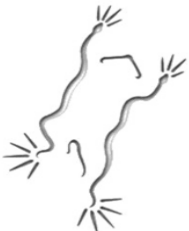
A proper diet is one of the most important components of care for any pet. In reptiles and amphibians, this is complicated by the fact that there is little nutritional research available. The diet consumed in the wild is not usually available in captivity. A diet has to be put together from available items, that is as close to the natural diet as possible and is accepted by the animal. Let us help you put together a proper diet for your pet. See the chart below for our recommendations for your pet.

### Customized Diet Recommendations

Food Item	Amount	Unit	Special instructions
Grass/hay			
Dark leafy greens			
Red/orange/yellow vegetables			
Legumes (beans, sprouts)			
Fruits			
Rabbit/tortoise/iguana pellets			
Canned dog food			
Dry dog food			
Water turtle pellets			
Fish pellets			
Minnows			
Goldfish			
Insects (Ca supplemented)			
Earthworms			
Mice			
Rats			



Younger animals are more prone to nutritional problems than mature animals.



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