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Earthworms and Other Annelids (Family Lumbricidae)

Introduction

Earthworms are tubular, elongated, and limbless segmented worms of the phylum Annelida consisting of at least 6,000 species in about 21 families generally found worldwide in temperate to tropical environments. However, the focus of this care sheet will be on the most familiar and commonly known, cultured, and maintained family, earthworms of the family Lumbricidae of Europe and North America (the United States and Canada). About 670 species of lumbricid earthworms are known, with about 33 of these being having become cosmopolitan. Earthworms are generally well known for feeding and living in the soil, as well as compost depending on the species, where they feed on living and dead/decaying plant, animal, and other organic material. Most earthworms also have tiny, bristle like hairs or appendages along their bodies known as setae that help with their locomotion through the soil or across other surfaces. Earthworms are also ecologically important in that they are well known for their effects on soil alteration by mixing and aerating the soil, and ultimately increasing soil fertility. They are also viable components to nutrient cycling and the decomposition of organic material as well. Earthworms are also widely known for being hermaphrodites, containing both male and female reproductive organs, but can be slow to grow and culture in captivity (reaching sexual maturity anywhere from 6 to 12 months). They also have varying regenerative abilities as well depending on the species and extent of the damage.

Earthworms can be separated into three different categories; compost and leaf litter dwelling worms that live in the leaf litter and compost, do not burrow, and feed on decomposing organic material, topsoil or subsoil dwelling worms that create horizontal burrows and feed on the soils, and worms that construct deep, permanent horizontal burrows that are used to reach and feed on the surface. Captive care and culturing of each earthworm species will vary slightly depending on their burrowing and feeding habits. Composting worms common in the hobby include the African nightcrawler (*Eudrilus eugeniae*), European nightcrawler (*Eisenia hortensis*/*Dendrobaena veneta*), and Redworms, also known as red wigglers, tiger worms, trout worms, and red California earthworms (*E. fetida*). The most commonly cultured topsoil and soil dwelling earthworm species tends to be the common earthworm, or Canadian nightcrawler (*Lumbricus terrestris*). Earthworms are a very nutritious and suitable food item for a variety of amphibians and reptiles, and are vitamin rich with vitamins A and E. Earthworms come in a variety of sizes available depending on the species and life stage, and can also be chopped for ease of feeding one's animals. They can constitute up to 50 to 60% of some species' diets, but any that are collected or acquired should be ensured to be fertilizer, chemical, and pesticide free prior to feeding.

Taxonomy:

Life: All living, physical, and animate entities

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Domain: Eukaryota
Kingdom: Animalia
Phylum: Annelida
Class: Clitellata
Subclass: Oligochaeta
Order: Haplotaxida
Family: Lumbricidae

**Taxonomy subject to change and revision.*

Experience Level Required

Novice/Beginner to Moderate/Intermediate.

Legal and Regulatory Status (*Subject to Change)

Consult your nearest United States Department of Agriculture (USDA) branch for any further, current federal regulatory or legal status. Also consult with your local, municipal, and state ordinances and regulations for any ownership restrictions.

Size

Depending on the species and their subsequent life stages, earthworms can range in size anywhere from 10 millimeters or less, or 0.39 inches up to 3 meters in some species, or 9 feet, or 108 inches. However, most of the common earthworm species range up to 14 inches as a maximum size.

Housing and Enclosure

Earthworms are relatively simple and inexpensive to house and culture with a few considerations. Nearly any container with adequate ventilation and drainage, as well as dark sides can be used, including, but not limited to plastic containers, bins, buckets, or similar enclosures may be used. Drill a series of small holes along the bottom of the tub to ensure adequate drainage, but they should not be large enough to allow the worms to escape. The bottom of the tub then can be provided with a false bottom consisting of pebbles, or sand for drainage and filtration, and then filled above with a fertilizer, chemical, and pesticide free soil, peat moss, sphagnum moss, or coconut fiber substrates. No further above soil furnishings are required. Ensure that the soil remains damp and moist, but not overly wet or dry. The tops of the cultures can then be secured with a fabric or mesh to prevent the introduction of pests or predators but still should allow for adequate ventilation.

Temperature, Lighting, and Humidity

For temperatures, conditions that are cool, moist, and dark are the most conducive for earthworms. Depending on one's climate, and household temperatures, they can be maintained at a range of temperatures, from 50 to 65 degrees (they can be refrigerated), to room temperatures of 70 to 80 degrees F. Earthworms do not tolerate heat well, and should not be maintained above 82 degrees F. No further special lighting or heating is required for earthworms.

Feeding, Diet, and Nutrition

Most species of earthworms are scavengers and detritivores, feeding on a variety of dead and decaying organic plant and animal matter and soils. In captivity, earthworms can be given a variety of fruit and vegetable scraps used for composting including potato peelings, banana skins, and oatmeal, as well as fish flakes, broken egg shells to add calcium to their diets. They will also eat garden wastes such as grass clippings and leaf litter. Citrus fruits should be avoided due to their acidic nature. It is recommended that food items be allowed to decompose for at least several days prior to feeding, as most earthworm species cannot consume fresh materials. A

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buildup of soiled and uneaten food materials should also be removed and conditions spot cleaned. Food items may also be buried under and within the substrate to ensure the worms locate and consume them as well as to discourage culture pests. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Handling

Prior to giving feeder earthworms to your reptile or amphibian, they can be sifted and removed from the soil by hand or with a spade, and rinsed and cleaned of soil and debris to prevent soil ingestion by your pet. Earthworms can also be handled and offered using forceps or tweezers as well.

****Also remember to be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens****

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at info@madisonherps.org

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