

All Creatures Great and Small

Caring for Exotic Animals in Your Shelter

"Exotic" animals are being removed from the wild, bred in captivity, and taken into private homes far from their natural habitats.

When that long, torturous journey ends, your shelter may be called upon to care for an animal you know little about, leaving both of you to wander through foreign territory.

By Scott Kirkwood

The day's newspaper headlines announce the popularity of the hedgehog, the public's fascination with iguanas, even the increasing prevalence of wild cats living in private homes. But weeks or months later those same newspapers are lining the cages of your shelter, where many of those animals show up after their caretakers have learned that meeting the animals' needs is far beyond their grasp. Caring for "exotic" pets presents a unique challenge to animal shelters, and placing them in the proper habitat for a lifetime may be just as challenging.

Continued

Technical information for these articles was provided by Richard Farinato, director of The HSUS's Captive Wildlife Protection program.

An Ounce of Prevention

Eight-inch "lizards" turn into six-foot iguanas and adorable wild cubs turn into 300-pound tigers, but the public still fails to see the inevitable tragedy until it's too late. In many areas of the country, the problems of exotic animal ownership have already reached critical mass, but you can help wild and nondomestic animals even before they set foot in your shelter by taking the following actions:

- **ALERT YOUR COMMUNITY** to any instances of these animals being abandoned, neglected, or rescued. Also, educate prospective pet owners about the high standards of care these animals require, the costs and risks associated with ownership of wild animals, and, of course, the difficulties in keeping these animals in a private home. (See page 25 of the Resources section about new HSUS informational fliers available for distribution to the public.)
- **MONITOR THE DEALERS** of exotic animals in your region. All exhibitors and commercial dealers of wild and nondomestic animals must be licensed by the U.S. Department of Agriculture (USDA). So if you

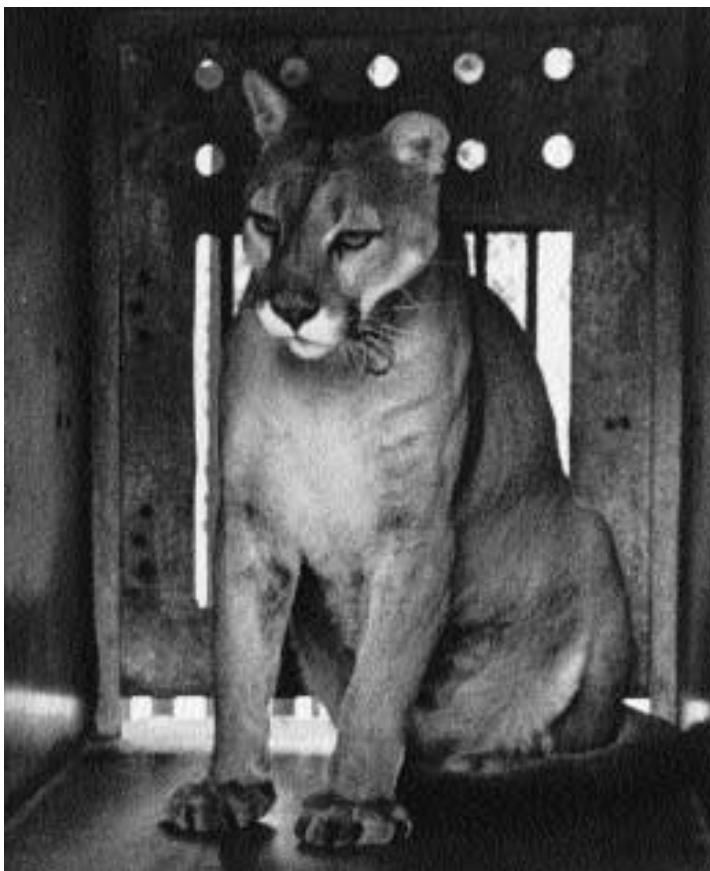
suspect animals are being treated inhumanely, insist that the USDA take action and follow up on the report to ensure steps are taken to eliminate the problems.

- **COUNTER ANY MEDIA COVERAGE** that discusses the "benefits" of owning these pets. Work with the media to include information about the drawbacks of keeping exotic animals.
- **ACQUAINT YOURSELF** with local rescue groups, herpetological societies, and sanctuaries. Establish relationships with those whose goals and standards of humane care are consistent with your own.
- **FORM A COALITION** of interested parties, both private and public, to assess the issue and share resources to find solutions.

The Erie County (N.Y.) SPCA is starting to use a few of these tactics to cope with a recent surge in wild and nondomestic animals in its area. "With all of the animal issues, [shelters] run in and save the day and yet nobody's helping us solve the problem," says Executive Director Barbara Carr. The shelter often agrees to house caimans and other animals seized by law enforcement officials during drug raids. Often weeks or months go by before charges are filed and paperwork is finalized, and the shelter soon runs into problems securing long-term care and eventual placement for the animals. So Carr has begun working closely with the local zoo and New York State's Departments of Environmental Conservation and Agriculture in search of a solution.

A Different Animal Altogether

Unfortunately, in many areas of the country, it's too late for preventive measures. Like the proverbial child hold-



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WHAT IS

"**E**xotic animals," "nontraditional pets," "captive wildlife"... we may refer to them in different ways, but the common characteristic they all share is rising popularity as "companion" animals, though their ideal habitats are forests, the great plains, and even jungles of far off continents. This feature section attempts to fill a void by providing information for shelters who must care for animals whose needs are rarely met in the typical home environment. The decision to include certain species in this feature article and exclude others was a difficult one. Why prairie dogs and not pot-bellied pigs?

ing back rising flood waters with a single finger in the dike, your shelter may face the difficult task of stemming the tide of exotic animals already pouring into your community. In some cases you will need to provide care for these animals on a temporary basis before finding permanent homes or sanctuaries. Even before taking in another exotic animal, however, your shelter should determine how much money it can direct toward the care of these animals; the policies by which it will operate; and the philosophy it will adopt regarding the disposition of these animals.

Some shelters, for instance, have been tempted to place a greater priority on the care of rare exotic animals at the expense of more common animals they shelter. Your agency may not be able to afford the luxury of caring for a mountain lion or cougar while euthanasia rates for domestic cats continue at such tragic levels.

"Humane organizations and animal shelters were traditionally chartered, incorporated, and developed to shelter certain types of animals, rather than care for all types of animals," says Martha Armstrong, HSUS's vice president for Companion Animals. "We must always keep those limitations in mind." The message: Set limits, draw up policies and procedures beforehand, and make allowances for situations when you may not be able to care for a 350-pound lion or an 8-foot-long alligator.

Questions Without Easy Answers

When beginning to formulate guidelines for the care and disposition of these animals, consider the following questions: Is your facility equipped to care for every species of animal who might be relinquished? If not, are you able to provide alternatives so that this animal receives the best possible care, even if that alternative is euthanasia? Have you considered what will become of an animal if you decide you cannot provide proper care for an animal? Are you legally required to provide long-

term care for animals pending the outcome of cruelty cases? If you commit to accepting an animal, how long can you reasonably provide the proper care? One month? Two? Three? Is it possible to find an appropriate, permanent home for this animal? If so, how will you go about finding one? What resources can your shelter allocate to the care of this animal, including time, money, energy, and space? To what lengths will you go to provide care? If a snake in your care will eat only live mice, can you justify sacrificing one animal for the sake of another? If you are unwilling to provide live food for a snake, are you still, in effect, sacrificing one animal for the sake of the other?

None of these questions has a simple answer, a fact that makes it even more critical to start searching for some answers now, before a ball python is waiting for a meal, before a cougar is denied placement in a sanctuary that's full, and before a caiman is captive in an aquarium so small that he can't even turn around.

Making Policy Decisions

Of course, animals such as hedgehogs and chinchillas have care requirements and housing needs that are easier to provide than those of cougars and caimans. But your shelter needs policies in place to guide its staff in assessing the disposition of all of these animals. After all, decisions regarding placement are difficult enough where traditional companion animals are con-

Can your shelter provide proper care for hedgehogs and other small mammals?



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A N "EXOTIC" ANIMAL?

Why cougars and not tropical fish? We looked at two major criteria: first, the number of animals being turned into shelters, based on anecdotal evidence; second, the number of animals who will likely make their way to shelters in the foreseeable future, based on media reports and pet-store sales trends. We also looked at how much information shelters already had on the care of each animal, and attempted to fill the gaps accordingly. Finally, we decided to present three simple groupings of animals that would allow for the greatest amount of information in the most concise space. Small

mammals, reptiles, and wild cats seemed the most compelling groupings for these reasons.

Many shelters are concerned with the care of livestock; however, this topic was considered more effectively addressed in a future issue because the care of Vietnamese pot-bellied pigs, horses, and fainting goats, for example, differs so greatly from that of the other animals highlighted here. Ferrets also have demanding needs, but are now largely recognized as domesticated animals, so their care will be covered in depth in a future issue of *ASM*.

WILD ANIMALS IN THE HOUSE . . . AND THE SENATE

The best way to preserve the interests of exotic animals is to prevent their proliferation in your community before the problem gets out of hand.

One of the most forceful measures you can take is to initiate legislation that will make it more difficult to own these animals. "Concentrate on passing laws that positively identify which animals make appropriate pets," says Ann Church, deputy director of HSUS's Office of Government Affairs. "For example, support laws that allow for more appropriate companion animals such as dogs, cats, gerbils, certain birds, and goldfish rather than drafting laws outlawing individual animals." Attempts to outlaw ownership of certain animals may prove useless when the next "fad" comes along.

If this tack meets with too much resistance, urge enactment of legislation that will prohibit ownership unless and until the state or each individual county comes up with specific guidelines and licensing for the care of these animals. This approach puts the responsibility directly in the hands of the state and is unlikely to raise resistance from most legislators.

If your state bases ownership on criteria such as whether or not the animal is indigenous to the region, and if the state establishes guidelines concerning individuals and educational facilities keeping these animals, your organization may be able to get involved in establishing and updating those guidelines. In fact, some state fish and game agencies may even support banning the ownership of many of these animals rather than be faced with the difficult task of enforcing such regulations. Often the media's coverage of a particularly tragic situation will prompt such agencies to take action immediately.

When approaching lawmakers directly, stress the public health risks involved in ownership of exotic animals. Mention not only the more immediate risk of harm inflicted on those who live with or near animals such as tigers and pythons, but also the potential for disease spread by reptiles and small mammals. Garner the support of local law enforcement agencies that are beginning to see caimans and cougars replace pit bulls and rottweilers as drug dealers' guardians of choice.

Seek guidance from other local and state jurisdictions that have already enacted such laws. Georgia and California have two of the toughest laws in the country; the former relies on a strict permit system that in effect bans ownership of many wild animals. For more information on initiating legislation in your area, contact HSUS's Office of Government Affairs. ■



cerned; where exotics are involved the decision is even more complex.

Your shelter may publicize the fact that hedgehogs and monitor lizards make inappropriate pets, then have to decide whether or not to place one in a caring home. Even if you've deemed the animals suitable for adoption, you'll need to be careful about promoting and displaying these animals: Advertising the animals' availability would send the message that these pets are appropriate companion animals for the general public. Housing the animals in areas accessible to the general public would invite difficulties when potential adopters inquire about an animal's availability. So how do you find a place for animals whose needs typically can't be met within the confines of a family home?

"We generally try to find an individual to adopt reptiles [with the help of] various rescue groups," says Susan Kelly, manager of Wildlife Services for the Peninsula Humane Society (PHS) in San Mateo, California. "Fortunately, we also have a relationship with a veterinarian who specializes in reptiles. Often she'll let her clients know [of the animals' availability]." PHS has established placement criteria to ensure that every prospective adopter can meet the adopted animal's needs, whether the animal is a dog, cat, rabbit, or iguana.

Smaller reptiles and mammals can be placed in homes with responsible caretakers, but large reptiles and wild cats require the environment and level of care only available at a sanctuary. Either way, the first step is to become familiar with the local organizations that can assist you with placement options. If your shelter hands over the responsibility for the placement of these animals, it's in your best interests and the animals' best interests to entrust their future to an organization that knows and cares about the species and has forged close relationships with informed caretakers. Be wary of those too willing to take an iguana off your hands; their motive may be to turn a quick profit on an animal who has already been exploited too many times. Visit sanctuaries, meet with the members of a herpetological society, and review their guidelines until you're assured that they intend to do what's best for the animal.

"Also talk to area veterinarians who deal primarily with exotic animals to learn of potential adopters," says Armstrong. "They often treat a greater variety of animals than most shelters, and their knowledge can be invaluable." You will also need to locate veterinarians who can perform spay/neuter surgery on any animals that you may place in private homes or sanctuaries.

Whether you're establishing shelter policies or seeking placement options, remember that others share your interest in these animals. You'll need the help of your community, local and national organizations with knowledge of these animals, and area veterinarians to ensure humane treatment of these animals before they enter your facility, while they're in your care, and even after they've been placed in a permanent home. ■

Caring For Exotic Animals: Between the Front Door and the Cage Door

Despite your best efforts to educate the community and pass legislation banning ownership of "exotic" animals, you will likely find yourself in the position of caring for some of these animals at one time or another.

If an animal is the first member of his species to come through your doors, check with governmental groups such as local regulatory agencies, the state veterinarian's office, the state health department, the state natural resources department, local and federal agriculture departments, and the Fish and Wildlife Service of the U.S. Department of the Interior to see if the animal is protected in any way. Some reptiles and larger cats may be afforded protection as endangered species, which would impact the care and placement options at your disposal. On the other end of the spectrum, you may be precluded from offering some

animals care: Possession of certain animals is illegal in many states. "If a veterinarian gives the animal anything more than emergency care, she is in violation of the law and can be prosecuted," says Thomas Burke, DVM, MS, professor of medicine at the University of Illinois.



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Now What?

You've never seen one. You're not even absolutely sure this is one, and you're not so sure what exactly to do with him. Your first impulse may be to wait for someone else to evaluate the animal, but if you know how to perform a basic physical examination on a dog or cat, then you can record some preliminary observations of an iguana, a sugar glider, a cougar, or anything else that comes into your shelter. While you may not be able to differentiate normal from abnormal, you can record the results of your exam, then consult with someone who can better interpret your findings. Your examination is no substitute for evaluation by a veterinarian experienced with that species, but it will provide important initial information and will determine how urgently you need to summon the veterinarian.

- First, evaluate the animal's general appearance: Is he alert and interested in his surroundings or does he seem depressed? When he moves, does he do so in a balanced way?
- Second, examine him from head to tail. Even if you can't handle the animal, you can carefully observe every body part. You know that certain signs are abnormal for any mammal. Colored discharge from the nose or eyes; red, irritated skin; matted fur; diarrhea; visible parasites of any kind; sharp, protruding ribs and hips... these things are clearly abnormal. Reptiles are different in many ways, but you can look for clean, smooth, supple skin in snakes; well-fleshed tails in lizards and crocodilians; and flexibility in the body and limbs of all animals.
- Third, perform diagnostic tests. Just as you would with dogs and cats, obtain feces from exotic animals and examine any areas which appear to be abnormally bald or inflamed. You may not know exactly what you've found, but you will almost certainly recognize certain parasitic eggs or mange mites when you see them under the microscope. Record what you've seen, including a rough drawing, and save this information for the examining veterinarian.

Here are three hints that should help you evaluate any animal:

1. **THE WEIGH-IN.** Weigh the animal if doing so won't cause her undue stress. Contain the animal in a large cardboard box or transfer cage and subtract the weight of the container afterward. Record the weight carefully on the medical record. By comparing the animal's body weight to the normal weight range for her species (see table below), you can determine whether she is underweight or overweight. You can often estimate age by body weight; for example, an apparently healthy animal of normal body condition but low body weight for her species is probably a juvenile. And finally, you can monitor the animal's health status by monitoring body weight. Just as a thin animal will gain weight with improved nutrition, a dehydrated animal will gain weight as she becomes rehydrated.
2. **THE LAW OF SYMMETRY.** By design, most body parts have opposite counterparts: Is the prairie dog's leg broken? How does it compare with the opposite leg? You may not always be able to rely on this rule to detect abnormalities: An iguana suffering from long-term malnutrition, for example, may have swollen legs on both sides of his body.
3. **EXPERIENCE COUNTS.** You can learn from every exotic animal you encounter. This may be the first hedgehog you've ever seen, but the next time you see one, you can ask yourself how he differs from the previous one.

—Leslie Sinclair, DVM

Average weights of adult wild and nondomestic animals found in shelters:

Small mammals	
Chinchilla	1-2 lbs.
Hedgehog	2-3 lbs.
Prairie dog	2-4 lbs.
Sugar glider	3-4.5 ozs.

Wild cats	
Ocelot	20-25 lbs.
Cougar	60-100 lbs.
Jaguar	100-150 lbs.
Lion	300-450 lbs.
Tiger	350-600 lbs.

Note: Average reptile weights are not listed because they vary greatly depending on the animal's age, sex, and general condition.

Robert Fisher, DVM, chief of medical staff for the Michigan Humane Society (MHS) has seen more than a dozen wild cats come through his shelter. His advice on handling these animals is appropriate for all exotic animals, from chinchillas to cougars: "Before we do anything, we let the animals acclimate to their surroundings. We can get some preliminary information from evaluating the animal through a cage—for example, collecting fecal samples—but generally we try to avoid a lot of invasiveness during this initial period. The more stressed they are physically, the more likely it is there will be problems."

Small mammals like chinchillas and hedgehogs may grow accustomed to their surroundings in a matter of hours, even minutes; snakes and some larger reptiles may require days. Perform a cursory exam of the animal as soon as possible (see the sidebar on this page), and provide food, water, and proper caging as detailed in the following article on care. To obtain valuable information about the animal's history, interview the people surrendering the animal or ask them to fill out a questionnaire. If possible, contact the animal's veterinarian to find out if there are records available detailing prior diagnoses and treatment. Obtain more information about caring for a certain animal by contacting informed groups such as the local herpetological society, a nearby zoo, or the state veterinary association.

Advise your staff of the new arrival and train those who will be caring for the animal. Limit the animal's contact with people to only those staff members or consultants experienced in handling the species. Volunteers should not be permitted to work with these animals for the safety of all involved. Make sure staff members caring for exotic animals are up to date on their rabies vaccinations. Provide latex gloves and masks for staff to use

TOOLS OF THE TRADE

Add some of these items to your newsletter wish list to help prepare your shelter to care for many of the exotic animals profiled in this feature section:

cardboard boxes	exercise wheels
water bowls	aquariums
heat lamps	ceramic heating pads
snake tongs	towels
shredded paper	humidifiers
squirt bottles	digital thermometers
wooden pallets	padlocks
automobile tires	bowling balls
hay bales	rubber toys
tree branches	latex gloves



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when handling the animals. "Latex gloves prevent disease transmission," says Burke. "Zoonotic diseases [can be] transmitted through saliva, feces, and urine, so gloves provide protection for the handlers and any other animals in the shelter."

Why not use thicker, more protective gloves at all times? "If [leather] gloves are adequate to protect you from a bite, they're thick enough that you can't feel how hard you're squeezing the [animal]," says Burke, "and you may severely injure an animal without meaning to. Leather gloves also provide a false sense of security." If your staff doesn't feel comfortable handling certain animals under these guidelines, then they should receive additional training on safe handling. (Start by seeing "How to Handle Small Mammals and Reptiles," on page 19 of this issue.)

The Great Escape

Every shelter determined to care for exotic animals is destined to play host to an escape artist sooner or later. So it's best to design a plan in advance for rounding up any animals who may attempt a "return to the wild." Assign specific responsibilities to each staff member. If a python has escaped from her cage, for example, someone should check the small rodent area, another person should look through the kennels, others should be responsible for monitoring visitor areas, and someone should immediately retrieve whatever materials may be necessary for the animal's capture. ■

Design a plan in advance for rounding up any animals who may attempt a "return to the wild."

THE FINAL ALTERNATIVE: EUTHANASIA

Much of the information included in this article details preliminary care guidelines for animals who have just arrived at your shelter. Of course, there are times when you will be faced with the responsibility of providing the final degree of care for these animals. Because of the demanding care requirements of wild and nondomestic animals, euthanasia is often the only humane alternative.

There's no question that training in this area is imperative; experience euthanizing dogs and cats does not qualify one to begin euthanizing other animals. The technical aspects of performing euthanasia on exotic animals are beyond the scope of this article, but here are some general guidelines:

- The preferred method of euthanasia for most of the

animals profiled in this feature section is intraperitoneal injection of sodium pentobarbital.

- Reptiles are cold-blooded animals who rely on external heat to regulate their body temperature, so there is a popular notion that freezing these animals is an acceptable method of euthanasia. In fact, this method is inhumane for any animal. Moreover, because

it is difficult to confirm the death of many reptiles, an expert should be on hand to assist in the procedure and to verify its success.

- Larger cats have even more specific needs, and the dangers involved in handling them are sufficient to require the help of a wildlife expert with knowledge of restraint techniques and the proper use of pre-euthanasia drugs.

If your shelter needs specific information about euthanizing an animal, contact the Companion Animals or Captive Wildlife sections of The HSUS.

EXOTIC ANIMALS 101

Care Guidelines

The following pages feature animal-care information for some of the animals who may find their way into your shelter but who don't belong in the dog kennels or cat room. Because it's only possible to address basic care guidelines in this format, it's crucial that your shelter work with a wildlife expert, veterinarian, or herpetologist who has specific experience working with these animals. Even as the changing fads and whimsies of the pet market may lead different animals to your doorstep in coming years, you'll find that many of these principles can be applied to the care of all animals.

SMALL MAMMALS

Chinchillas, hedgehogs, prairie dogs, and sugar gliders are a few of the latest animals to strike the fancy of those in search of new and unusual pets. All are adorable, but they have specific dietary needs and thrive in natural habitats that have little in common with the average living room. Perhaps most importantly, many of these animals are nocturnal creatures, active at night and asleep during much of the day—a less than ideal characteristic for a "companion" animal.

The animals described on these pages range from herbivores to insectivores, but regardless of their particular diet it's important to monitor their food consumption. Many suffer from malnutrition after spending months in the care of an uninformed owner. On the other end of the spectrum, excessive weight gain is not uncommon among wild animals in captivity because their hours of foraging and hunting are replaced by hours of solitude inside glass or wire-mesh cages.

The Right Stuff

When purchasing or constructing cages for these animals, concentrate on flexibility. "Order multi-purpose cages," says Julie Morris, vice president of the American SPCA's National Shelter Outreach program. "For example, use cages with a clear Plexiglas™ front and inside slots for a perch. These can be used for birds, hedgehogs, even chinchillas. They provide full visibility so you can see what's happening." Aquariums with securely fitted lids can serve as ideal temporary homes for each of the small mammals profiled in this section. In any case, the caging you choose should be made of glass, acrylic plastic, stainless steel, or another strong nonporous material that allows for thorough cleaning and disinfection. Because rodents will gnaw on any surface they can get their teeth on, they will eventually destroy and even ingest wood or thin plastic.

As with all animals in your care, be sure to provide clean water at all times. Hang a water bottle inside each cage for the animal's convenience and yours. Bottles provide easy access for you and the animal and prevent spilling. Take note of how often you must refill the bottle to make sure the animal is drinking from it regularly.

Creature Comforts

In most cases it's best to provide each of these animals with his own cage. If, however, several well-socialized chinchillas are brought in together, you may be able to house a number of them together. Because most of these animals are nocturnal, they often like to sleep or otherwise seek refuge during the day, so provide them with a hiding box. Use any solid container large enough for the animal to enter completely; a cardboard box is ideal because it's inexpensive and can be easily replaced if the animal chews it. For bedding, use two to three inches of shredded newspaper—it's cheap, readily available, and just as effective as pine, aspen, or other wood chips. Avoid cedar shavings and aromatic pine as they may cause respiratory and other health problems. Replace all the bedding within the cage frequently to ensure a clean, sanitary environment. It may be possible to daily spot-clean an area that the animal routinely uses as a bathroom, and then change bedding and scrub the entire cage weekly.

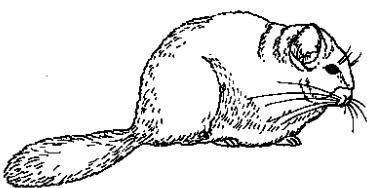
Location, Location, Location

Because chinchillas, hedgehogs, and sugar gliders are nocturnal, it's important to place their cages in a quiet, isolated area. You may also want to place a towel over the cage for the animal's privacy. Many shelters house small mammals in a designated area for the sake of convenience when feeding and caring for them. However, because many of these animals prefer or require a specific climate, you may need to provide a heat source for some or alter the humidity level for others. Attach a thermometer just inside the cage wall to be sure that each animal is kept in a comfortable environment (see species-specific temperature requirements on the following pages).

Although it's difficult for most shelters to provide specialized rooms for mammals, reptiles, and birds, some shelters have converted small offices or large storage areas into rooms to provide sufficient housing away from public viewing areas. (For a profile of one such shelter's small-mammal room, see pages 19-20 of the March-April 1996 issue of ASM.) If you must house reptiles and small mammals in the same room, understand that the former preys on the latter. That's why it's essential to take proper precautions such as locking or securing reptile cages to decrease the likelihood of any escape, a dangerous situation for each animal and for your staff.

CHINCHILLAS

Chinchillas, members of the rodent family, are known for their thick, soft fur—an asset in the cool climate of South America's Andes Mountains but a characteristic that has also made them a favorite of furriers. While demand for the animal's pelt has decreased in recent years, breeders have found another way to make money off the backs of chinchillas by marketing them as the "perfect" exotic pet. About the size of guinea pigs, chinchillas' large button eyes and plush light grey or tan fur make them a favorite in pet stores. But their nocturnal nature coupled with their love of cool, dry mountainous regions makes them inappropriate "companion" animals.



Susie Duckworth

HABITAT: Natural mountain climbers who dwell in burrows or rock crevices, chinchillas need a caging system with platforms or ledges that will provide different levels of elevation and enough room to exercise. Equip the cage with an exercise wheel and sections of polyvinyl-chloride (PVC) piping large enough for them to enter. Add some untreated fruit-tree branches so the animals can gnaw their incisors down as necessary. Chinchillas clean themselves with dust baths every two to three days, so place a heavy bowl or tray in the cage for this purpose and remove the tray after each use. Purchase dust at any pet supply store and replace it every two to three weeks. You may want to place paper towels on the cage floor and on top of the tray to make clean-up easy. Another helpful tip: Place a small tray of non-clumping cat litter in the cage and most chinchillas will learn to use it, saving your staff even more time and energy.

Chinchillas prefer cool, dry climates, so keep the room temperature in the 50°-65° range if

possible, certainly no higher than 70°; do not place the cage in a basement because the dampness may break down the insulating ability of the animal's fur, possibly leading to illness or fur chewing.

DIET: Chinchilla food or "chow" is available in many pet supply stores, but guinea pig food is also sufficient. Supplement this diet with sources of roughage including alfalfa hay or timothy hay, which is sold loose or in cube form. Provide occasional treats such as raisins, apple slices, or oatmeal flakes, but watch for signs of excess weight gain.

HEALTH: The animal's droppings should be dry, dark, elongated pellets. Diarrhea or any other variations may indicate a problem. Also check for fur-chewing, which may be a sign of stress or an unsuitable environment. As with all animals, the best advice is to know which warning signs may indicate illness. (Many factors are similar to those listed in "How to Tell if a Cat or Dog May Need Veterinary Care" on pages 21-22 of the March-April issue of ASM.) For information on handling chinchillas during medical exams, socialization, or cage cleaning, see "How to Handle Small Mammals and Reptiles," on page 19.

HEDGEHOGS

Found in Europe, Africa, and Asia, hedgehogs are typically associated with the gardens of England, where they are treasured by homeowners as "natural insecticides." Although this species may be comfortable in the English outdoors, its relative, the African pygmy hedgehog currently popular in the United States, is not nearly as comfortable in the typical family home. Adults grow to about six to eight inches in length, and although they're known for their prickly backs, they're far from miniature porcupines.

HABITAT: Hedgehogs should be housed in containers with smooth surfaces because wire mesh may damage snouts and feet. Aquariums, laboratory animal cages, and plastic tubs all



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work well. Make sure cages are fitted with lockable lids because these animals are accomplished climbers and can manipulate cage doors with their snouts or feet. Shavings or shredded paper make appropriate bedding materials. In their natural habitat, hedgehogs spend much of the day in overgrown vegetation or hollow tree trunks, often hiding among shrubs and hedges (hence the name). Design your caging to provide similar retreats. Include a hiding box and some toys to stimulate activity. To help save clean-up time, place non-clumping cat litter in the cage.

Hailing from tropical regions, the African pygmy hedgehog prefers a warm climate of 70°-80°. Place the animal's cage in a warmer part of the room or place a heating pad under part of the cage if room temperature is not high enough.

DIET: In the wild these insectivores enjoy a diet of insects, spiders, beetles, earthworms, slugs, and snails. In a shelter situation, good quality cat food should be sufficient. Feed hedgehogs once a day, usually in the late afternoon after they've awakened from sleep. Give them 1½ tablespoons of dry cat food, 1 tablespoon of canned cat food, and 1 teaspoon each of low-fat cottage cheese, chopped fruits, and vegetables. Feeding containers should be shallow and heavy to prevent the animal from tipping them over. Provide a few mealworms or crickets occasionally to give hedgehogs a chance to

forage for food.

ETC.: A final noteworthy characteristic of hedgehogs is a peculiar behavior called "self-anointing." When coming upon a certain object such as food or even feces, a hedgehog will smell, taste, and chew the object, foam with saliva, then shake his head vigorously from left to right, "anointing" himself with his own saliva. Although some mistake this to be an indication of rabies, it's actually thought to be a protective behavior making the animal offensive to predators. As you'll find, it's pretty effective.

SUGAR GLIDERS

Sugar gliders are nocturnal animals from the marsupial family—pouched animals including kangaroos and opossums. Their name is taken from the distinctive behavior of gliding through the trees of Australia and New Zealand in search of their favorite food, sugary sweet nectar. About five inches in length, they resemble flying squirrels in appearance and locomotion.



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HABITAT: A large, wire-mesh cage, roughly 6 x 5 x 5 feet, is suitable for housing these animals over any extended period of time. Be sure to provide the animal with a quiet, private area, especially during the daylight hours. Place tree branches in the enclosure so the animals can approximate the "gliding" behavior exhibited in the wild. If you expect to be holding the animal for only a week or two, use a large (20+ gallon) aquarium with wire-mesh caging on the top.

SMALL MAMMALS continued

Because these animals are from tropical regions, they prefer a warm, humid environment with temperatures anywhere from 50° in the evenings to a high of 85°-90° during the day. Like a lot of tropical animals, however, they will adjust to a colder or hotter climate if the transition is gradual, so a comfortable room temperature near 70° should suffice.

DIET: Sugar gliders are nectar eaters—like hummingbirds, they take nectar out of flowers—but they will also eat any soft, sweet fruits such as bananas and oranges, so a fruit salad makes an excellent meal. Feed these animals a variety of fruits and add commercially prepared monkey or cat chow to provide needed nutrients. If the animal isn't eating the chow, try soaking the food in orange juice to make it more tempting and increase its nutritional value. Feed $\frac{1}{4}$ - $\frac{1}{2}$ cup of food twice a day, once in the morning and again in the early evening; monitor how much food is eaten and make adjustments accordingly.

HEALTH: Like many animals who are moved from a tropical environment to a colder environment, sugar gliders are at risk of contracting respiratory diseases. External parasites are common as well, so be aware of any drastic changes in the animal's daily habits and watch for hot spots.

PRAIRIE DOGS

Though many small exotic mammals are bred in captivity for the pet trade, prairie dogs are most often taken directly from the wild. Making their homes in underground tunnels throughout the plains of the Great West, prairie dogs are social animals—within their own species, that is. Like most rodents, they are wary of physical contact with people. Prairie dog pups may seem friendly at two weeks of age, but adult prairie dogs can be very unpredictable. Exercise care whenever handling them, and do so only when absolutely necessary. (See "How to Handle Small Mammals and Reptiles," on page 19 of this issue.) ■



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HABITAT: Standard cat caging or similar facilities will be fine for temporary housing. Give the animals a hiding box packed with hay and provide fruit tree logs and branches on which they can gnaw to work their teeth down. Provide a few inches of shredded paper as bedding.

If your shelter takes in prairie dogs frequently or must house them for a long period of time (say, pending a cruelty case), you should house them in a large structure built specifically for their use. Use plywood to create an enclosure at least three to four feet deep, line it with wire mesh (so the animals won't eat through the bottom) and set it on a concrete floor. Fill the enclosure with one foot of top-soil or sand so that the inhabitants can create the familiar tunneling systems that they call home in the wild.

Prairie dogs are diurnal animals (active during the day) so you may wish to house them in an area with other diurnal animals such as rabbits and guinea pigs. Because they are comfortable in moderate climates, prairie dogs do not require any strict temperature controls.

DIET: Prairie dogs eat a variety of mixed fruits and vegetables, seeds, and grains. Apples, carrots, hay cubes, and rabbit pellets will provide sufficient nutrition for a short-term stay. Hamster or rodent biscuits make great treats, too. In general, feed prairie dogs a diet of high-fiber carbohydrates and avoid large amounts of fatty foods like peanuts and sunflower seeds. ■

REPTILES

Reptiles are "ectotherms," which means that they cannot produce heat internally and therefore are dependent on outside sources of heat to raise their body temperature. In the wild, they bask in the sun until they've reached a proper temperature, then forage for food, seek shade, and eventually return to a branch or rock to attract more of the sun's rays.

In the shelter, you must provide a means for reptiles to regulate their body temperature. To simulate a reptile's natural habitat you'll need to provide an aquarium or other container with a warmer area for basking, several basking surfaces such as rocks and branches, and a cooler area at the other end of the cage. This difference in temperature is called a "heat gradient" and although it may differ from species to species, it's essential to every reptile's well-being. No matter what the caging, two thermometers must be kept inside each enclosure to monitor the air temperature in warm and cool areas; any extreme fluctuations will be hazardous to the animal's health. If heat lamps are used, they should be placed *outside* all enclosures. You may want to place heating pads beneath an area of the container, but be careful because glass-bottomed cages may crack if overheated.

If you find that the reptile is spending all or none of the time basking, then gradually adjust the temperature levels within the cage until the animal is alternating time between warm and cool

IGUANAS

Iguanas are probably the lizards most commonly encountered in the pet trade and in shelters. They are a South American species that reach six feet or more in length when mature. Most iguanas you are likely to see will be much smaller, from the 6- to 12-inch-long newborns to the yearlings who are typically imported for sale in pet stores.

HABITAT: Iguanas are basically tree-dwelling herbivorous lizards. The proper enclosure for these animals depends greatly on their size. Large aquariums with tight-fitting covers made of perforated wood or acrylic plastic may be suitable for smaller animals; larger animals will need cages of wood and acrylic plastic big enough to accommodate their body length, with enough space to turn without bending their tails. In most cases, cages constructed of wire mesh are not a good choice for this species because iguanas may get feet, noses, or toes caught or hung in mesh, risking cuts, broken bones, or torn nails. Use newspaper or indoor/outdoor carpeting to cover the cage bottom.



© Mona Beckman

Provide attached or free-standing branches and rocks for climbing.

Heat and light sources are critical to iguanas for the absorption of calcium and vitamin D₃. If the environmental needs of these animals are not met, the result may be metabolic bone disease, marked by the tell-tale swollen jaw indicating that the iguana is using his own bones as a calcium source. The tempera-

regions of the enclosure. If you decide to use "hot rocks" to provide heat, be aware that they can be inconsistent sources of heat that may burn the reptile's sensitive skin. So you should carefully monitor the temperature setting and make sure the animal has room to move away from the hot surface.

Shed a Little Light on the Subject

Natural light helps reptiles process nutrients and essential vitamins necessary for the proper functioning of the immune system. *Indirect* sunlight (an eastern exposure) is sufficient, but 12 hours of light from a wide-spectrum bulb will also provide ultraviolet light. Exposure to *direct* sunlight may cause dangerous temperature fluctuations throughout the day, possibly harming the animal.

Simulate the humidity levels found in tropical regions by placing a large bowl of water in the reptile's enclosure (also popular for bathing or soaking prior to shedding or "sloughing" skin). Use a spray bottle to mist the enclosure, plants (such as hibiscus or pothos), and even the animal's skin.

It May Be Hard to Swallow...

One of the primary concerns for those working with alligators, caimans, and snakes is providing the proper diet. Most experts agree that the best way to properly care for these carnivores is to provide them with rodents, fish, or fowl killed specifically for

ture should range from 80° on one end of the cage to 95° on the opposite end. In the evening, it's fine if temperatures drop to 75°, but you'll need to provide heat on one side of the cage in case the iguana seeks warmth during the evening hours.

DIET: Iguanas eat a primarily vegetarian diet—mixed salads made up of 40 percent leafy dark green vegetables such as dandelion greens, collard greens, and kale (avoid spinach because it impedes calcium absorption); 40 percent pulpy vegetables such as grated or chopped squash, sweet potatoes, and green beans (avoid broccoli, cabbage, and brussels sprouts); 15-20 percent fruits such as grated or chopped bananas, cantaloupe, and peaches. Provide small amounts of protein (2-3 percent of the diet) in the form of dry dog food or monkey chow soaked in water or fruit juice.

Commercially prepared iguana food is nutritionally complete, but you may find the animal less likely to eat it, so monitor consumption closely. Feed adult iguanas three times a week, and feed

younger, smaller animals daily. Vitamin and mineral supplements are available at many pet supply stores and can be sprinkled on the iguana's meal occasionally for added nutrients. In the wild, iguanas often eat flowers, so you may want to treat them to an occasional rose petal, carnation, or geranium, but be sure that the plants have not been treated with pesticides.

MONITOR LIZARDS

Although the ten-foot-long Komodo Dragon is the largest and most well-known of the monitor lizards, several other species of these African and Asian lizards are popular in the pet trade. Ranging in size from two to five feet, these animals have long, powerful legs, tails, teeth, and claws—all of which can be used as weapons. The combination of size, strength, and temperament can render these animals very unruly so it's best to handle them carefully and only when necessary.

HABITAT: A large (30-40 gallon) aquarium is best because it gives the lizard enough room to move freely without touching the sides of the enclosure. Inside the aquarium, place a large, heavy

their consumption. While many see this as contrary to a shelter's obligations to all animals, others feel the alternative results in substandard care for reptiles such as snakes and crocodilians. If your shelter is considering taking in these animals, discuss their dietary requirements and decide how and if you will acquire animals to be used for feeding. (Do not use for feeding those animals euthanized with sodium pentobarbital.) It's rare that an animal in your care will accept only live food, but you should establish policies and practices beforehand to help you deal with an animal whose needs may place you in such an ethical dilemma.

Finally, remember that *all reptiles are potential carriers of the deadly Salmonella bacteria*, so make sure your entire staff wears latex gloves and thoroughly washes their hands after working with these animals, cleaning their enclosures, or coming into contact with anything the animal has touched. Also disinfect sinks and faucets after cleaning a reptile's cage or any other item that has come into contact with a reptile. The teeth of snakes, caimans, and monitors present a more immediate health risk—their bites may lead to serious infections—so it's impossible to be too careful when handling these animals. Anyone exposed to a reptile bite should wash the wound thoroughly and visit a health care professional immediately. For all these reasons, immunocompromised individuals should be discouraged from working with these animals and should practice extreme care if and when doing so.

container of water for bathing, an external heat lamp, and branches and rocks for climbing.

DIET: Monitor lizards prefer whole dead rodents or baby chicks, but in a temporary shelter situation you may feed them insects, canned dog or cat food, or chopped meat mixed with raw eggs. Offer food three times weekly in amounts of roughly three to five percent of the animal's body weight.

ETC.: If you've dealt with these animals, you already know they can be extremely difficult to handle. Many handlers recommend throwing a towel or blanket over a monitor lizard to partially immobilize the animal when cleaning a cage or providing veterinary care.

SNAKES

The large constrictors (boas, pythons, and anacondas) are some of the most popular snakes among collectors of exotic animals. These snakes are normally docile but can present a danger to their caretakers if handled improperly. Because they are such



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REPTILES continued

locate a book detailing the habits and preferences of each type of snake for specific details regarding their habitat and proper nutrition (see page 18 for a short listing of informative books your shelter may wish to acquire).

BALL PYTHONS

This snake is named after the defensive posture the animal assumes when threatened, curling into a ball to protect his head from any perceived threat. Far from the comfortable posture of a dog curled up at the foot of her owner's bed, this is a warning sign to leave the animal alone. If sufficiently frightened or stressed, any snake will bite, causing a quick twinge of pain and little blood—no major cause for alarm, but reason enough to immediately wash the wound with soap, apply an antibacterial ointment, and seek medical treatment. While these snakes can also harm their handlers by constricting about their throats, handlers can avoid this danger entirely by never placing boas or pythons over their shoulders or around their necks.

HABITAT: When a ball python comes into your shelter, it's best to leave the animal alone in a cage for a few days to let him get familiar with his environment. Provide a large (20+ gallon) aquarium with a top that can be locked. Line the enclosure with newspaper or indoor/outdoor carpeting; avoid gravel and sand because they can cause digestive problems if swallowed. Provide fresh, clean water for drinking and soaking, a hiding box to serve as a retreat, and rocks or branches to provide opportunities for physical activity. Appropriate heat gradients should range from 80°-85° on one side of the cage to 90°-95° on the other, and 75° in the evening. Once the snake is comfortable with his surroundings or sufficiently hungry, he should become much more active.

DIET: Feeding snakes in captivity can present a great challenge. Because it is not uncommon for these animals to fast for weeks or longer under certain conditions, Richard Farinato, director of The HSUS's Captive Wildlife Protec-

tion program, advises caretakers not to feed large, healthy constrictors if the shelter is only providing temporary housing.

If, after consultation with a herpetologist, you decide to feed a large constrictor in your shelter, frozen or freshly-killed rodents are the food of choice. It is critical to make sure that the prey are the correct size for the snake you are feeding. Experts generally feed mice, hamsters, and gerbils to ball pythons, and young or adult rats to snakes longer than five feet. A healthy active constrictor may eat twice a month on average, with two to six animal carcasses fed in succession, at each meal. (Do not be surprised if during feeding a snake constricts a dead animal; this is an instinctive reaction not out of the ordinary.)

Fortunately, feeding of live animals is usually unnecessary because most snakes can grow accustomed to eating dead animals. In fact, you may even endanger a snake not interested in eating by placing a live rodent in the cage because the rodent may attack the snake. If, after numerous attempts, you still cannot entice a snake to accept a meal, consult a veterinarian to make sure that the animal is otherwise healthy and seek the help of an experienced herpetologist. If the animal was raised on live food, you may have to consider initially providing live prey for his consumption, a difficult decision that may leave you holding the animal's life in your hands.

HEALTH: Many reptiles fall victim to a disease called mouth rot. Snakes' finicky eating habits make this condition more difficult to detect, so you should pay close attention to their consumption of food and be alert for tell-tale signs of the illness: If the snake has difficulty eating or if you notice a cheesy white or yellowish substance or discoloration in or around the mouth, consult a veterinarian for immediate treatment. A severe case may in-

flect the digestive tract and eventually cause the animal to stop eating. With the use of antibiotics, however, most cases can be cured.

Snakes often get internal parasites from the rodents they ingest, but roundworms and tapeworms are easily treated by a veterinarian. Any external parasites like ticks and mites can be easily removed with a topical solution provided by a veterinarian.

ETC.: As do all reptiles, ball pythons shed or "slough" their skin on a regular basis, most frequently when young and growing quickly. When the snake is ready to shed, he will lose his appetite, his eyes will become cloudy, and he may bathe in water more often and rub against rough surfaces regularly. The old skin should be shed completely, in one piece. If it falls off in patches, it may indicate a health problem.

CROCODILIANS

HABITAT: Caimans, South American relatives of alligators, are the crocodilians most likely to be sold in the pet trade. Like the alligator, they are aquatic reptiles; their quarters should therefore consist of a container of water with haul-out areas large enough to enable them to

climb out completely. Again, depending on the size of the animal, an aquarium, washtub, stock tank, wading pool, or half-barrel could be used on a temporary basis. Make sure that the enclosure has high walls and/or a secure top to prevent escapes. Water should be deep enough to allow the animal to submerge completely. As with lizards and snakes, you should provide the correct temperature gradients and basking areas. To properly clean the area, first drain all water from the container. Frequency of cleaning depends largely on how often and what you feed the animal.

The location of your shelter will dictate whether these animals are placed in outdoor or indoor enclosures; shelters in warmer regions of the country could choose outside pens, while those in cooler regions may do so in the summer months. Evening temperature fluctuations are acceptable, but daytime temperatures should be in the 70°-80° range.

DIET: Like snakes, crocodilians may go days, even weeks, without eating. If the animal is at a desirable body weight and will be housed at your shelter for only a few days, it's probably best to avoid feeding him. In



WILD CATS

captivity these animals eat primarily whole mice, rats, fish, or chicks, and their caretakers often keep a few frozen animals on hand for feeding. Shelters may wish to provide chunks of raw beef, other meat, or fish. In that case you'll need to supplement their diet with vitamins and minerals in the form of bone meal or calcium powder, important for predators who are used to eating an entire animal. General guidelines for long-term care include twice weekly feedings during warmer months, once weekly during cooler months, with each meal weighing about three percent of the animal's body weight.

ETC.: Only experts should handle crocodilians because the animals' dangerous teeth and powerful tails pose a threat to humans. But if you need to handle an alligator or caiman in an emergency situation, have someone help you contain the animal. First throw a towel over the animal to "blind" him to your approach and make it more difficult for him to strike. To restrain the animal, place one hand behind the reptile's head, near the forelimbs, and the other hand under the belly to provide support.

Before you accept a wild cat into your facility, you must first ensure the safety of your staff and the animals. Any shelter that's contemplating accepting wild cats needs a structure designed to segregate the animals from dogs and cats, and a caging system strong enough to contain the animal.

Handle With Care

In some ways the big cats are just larger versions of the felines housed in your cat room. But they differ in many respects. Although the stalking and pouncing behaviors may make big cats seem like cute, playful animals, the danger inherent in handling these animals can't be overemphasized. No one should work with these animals without some prior experience or expert assistance. When in doubt, contact your state's fish and wildlife department, a nearby zoo, or a wildlife specialist; better yet, establish a rela-

tionship with such an institution *beforehand*, so that when the time comes, you will have access to the necessary resources.

Gary Tiscornia, executive director of the Michigan Humane Society (MHS), has seen 20 wild cats in the past 7 years, often as a result of drug raids. Over the years MHS has been successful placing nearly all of their wild cats with responsible sanctuaries where the animals can comfortably live out the rest of their natural lives, preferably in a refuge without any public visitation. "Once the animal comes to us, we feel it's our responsibility to follow that animal until he dies," says Tiscornia. "If a refuge goes belly up and needs to move the animal, we take responsibility for the subsequent placement of that animal, whether he's returned to our shelter while waiting for an opening in another refuge, or euthanized. We want to avoid the possibility of the animal subsequently ending up at a game ranch."



HSUS

HABITAT: Most cats such as the smaller bobcats, ocelots, and lynxes can be effectively caged for a few weeks in a large covered dog kennel in an isolated part of the shelter. Larger cats such as lions, tigers, jaguars, cougars, and leopards will need an enclosure at least eight feet by ten feet, preferably larger.

In general, avoid any physical contact with a wild cat, even if the animal is declawed and his teeth are filed down (common in wild cats kept in private homes). Cage wild cats away from other animals and out of public view to minimize the cats' stress and to protect people and your shelter's

other animals. No matter how friendly and sociable an animal appears, his natural instincts make him a danger to even the most experienced handlers.

Robert Fisher, DVM, chief of medical staff for the MHS, suggests using a caging system that allows staff to feed the animal and clean the cage from the outside. Indoor/outdoor cages and cages separated with guillotine or sliding doors are also effective, allowing you to move the cat to one side of the enclosure before working in the other. Secure the cage with a lock, and use caging with chain links that are secured flush to the floor, or

better yet, that continue below the cement. Smaller cats may not require such sophisticated fencing, but they should be provided with secure chain-link caging equipped with guillotine or sliding doors and remote feeding devices. Room temperature of 65°-70° is adequate for cats of any size.

Because big cats should be able to get off the cold cement floor to sleep, provide a wooden resting board or pallet. Give smaller cats a hiding or nest box made of wood. Add a large branch or log to serve as an oversized scratching post for sharpening claws and a rawhide



Exotic Animals

WILD CATS continued



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chew and hard rubber ball for their entertainment. MHS provides hay bales, tractor tires, and even bowling balls to help keep the animals occupied.

DIET: These predators are especially prone to obesity because they are no longer required to hunt for food, so monitor their weight carefully. Thinner is generally better than heavier; the animal's ribs should barely be visible. Shelter staff need to be attuned to the dietary requirements of these animals, who require specific food to maintain

proper health.

For a long-term stay, muscle meat alone is often insufficient because it is not nutritionally balanced. It may lead to abnormal calcium and phosphorous levels in young cats, eventually causing bone and joint problems as animals develop. Commercial diets are available in canned and frozen form and should provide adequate nutrition.

For a short-term stay, feed adult tigers and lions about seven to ten pounds of meat (or about three percent of the animals'

body weight) once daily. Feed smaller adult cats such as bobcats, lynxes, and ocelots about five percent of their body weight. Some experts recommend one to two days of fasting per week to simulate the life of a carnivore in the wild, but if the animal in your care is used to a more consistent schedule, this may not be necessary.

HEALTH: Check a fecal sample for internal parasites. Look for signs of infections common to felines of most any size, and look for external parasites as well. ■

FOR MORE INFORMATION:

Consult the following resources to learn more about the care of exotic and nondomestic animals. Some of the organizations listed may be able to offer advice regarding placement options.

REPTILES:

Chicago Herpetological Society
2001 Clark St.
Chicago, IL 60614

Georgia Herpetological Society
P.O. Box 464778
Lawrenceville, GA 30246
404-653-9966

Michigan Society of Herpetologists
P.O. Box 13037
Lansing, MI 48901-3037

New York Herpetological Society
P.O. Box 1245
New York, NY 10163-1245
212-795-8972

The Southwestern Herpetological Society
P.O. Box 7469
Van Nuys, CA 91409
818-765-6665
or
P.O. Box 3881
Santa Barbara, CA 93130
805-569-9769

SMALL MAMMALS AND WILD CATS:

The Association of Sanctuaries
P.O. Box 22428
Sacramento, CA 95822
916-684-6384

American College of Zoological Medicine
New York State Veterinary College

Cornell University
Ithaca, NY 14853
607-253-3049

American Association of Wildlife Veterinarians
College of Veterinary Medicine
University of Georgia
Athens, GA 30602

American Association of Zoo Veterinarians
3400 W. Girard Ave.
Philadelphia, PA
19104-1196

Michigan Humane Society
P.O. Box 214182
Auburn Hills, MI 48321
810-852-7542

REFERENCE BOOKS:

The Care of Reptiles and Amphibians in Captivity, Second Edition (1987), Chris Mattison, Sterling Publishing Co., Inc.

Zoo & Wild Animal Medicine, Third Edition (1986), Murray E. Fowler, Ed., W.B. Saunders Company

Wild Mammals in Captivity (1996), Devra Kleiman, Mary Allen, Katerina Thompson, Susan Lumpkin, Eds. The University of Chicago Press

PREVIOUS ISSUES OF SHELTER SENSE AND ANIMAL SHELTERING:

Caring for Rabbits in the Shelter, October, 1994 SS

Creating a Small-Mammal Room, March-April 1996 ASM

HIV/AIDS in the Shelter, February 1995 SS

"How to Tell if a Cat or Dog May Need Veterinary Care," March-April 1996 ASM

Zoonoses in the Shelter, March-April 1996 ASM



David Coates/Detroit News