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Owl Pellets

by Ilo Hiller

On silent wings the owl patrols its territory each night searching for food, and since it will eat almost anything it can catch, its diet contains an interesting variety of items. The size and species

of owl may affect the menu, but as a rule these predators seem to specialize in mice, rats, voles, and other rodents and small mammals. An occasional bird, as well as fish, amphibians, reptiles, insects and even large earthworms also are eaten.

Since owls are primarily nocturnal (night) creatures, sometimes hunting and feeding in almost total darkness, you are probably wondering how we know so much about what they eat. Fortunately, they leave a daily record – an owl pellet – for us to examine.

Owls swallow their food whole or in large pieces. The nourishing soft body parts of their prey are dissolved by the protein enzymes and strong acids found in the owl's stomach. However, the bird cannot digest the bones, teeth, hair, feathers, scales or insect skeletons that remain. Because the opening from the stomach into the intestine is quite narrow, it is unusual for any of the undigested parts to pass on through the owl. Instead, the stomach muscles compress these remains into a wet, slimy pellet that is “coughed up” or regurgitated at least 12 hours later while the owl is perched on its daytime roost. As a result, each pellet contains the skeletons of the animals eaten by the owl the night before.

Young owls do not produce pellets while they are being fed partially digested food by their parents. But as soon as they are old enough to start eating solid foods that contain bones, hair or other undigestible parts, they start coughing up owl pellets, too.

Owl pellets contain the undigestible remains of animals swallowed whole or in large pieces the night before. Once the owl has digested the soft body parts, the remaining bones, teeth, hair, feathers, or scales of their prey species are compressed by the owl's stomach muscles into a pellet that is “coughed up” at least 12 hours later while the owl is perched on its daytime roost.



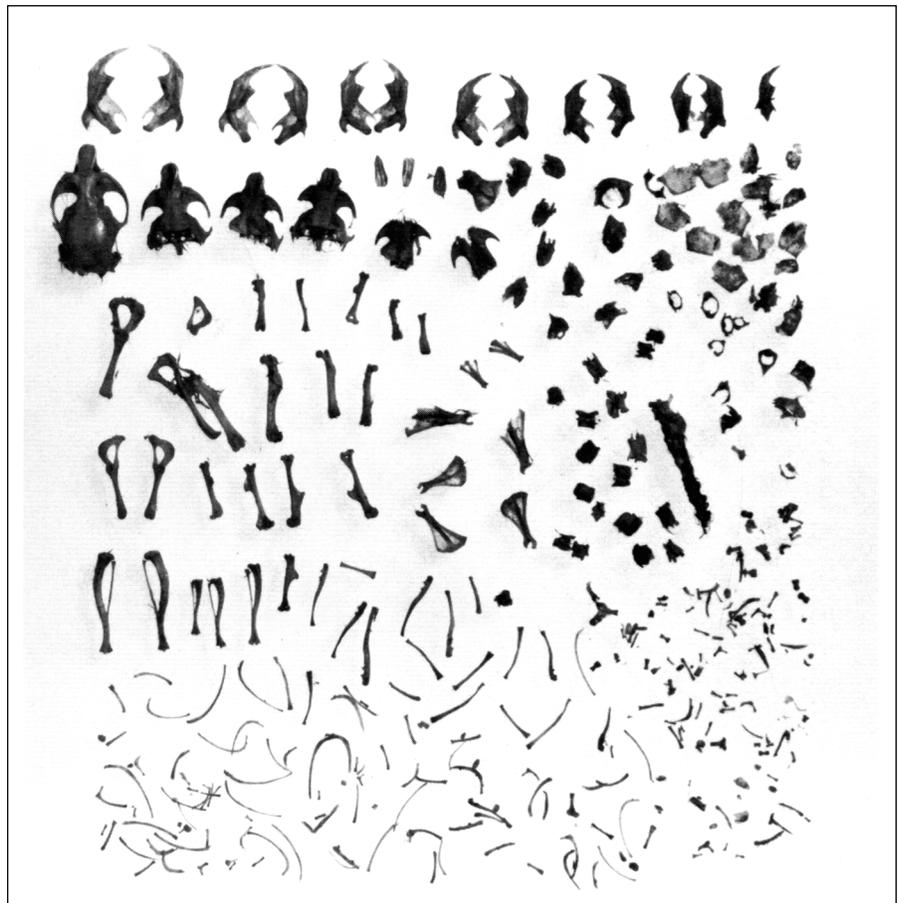
By studying owl pellets the nature detective or professional biologist can learn a lot about the relationship between these winged predators and their prey. The skeletons also help researchers determine which small mammals are found in an owl's hunting territory during different times of the year. Long-term studies of the pellets may show changes taking place in these populations.

Pellets from owls that roost in barns, abandoned buildings, deer blinds or caves can accumulate in large numbers beneath the roosts. However, those produced by owls that roost in unprotected areas fall to the ground where they are exposed to rain and other elements that cause them to fall apart.

Size of the pellets varies with success of the previous night's hunt and the species of owl. They may be one to three inches long and three-fourths to one inch in diameter. After a short drying time, they can be easily handled, and since they contain no flesh, they are almost odorless. However, since they fall beneath the roost, they may be "whitewashed" by the birds' droppings. Their dry weight is about 52 percent fur and 48 percent bone.

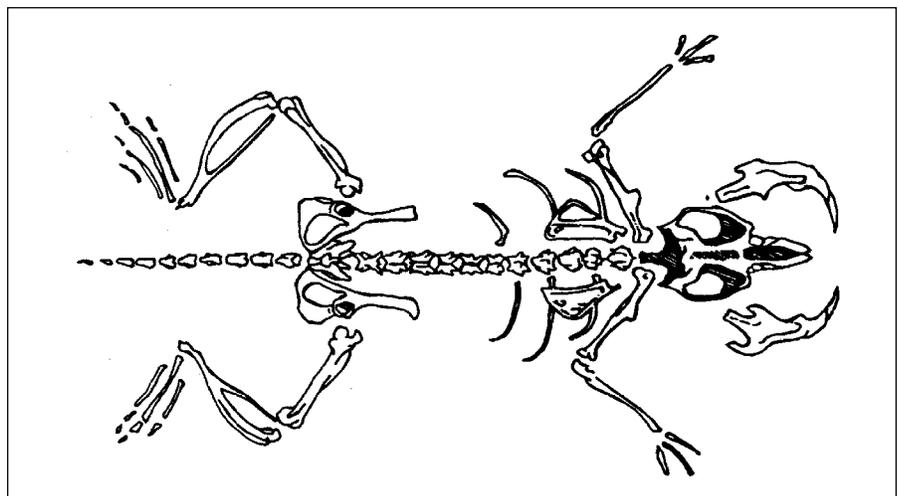
These pellets have been described by some researchers as miniature ecosystems. (For those of you who may not know what the word ecosystem means, an ecosystem is a natural unit that includes living and nonliving parts. These parts interact to produce a stable system in which there is an exchange of materials between the living and nonliving parts. Another definition is: all living things and their environment in an area of any size linked together by energy and nutrient flow.)

Owl pellets fit this definition since they provide food and shelter for various larvae, insects and fungi. For example, clothes moth larvae



Leroy Williamson

All of these bones were removed from half of the large pellet shown on the facing page. Counting the pairs of lower jaws indicates that the owl ate at least seven rodents the night before.



Drawing by Patrick Stark

Once the bones have been removed from the pellet, sort them by type and try to put together a fairly complete skeleton. Lay the bones out according to their location in the natural skeleton and glue them to a piece of cardboard to make an interesting picture for your wall.

often are found in the pellets, feeding on the fur and feathers. The caterpillars of these clothes moths then metamorphose (change into moths) in fur-like cocoons near the surface of the pellet.

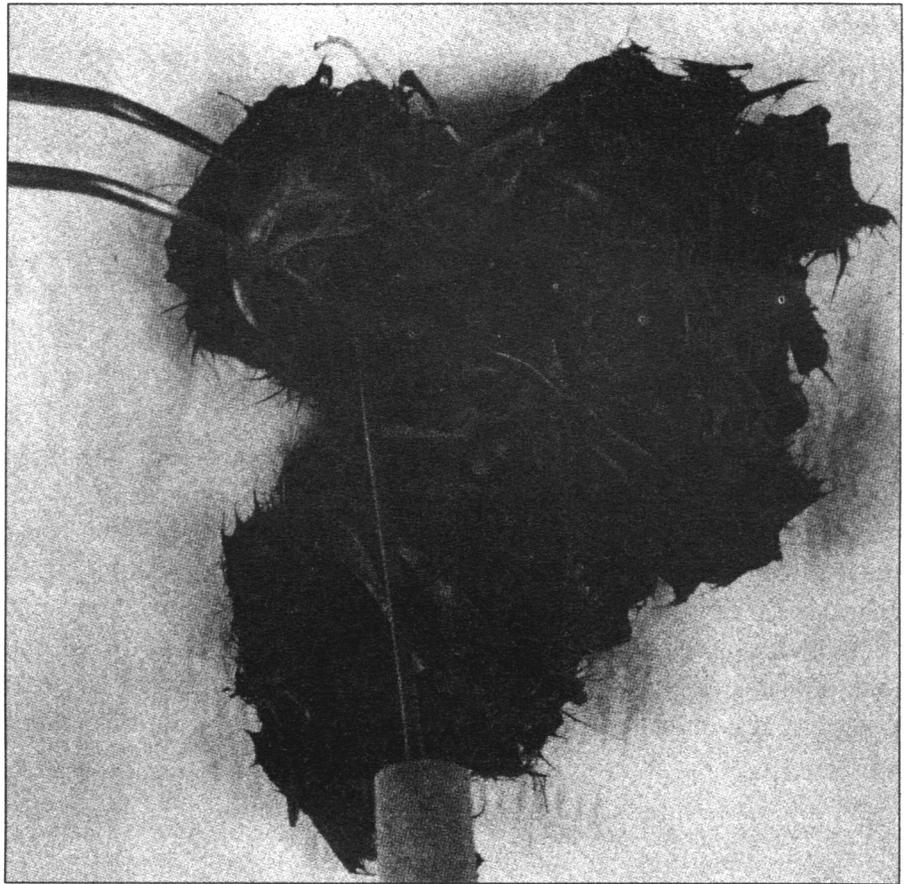
If you would like to examine one of these pellets to determine what the owl that produced it had been eating, the first thing you need to do is acquire one. They can be ordered from a biological supply house or collected from the wild.

Farmers can be a good source for owl pellets since their barns are a favorite roosting place for barn owls. Hunters also can be a good source, and now is the perfect time of year to ask them to look for owl pellets for you. When they visit their leases to get ready for the upcoming deer season, they may find that an owl has moved into their deer blind and has been using it as a roost or nest site since the last hunting season. If this has occurred, there should be a nice pile of pellets on the floor of the blind. You might also ask them to look for owl pellets in any abandoned buildings on their leases.

Pellets that have been collected from the wild should be stored in closed containers after being fumigated with fingernail polish remover and allowed to dry. If you do not want to fumigate them, place them in plastic bags in a freezer to prevent the growth of fur-eating insects.

Once you have acquired some pellets either by ordering or collecting, they can be examined in two different ways – wet and dry. Since the material in the pellet is tightly packed and the surface may be dried rather hard, it is more difficult to pick one of these pellets apart while it is dry. However, it is not as messy as the wet method.

If you do not mind a little mess or the slight odor the wet fur will have, you will find that soaking the pellet in warm water for a few minutes will make it easier to



Soaking the dried pellet in water before trying to pick it apart will soften the hair and make it easier to remove the bones.

separate the tightly packed fur from the more fragile skulls. Be sure to place the wet pellet on a pad of absorbent paper towels when you remove it from the water.

If you do not have a standard dissecting kit with a pick and tweezers, you can substitute a large needle for the pick and use any kind of tweezers to help separate the bones, teeth and other material from the fur. Pick out the skulls and larger bones while the fur is wet. Then allow the fur, which still contains many tiny bones, to dry overnight. When it is dry, use the needle to separate the hairs and locate the smaller bones. A magnifying glass will help you find the tiny pieces.

If you sort the bones found in the pellet, particularly the skulls, you should be able to tell how many prey species were eaten. From all of the bones present, you should be

able to reconstruct at least one fairly complete skeleton. Just lay them out according to their location in the natural skeleton and glue them to a piece of cardboard to make an interesting “picture” for your wall.

Dissecting an owl pellet for yourself may not be something you want to do or have an opportunity to do. However, we hope you have added them to your store of outdoor knowledge and will be able to identify these “miniature mouse kits” if you ever come across them in the wild.



Last Chance Forever

The Bird of Prey Conservancy

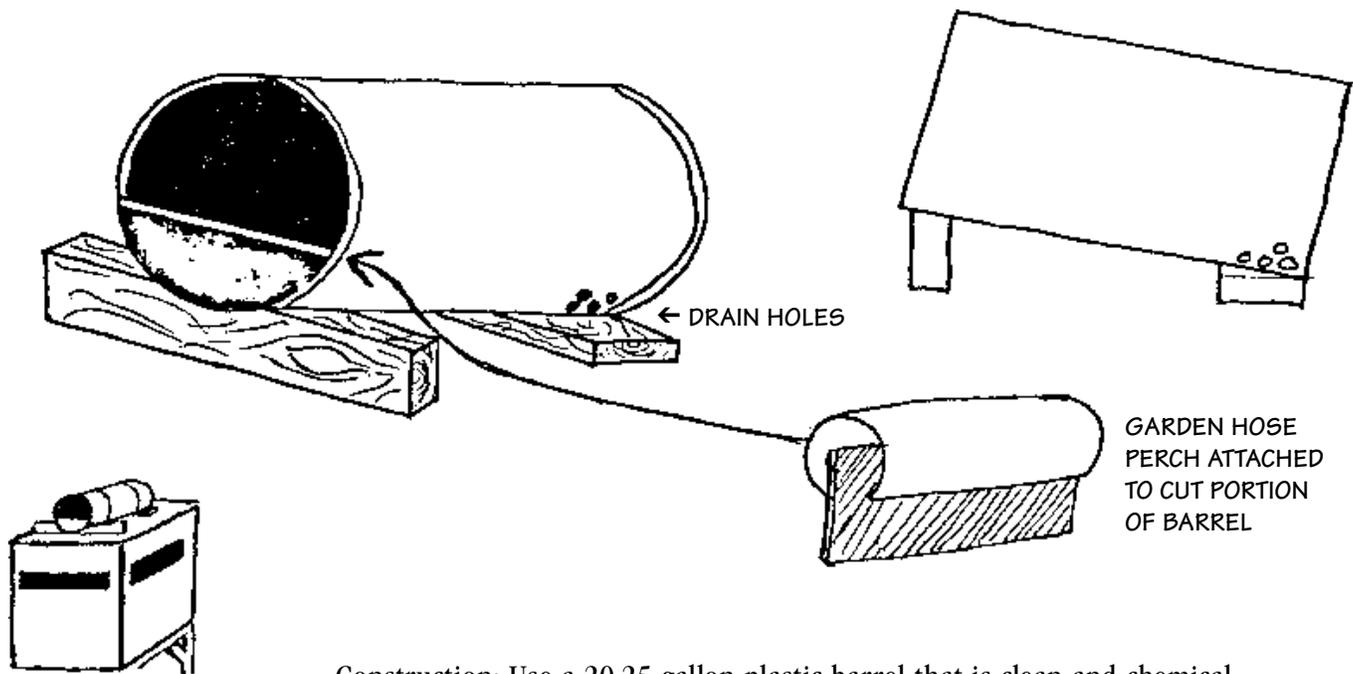
8403 Castle Creek San Antonio, Texas 78218

Substitute Barn Owl Nest Site

Are Barn Owls living in your deer blind and making a mess? By placing a substitute nest site on top of your blind you can give them a place to live and still keep your blind tidy. By providing a place for the owls near your hunting site you can benefit your own area management program. The Barn Owl is a very beneficial bird of prey due to its voracious appetite for animal pests. Each owl is responsible for eating up to 2500 rats and mice every year! These rodents are the same ones that eat the corn in your feeders and eat the young and eggs of quail. When feeding on other

animals, birds of prey tend to kill the sick, weak, and genetically slow!

When you check out your hunting site before the season and find owls raising a family in your blind, be patient. Make a substitute nest and place it atop your blind. Don't scare out the owls and remove the eggs or youngsters. By the time hunting season opens the young birds will have left the nest and the blind will be yours. Trapping, possessing, or moving any bird of prey is illegal and is subject to fine and/or imprisonment.



Construction: Use a 20-25 gallon plastic barrel that is clean and chemical free. Cover the bottom third of the opening with plywood. Take a length of old garden hose, split it lengthwise, and place it over the edge of the plywood to provide a perch for the owls. Affix an on-edge 2x4 to the bottom front of the barrel and a flat 2x4 to the bottom rear. This creates an angle to keep nesting materials in the barrel. Drill 10 holes in the lowest corner of barrel to allow for the drainage of water. Place the entire unit atop the blind with the opening facing away from the prevailing winds.