



Wildlife Center Classroom Series Owl Pellets: Little Packages of Owl Puke

Wednesday August 10, 2016



Raina Krasner, WCV:

Hello, everyone! Welcome to today's Wildlife Center Classroom Series!



Raina Krasner, WCV:

Today, we're talking about something that I think many of you are familiar with – owl pellets! Otherwise known as owl puke, little furball gifts, tiny packages of bones. But let me stop myself before I give away too much of the good stuff.

Comment From caleb (👤👤)

WOO HOO! Kids think this may be one of the BEST Classroom Series EVER ~~~ we LOVE to dissect Papa G'Ho pellets!

Comment From Dave in Missouri

Oh, oel puke, this will go good with my lunch!:)



Raina Krasner, WCV:

:)



Raina Krasner, WCV:

First, what is an owl pellet?



Eagle Owl Pellet in Germany, Martin Lindner



Raina Krasner, WCV:

When an owl eats its prey, it consumes most, if not all, parts of the animal.



Raina Krasner, WCV:

If you order a fast food hamburger (or a veggie burger!) and it comes to you in a neat little wax paper package, and on the hamburger there is lettuce, tomato, and pickles, you have the luxury of using your utensils or fingers to pull back the wax paper wrapper, and then pick apart the burger and pull off the parts you don't like, don't want, or can't eat.



Raina Krasner, WCV:

An owl, however, has to eat everything – “wrapper”, toppings, and all.



Raina Krasner, WCV:

No handy little thumbs and fingers to pick apart the food.



Raina Krasner, WCV:

If a Barn Owl hunts down a mouse for dinner, the owl isn't going to pick the mouse apart and leave out the ears or the whiskers because he doesn't like them. He will eat the muscle, fat, feet, bones, muscle ... along with the fur package it all comes in!



Raina Krasner, WCV:

Owls typically swallow their prey whole if it's small enough, or will use their talons to hold their prey in place while they tear it apart with their sharp beaks. Even then, it's torn into chunks and not necessarily little “nibbles”.



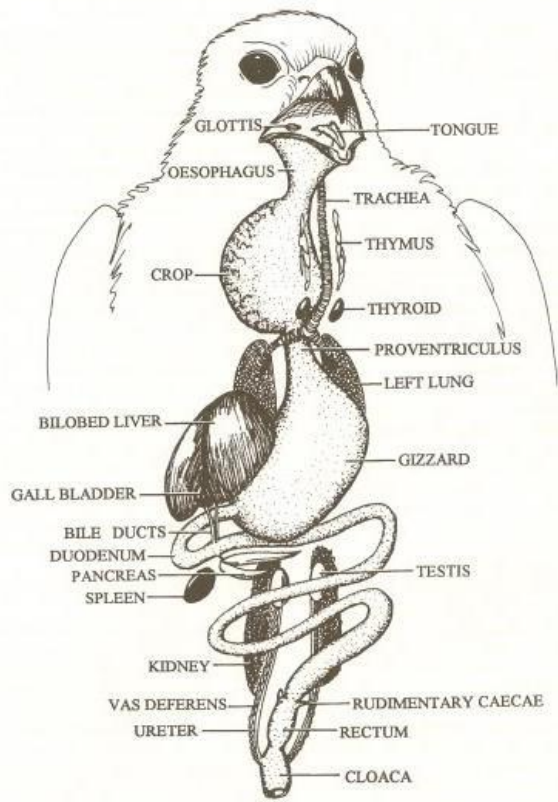
Raina Krasner, WCV:

This is true for a number of birds – I can't tell you how many times I've watched Ruby the Red-tailed Hawk swallow a large mouse or even a chick whole. Nearly gives me a heart attack.



Raina Krasner, WCV:

Speaking of hawks - many other species of raptors (and even other types of birds) have a crop – a sac-like organ connected to their esophagus that stores their food before the bird is ready to digest it.

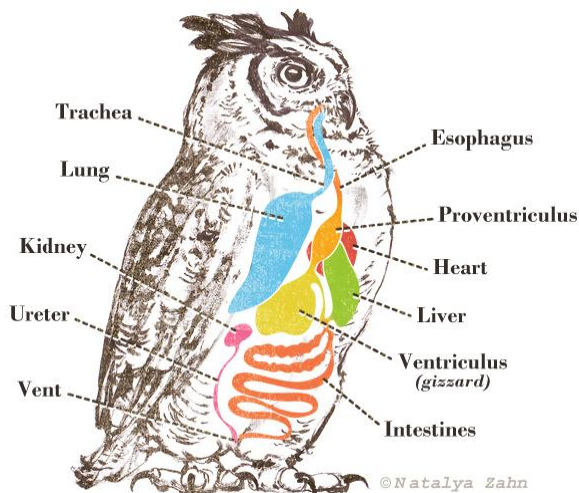


Credit: Cornell.



Raina Krasner, WCV:

Owls, however, do not have a crop, so an owl's meal passes to the gizzard (kind of like our stomach)– an organ that helps break down the usable parts of the prey, including the internal organs, skin, muscle, and fat. They are broken down into essential nutrients and absorbed in the owl's digestive tract.



<http://www.ojairaptorcenter.org/vr-section-2/>



Raina Krasner, WCV:

To get rid of this excess material, the owl's body compresses the bones, fur or feathers, and other indigestible material into a neat pellet.



gailhampshire from Cradley, Malvern, U.K. <https://www.flickr.com/people/43272765@N04>



Raina Krasner, WCV:

I love that photo – from an owl who clearly are a bunch of beetles!



Raina Krasner, WCV:

A pellet is formed a few hours after an owl eats a meal, and is expelled between 10 and 16 hours later. This is also called “casting a pellet”.



© Gregg Thompson, <http://birdnote.org/blog/2016/02/whats-owl-casting-pellets>



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Raina Krasner, WCV:

So graceful, puking owls are.



Raina Krasner, WCV:

Pignoli is famous for coughing up pellets right in the middle of programs. The kids absolutely love it. She coughed one up during a little boy's birthday party, and we let him keep it as a parting gift. How many people can say an owl got them a birthday present?

Comment From caleb (🐼)

Lucky BOY!

Comment From rejoyce

Hi Raina! Owl pellets are cool!!



Raina Krasner, WCV:

hi!

Comment From rejoyce

Pignoli coughed one up right in front of me when I was on a tour LOL



Raina Krasner, WCV:

See? Does it all the time ...



Raina Krasner, WCV:

Pellets can range in size from very small to very large.



<http://www.barnowlsurvey.org.uk/portal/p/Identification+Guide+-+Owl+Pellets>



Raina Krasner, WCV:

Other birds cough up pellets too, including hawks and eagles (Grayson is ALSO known to cough up pellets, rather dramatically, during programs).



Raina Krasner, WCV:

So then, why are OWL pellets so fascinating?



Raina Krasner, WCV:

Expelled owl pellets may contain fully intact bones, because most bones are not broken when an owl attacks and consumes its prey, and those bones are not broken down during digestion.



Long-eared Owl Pellet, by BastienM

Comment From Lydia PA ☺☺☺?

i was sent an owl pellet and it had tiny bones in it I could not recognize-maybe a mouse? (since it was an ambassador pellet)



Raina Krasner, WCV:

Probably a mouse! But we'll talk about how to figure that out in just a minute.



Raina Krasner, WCV:

Hawks and eagles may eat their prey differently than an owl, and because of their digestive process and the acids in their stomach, the bony parts are more broken down. Without intact bones, you can't identify prey.

Comment From PaulaR

I wonder if they make the retching noise that cats make when they bring up a hairball...



Raina Krasner, WCV:

They don't. It's very quiet, and honestly it really is kind of graceful. As graceful as you can be when you're basically puking. If you search for more photos of owls casting pellets, it really is very funny looking.



Raina Krasner, WCV:

But no sound. I imagine the mechanism for coughing up a hairball for a cat is different than for coughing up a pellet for an owl.

Comment From rejoyce

Does it hurt when they cough up things like bones?



Raina Krasner, WCV:

The pellet is really a neat little package, and it's coated with a mucus (I'll mention this again later) so it slides out pretty easily. Everything is compacted down into a little ball. Well, not a ball usually. More oblong than a ball. A tube?

Comment From PaulaR

Yes, I think you're right, Raina, in cats it actually comes from the top of the stomach or the esophagus...seems a lot more dramatic.

Comment From CarolinaGirl

Watched a Barn Owl cam a few years ago and Mom, Dad, or the kids were forever casting pellets. Fun to watch. You always knew when they were working on one.



Raina Krasner, WCV:

They sometimes shake their heads too, to help move the pellet along. It is pretty cool to watch.

Comment From rejoyce

What are some of the most interesting things ever found in owl pellets?



Raina Krasner, WCV:

By examining an owl pellet, you can piece together what prey was part of that owl's last meal. One of my favorite stories about this is from the book about Pale Male (Red-tails in Love by Marie Winn). I grabbed a snapshot of the story from the online book.

vertical slits just south of where the creature's large incisor was still attached to the end of its jaw.

"See those two slits?" she asked. "Those are the inter-incisive foramina." Foramina, she explained, are openings. "Look at the shape of those slits on the *Mus* skull," she continued. "Very different, aren't they? Now here's the skull of the white-footed mouse. See the two slits? What do you think?"

It was perfectly clear: Our mystery bones came from a white-footed mouse, a creature heretofore unacknowledged as a resident of Central Park. Now we knew it was there. I felt like stout Cortez upon a peak in Darien.

Ms. Flemming affixed a label to the little box containing the collection of pellet bones: "*Peromyscus leucopus*, White-footed Mouse." Then she gave it to me. I offered to donate the bones to the museum's collection, but she declined. I put the box in my pocket quickly, just in case she changed her mind.

As we walked from her office to the elevator, we passed many cabinets filled with amazing bones of amazing animals: anteaters, armadillos, and an extinct carnivorous marsupial called a thylacine. None of them, however, seemed as desirable as the bones that had once been inside a saw-whet owl roosting for almost a month in a hemlock tree in the Shakespeare Garden in Central Park, bones that were now in a little white box in my pocket to keep forever.

Screenshot of Red-tails in Love by Marie Winn



Raina Krasner, WCV:

Basically, while dissecting the pellet of a saw-whet owl living in Central Park, NYC, they discovered the owl was eating white-footed mice. They didn't know that white-footed mice even lived in the city! They basically discovered a new species by looking through owl puke. I think that's so cool.

Comment From rejoyce

I remember that passage! /very interesting!



Raina Krasner, WCV:

It's easy enough for you to dissect an owl pellet at home – you never know what you're going to find. I believe Mrs. Matheson's class once purchased Gus the Barred Owl's pellets from us and discovered Blue Jay feathers! Was that your class Mrs. Matheson?



Raina Krasner, WCV:

I don't think she's around, but maybe she'll check in and let me know if I'm remembering the details correctly.



Raina Krasner, WCV:

The Wildlife Center does sell pellets, as do a number of other organizations, but you can also look for these in the wild if you'd like – if you know you have a resident owl in your neighborhood, check under his favorite roosting tree. The tell-tale sign of an owl roost is the "white wash" below a tree.



Raina Krasner, WCV:

Finding your own wild owl pellet might give you some insight into the predator prey dynamics in your own backyard (or nearby). Be careful though – it's easy to confuse an owl pellet with something much less fun, like fox feces.



Raina Krasner, WCV:

Be careful though – it's easy to confuse an owl pellet with something much less fun, like fox feces.



Poop or Pellets? <http://www.barnowlsurvey.org.uk/portal/p/Identification+Guide+-+Owl+Pellets>

Comment From PaulaR

Poo!



Raina Krasner, WCV:

Yup! But sometimes the poop or certain animals can look an awful lot like an owl pellet.

Comment From rejoyce

That would be an unpleasant mistake!



Raina Krasner, WCV:

It's best to sterilize owl pellets before handling them – typically, when you buy pellets they will already be sterilized. Otherwise, you need to freeze the pellets or wrap them in aluminum foil and bake them in an oven at 325 degrees for 40 minutes. This website recommends a good process. <http://www.nature-track.com...>

Comment From PaulaR

Yes, I find fox poo full of beetle wings and fruit seeds that at first glance might be a pellet...



Raina Krasner, WCV:

Yup, that's a good point.



Raina Krasner, WCV:

If you're dissecting pellets, you'll need a little kit.

- Latex Gloves
- Tweezers
- Magnifying glass
- Cup of water
- A shallow bowl or plate (not to be reused)
- Bone chart



Raina Krasner, WCV:

When you dissect a pellet, follow these basic steps.



Raina Krasner, WCV:

First, take note of the color and shape of the pellet. The size can help to determine the species of owl who produced the pellet (tiny pellet versus giant pellet, for example). And depending on geography, that can help you narrow down the species of owl.



Raina Krasner, WCV:

The color and texture can give you some first clues about the kind of animal that was eaten. White fur? Feathers? Appears black?



Raina Krasner, WCV:

Pellets are soft when they are first expelled (think of your cat's hairballs – slimy and soft and gross). But over time, the mucus hardens and the pellet dries out. It can easily break or crumble, so handle it delicately until you are ready to break it apart.



Raina Krasner, WCV:

You'll need to soak it in water to break apart the pellet and to pull away the hair/fur/feathers from the bones. Use a disposable bowl of water to soak the pellet and a disposable plate to pile your goodies (bones, etc.)



Raina Krasner, WCV:

This was from a great horned owl here at the Center. We see a skull and mandible, femur, vertebrae ...

Comment From PaulaR

tiny skull!



Raina Krasner, WCV:

When breaking apart the pellet, pull out the bones, teeth, claws, and any other items you find. Once you have pulled away all of the hair, fur, or feathers, and separated the bones you can begin to identify the prey.

Comment From Lydia PA 🐾🐾?

Oh Raina, love your class.....so informative...but I have to go. Hey, here is my friend Ramona? Will scroll back later!



Raina Krasner, WCV:

Bye Lydia, thanks for dropping in!

Comment From rejoyce

Like a treasure hunt!



Raina Krasner, WCV:

Oh such a fun treasure hunt.



Raina Krasner, WCV:

To identify a prey item, you can examine some key body parts – the skull, scapula, forelimbs, vertebrae, pelvic bone, and even ribs. You may need a magnifying glass to get a closer look.



Raina Krasner, WCV:

Like PaulaR mentioned, the bones are often tiny! And you might rely on some very specific measurements to tell one species apart from another. Having a ruler on hand would be helpful if you're a serious dissector.



Raina Krasner, WCV:

This is where the bone chart comes in handy. Take a look at this chart that shows the possible differences among a few prey animal skeletons.

Owl Pellet Bone Chart				
	Rodent	Shrew	Mole	Bird
Skull				
Jaw				
Scapula				
Forelimb				
Hindlimb				
Pelvic Bone				
Rib				
Vertebrae				

Carolina Biological Supply Company 2700 York Road, Burlington, North Carolina 27215



Raina Krasner, WCV:

As I mentioned, identifying the exact species of the prey found in a pellet can be challenging – it might involve taking measurements and examining very small details of a complete skeleton.



Raina Krasner, WCV:

It's possible that more than one prey item can be found in a single pellet, so try to make a complete skeleton out of the bones that you find – if you have any "leftover" bones, the owl likely ate more than just one animal.



Raina Krasner, WCV:

If you find the idea of sorting through owl puke to be icky, there is a digital owl pellet dissection that is pretty cool (although a lot less satisfying if you ask me!)



Raina Krasner, WCV:

<http://www.kidwings.com/owl...>



Raina Krasner, WCV:

We're in the process of making a video about owl pellet dissection, so stay tuned for more fun in the coming weeks!



Raina Krasner, WCV:

Thanks for joining us for today's class!



Raina Krasner, WCV:

It's a quick one, but I hope that it gets you excited about our soon-to-be educational video.

Comment From PaulaR

Thanks, Raina, that was very fun and very educational!

Comment From Seahawk Nadine - U.P.,WA

Thank you Raina for the class - very informative. I have to leave but will read back for the rest of it. Have a great day. CN

Comment From Dave in Missouri

Thanks Raina, I will have to scroll back!

Comment From Dave in Missouri

awesome!



Raina Krasner, WCV:

In the meantime, check out this video if a Barred Owl puking. :)

<https://www.youtube.com/watch?v=PTLaxqmcYeY>

Comment From rejoyce

Thanks!! I love owls AND their pellets!

Comment From BarbB in nj

osing my appetite. Thats a big improvement for me.

Comment From CarolinaGirl

Thanks Raina! Looking forward to the video!

Comment From Brenda from Virginia

Cool video and interesting class! Thanks, Raina.

Comment From Robin (wasNY,nowNC)

I think I've found someone's pellets on the deck and railings of a house in Northern Neck VA, but the "piles" were usually more diffuse than those pictured. Maybe they'd sat out in the weather and been partly eroded or dissolved?



Raina Krasner, WCV:

Yup, definitely possible. If they were rained on, they'd just break apart.

Comment From caleb (👁👁)

Kids took notes to be certain they were doing everything correctly! THANKS Raina! GREAT class!

Comment From Guest

Thanks, Raina, for the great info.



Raina Krasner, WCV:

Bye everyone!

Comment From Dave in Missouri

Bye Raina!