

Burlington Reports

Paws and Claws Society, Inc., Thorofare, NJ



Issue 34: Spring/Summer 2024

Partners in Prevention *Not* Destruction since 1993



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Undersea Artists

Living in the waters around the islands of Amami Ōshima and Okinawa,



Japan is a newly discovered species, first identified about 16 years ago: the White-spotted pufferfish (*Torquigener albomaculosus*). In the sea off the coast of Setouchi on Amami Ōshima, specifically, male white-spotted pufferfish are known for creating beautiful and intricate designs in the sand and silt. These are made for the purpose of attracting a female mate and then to be used as a spawning bed.

When scuba divers first found these mandala-like designs resembling crop circles in the mid-1990's, scientists were baffled as to how they got there and what creature (or human?) had created them.

It wasn't until a decade later that it

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- Hover over "Furry Angels" to learn about pets currently available for adoption, read about pets who have found their Forever Homes, read or submit to the Funny Pages, read "Letters From The Heart", download forms, and more.
- Read about Paws and Claws Society's programs or see "Gems of Wisdom and Pearls of Knowledge: Humane Messages" at "Compassion Central".
- Find statistics and No-Kill information on "Tips From The Trenches".
- Read articles about pet care (and even use the age calculator to find out your pet's age in human years) at Caretakers' Corner".
- Look for "Share" buttons throughout our site to share content via Twitter, Facebook, email, and other services.



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Undersea Artists (continued)

(Continued from page 1)

was discovered to be the work of the pufferfish!



Over the course of a week, the male pufferfish works 24-hours a day, swimming back and forth, using his fins to dig into and stir up the sand and silt on the seabed, making a mathematically elaborate geometric masterpiece measuring two meters (about 6 1/2 feet) in diameter. At no more than 12 centimeters long (about 4 3/4 inches) themselves, this is a big undertaking for a little fish!

The pattern includes a circular center of soft sand, surrounded by rings of rippled hills and valleys adorned with seashells which give the ridges structural strength and also add eye-catching decoration, although a sparkly border may not be the fish's primary goal.

Instead, it appears that the primary goal of these artistic designs is to attract a mate, who will lay her eggs in the sand at the center of the pattern. Once she has laid the eggs, the female departs, leaving the male to fertilize and guard the eggs for the next six days until they hatch.

Impressively, the structure is designed in such a way that the currents are slowed down near the center of the circle, where the female will lay the eggs. Eventually, of course, once the eggs have hatched and the nest is no longer needed, it will be completely washed away by the currents and the male pufferfish will start all over again the following year, in preparation for the next generation.

Burlington The Cat: Saved By The Button



Hello, Burlington here. You may recall, in the Fall/Winter 2021 issue of Burlington Reports, an article about pets who "talk" to their humans using buttons

that play sound clips of words or phrases recorded by their people. Mom follows many creators on social media whose pets use these buttons, so I have been aware of them for a long time. I hadn't seen any in person until a family friend's dog showed hers to us, which led to Jersey becoming a hero.

But I'm getting ahead of myself. Let me back up a bit.

Longtime readers already know that, when it comes to exposure to other animals that I don't know, I'm much more laid-back than most cats. Mom tells me often that she appreciates that about me, because it's what makes it possible for her to take me to work with her at the book store without worry that something horrible will happen if a customer brings their dog into the store with them. It is also what allows Mom and Dad the freedom to occasionally foster an animal or to pet-sit for a friend.

So, as you may or may not have guessed, I'm about to share a story with you of a time when a friend of Mom and Dad's brought a pet to stay with us for a while.

It was a Corgi named Beatrix, and, you guessed it: she uses buttons!

A few months before we moved from our old house to our new one, Beatrix's humans went on a trip to Europe and Mom and Dad offered to sit for her at our house for the two weeks that they would be gone. The day that they brought her to our house, I was amazed at the amount of *stuff* they carried into the house. There was a bag with her food and dishes,

which I expected, and another with some of her toys. That made



sense. But then there was a box filled with a bunch of tiles that the humans put together on our living room floor like it was a big puzzle. Attached to the tiles were buttons in varying colors and sizes, and the humans gathered around, talking about all the words and how Beatrix uses them.

At first, I sat back and observed while the humans talked. Jersey came running into the living room and happily introduced herself to Beatrix.

"I'm Jersey!" she said while bouncing up and down, wagging maniacally, and sniffing in ways that seem rude to me on first meeting. I mean, sure, cats *do* sniff butts, too, and I'll clarify that there is a lot of information that can be gleaned from a butt sniff, even if humans *do* think it's gross, but we cats approach the sniff with . . . well . . . let's just say "more decorum" than Jersey exhibited.

But Beatrix didn't mind, because, of course, well, she's a dog too, so they were on the same wavelength.

Anyway, I digress.

The two dogs completed their introductions and secret dog handshakes, or whatever it is they do, and then Beatrix looked at me.

I was still trying to understand the humongous noisy puzzle on our living room floor when it finally occurred to me what it was.

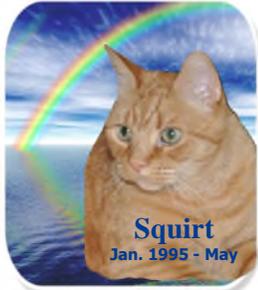
"Are those talking buttons like I've seen in all those videos that humans watch?" I asked.

(Continued on page 6)



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Squirty's Words From The Rainbow Bridge



In memory of Squirty, a longtime friend of Paws and Claws Society who passed away on Mother's Day 2011 at the age of 16½, Burlington Reports added a new section to remember pets who have passed or to learn more about our animal family members. Ask Squirty a question or share your pet memorial story on our web site (hover over "Newsletter" on our menu). Let Squirty answer your questions or meet your pet(s) at the Rainbow Bridge and escort them to Pet Heaven.

Question: Do birds have a sense of smell?

Answer: Most people have believed, until fairly recently, that birds have either no sense of smell or a very poorly developed one, but researchers have been challenging that idea and proving it wrong.

The belief that birds do not rely on a sense of smell seems to date back to an experiment conducted in the 1820's by John James Audubon (yes; *that* Audubon). He sewed up a deerskin stuffed with grass, to which he had added clay eyes, and put it in plain sight in a meadow with its legs in the air. A turkey vulture flew down and tore the deerskin apart, leaving after realizing there was no meat. Next, Audubon hid the decaying carcass of a hog under some brush in a ravine. Vultures circled but none flew down to check out the carcass. Audubon wrote that the results were "fully conclusive" and proved that vultures did not scavenge by smell.



John James Audubon



Turkey Vulture

In 1960, ornithologist Kenneth Stager's research showed that turkey vultures actually prefer fresher carcasses than the one hidden by Audubon, suggesting that the reason the vultures did not descend in that portion of Audubon's experiment wasn't because they couldn't smell the carcass; it was because they *could*, and it didn't interest them. With the help of natural gas engineers, who told Stager that they'd followed birds to find ruptured pipelines, Stager was able to determine that decomposing carcasses give off a sulfurous compound called ethyl mercaptan, which is what is added to natural gas to give it the rotten-egg odor that humans can detect when there is a leak.



Kenneth Stager



Bernice Wenzel

Bernice Wenzel, a UCLA physiology professor, went a step further and in 1965, presented a paper at the International Symposium on Olfaction and Taste in Japan, based on her research exposing birds to scented air and studying their heart rates and data collected by attaching electrodes to their olfactory bulbs. Wenzel's studies continued over the next 25 years and included various types of birds in New Zealand and off the Southern California coast.



Gabrielle Nevitt

Before retiring in 1989, Wenzel spoke at a conference in Norway that was attended by Gabrielle Nevitt, who was writing her dissertation on salmon olfaction at the time, inspiring Nevitt to carry the baton in the research of birds' ability to smell. In 1992, Nevitt was at sea near the Antarctic Peninsula when a culmination of events that included hurri-

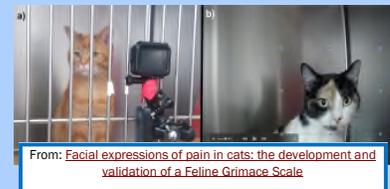
(Continued on page 7)

Visually Recognizing Pain in Cats

The Veterinary Teaching Hospital (CHUV - Centre hospitalier universitaire vétérinaire) of the Faculty of Veterinary Medicine, Université de Montréal, has developed a tool called the **Feline Grimace Scale** to visually detect whether a cat is in acute pain based on facial expression and positioning.

To develop this scale, researchers used videos of cats, some of whom were in pain and some of whom were not. Owners of the cats gave permission for their cats to be included in the study, which did not induce pain or harm to the cats and used cat-friendly techniques for treatment and care. If a cat was found to be in pain, a pain medication was administered.

A camera was attached to the cat's cage and videos were taken before and after pain medication was given, for comparison. Distances of ears, eyes, and muzzle, as well as angles of ears, were measured from screenshots obtained from the videos.



Five features emerged as being different in cats experiencing pain vs those who weren't.

In a cat with no pain or mild pain, the ears are facing forward, eyes opened all the way, the muzzle is relaxed, the whiskers are loose and curved, and the head is above the shoulder line.

A cat in mild to moderate pain displays ears slightly pulled apart, eyes partially closed, mild tension in the muzzle, whiskers slightly curved or straight, and the head aligned with the shoulder line.

Moderate to severe pain in a cat is evident when the ears are flattened and rotated outwards, eyes are squinted, muzzle is tense, whiskers are straight and moving forward, and the head is either below the shoulder line or tilted down.

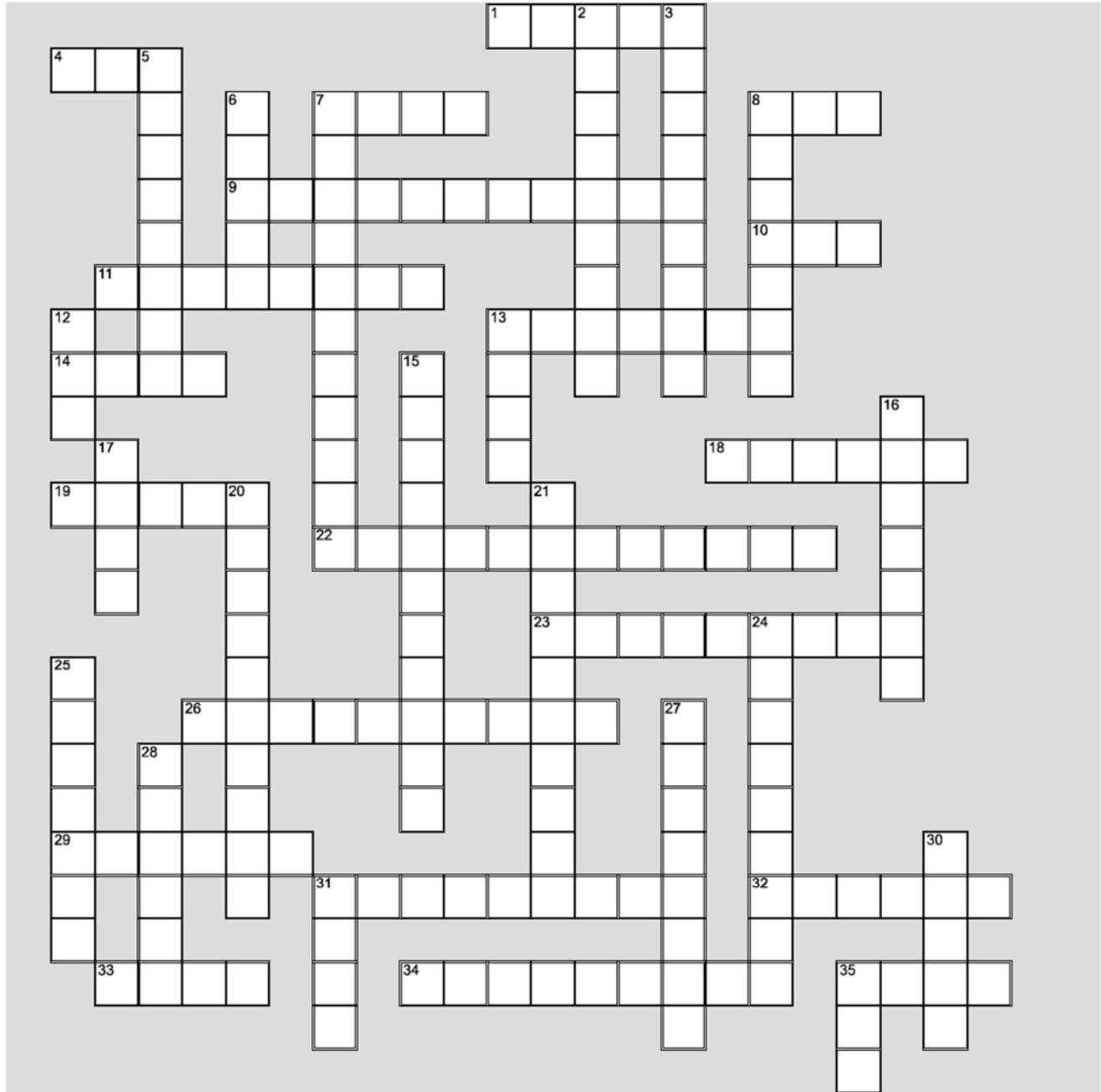
See "Links for Further Reading" on our web site for links about the Feline Grimace Scale and to see images, or check the Apple Store or Google Play for the mobile app.



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Crossword Puzzle: Crossword Puzzle - Common Idioms Using Animal Names

Have you ever noticed how many commonly used idioms* have animals in them? The origins of some of these phrases are easy to figure out, but some of them may raise a question or two as to who first said them and why. Can you guess the 40 idioms that use names of animals in this issue's puzzle? Visit our web site to see the completed puzzle or to solve the puzzle online.



* What is an idiom? A phrase or expression that is not meant to be taken literally, as a literal translation would either make no sense or would mean something different from the meaning commonly attached to the phrase.



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Clue List (for Crossword Puzzle on Page 4):

Across	Down
1. If something is moving much more slowly than you want it to, you may say it's moving "at a ___'s pace".	2. Someone who is very angry or enraged could be described as being "mad _____".
4. Similar to 8 Across & 11 Across: Using a phrase that came into use during the 1920's and believed to have been originally introduced by cartoonist Tad Dorgan, something that is excellent may be "the ___'s knees".	3. If you are telling someone that you'll do something very quickly, you may say that you'll do it in "two shakes of a ___".
7. If someone is clumsy, you may say they are like "a ___ in a china shop".	5. An obvious problem or risk that no one wants to discuss is sometimes referred to as the "___ in the room".
8. Similar to 4 Across and 11 Across (and also attributed to cartoonist Tad Dorgan), something that is excellent may be "the ___'s pajamas".	6. Someone who is well prepared or well organized has their "___ in a row".
9. A heavy downpour is sometimes described as "raining _____".	7. If you are nervous, you may say "I have ___ in my stomach".
10. A business, product, or asset that produces a constant cash flow over its lifespan may be called a "cash ___".	8. If you allow fear to stop you from doing something, someone may say you will "___ out".
11. Similar to 4 Across and 8 Across (and also attributed to cartoonist Tad Dorgan), something that is excellent may be "the _____".	12. If someone looks rough, disheveled, or bedraggled, others may say "look what the ___ dragged in".
13. To "make a ___" toward something is to go directly to it as quickly as possible.	13. To "take the ___ by the horns" is to deal with a difficult situation in a very direct, brave, or confident way.
14. If you are jittery and can't sit still, someone may say that you have "___ in your pants".	15. To hear something "from the ___" is to hear it directly from the source.
18. If someone isn't speaking, you may ask them, "What's the matter? ___ your tongue?"	16. The hottest portion of the summer can be called "the ___ of summer".
19. Similar to 33 Across, if you think something is suspicious, you may say "something is ___" about it.	17. The largest portion of something, especially if it's a disproportionate amount, can be referred to as "the ___'s share".
22. To ignore a problem because addressing it could cause an even more difficult problem is to "let ___ lie".	20. You may encourage someone to slow down or to stop and consider their decision or opinion carefully by telling them, "hold _____".
23. A person or thing that has only one single talent can be called a "one _____".	21. If you received information from a source that you are not willing to disclose, you may say "A ___ told me".
26. To stop something suddenly, usually referring to a habit like smoking or caffeine, is to stop "_____".	24. Feelings of romantic love felt by someone very young is often referred to as "_____".
29. First used in 1392 by Geoffrey Chaucer in The Canterbury Tales, the phrase "busy _____" can be used to describe someone who enjoys doing a lot of things and is never idle.	25. If you want to leave a job or career that requires you to work very hard to compete with others for money, power, or status, you may say that you want to quit the "_____".
31. If someone pretends to be sad or to sympathize with someone without caring about them, one might say they are shedding "___ tears".	27. To do something to the fullest extent without reservation is to go "_____".
32. If you believe that a person has been used to doing things a certain way for a long time and is not willing to change their habits, you may say that you "can't teach an ___ new tricks".	28. Someone who works hard with great enthusiasm is sometimes called an "eager _____".
33. Similar to 19 Across, to say, "I smell _____" means that you suspect that something is wrong, particularly involving a betrayal of some kind.	30. To indulge in frivolous or boisterous activity or play is to "___ around".
34. A complicated or lengthy and usually fruitless pursuit or search (often a waste of time because the thing being sought does not exist or is somewhere else) is often referred to as a "_____ chase".	31. If you plan to do something for a very long time, you may plan to do it "until the ___ come home".
35. You may tell a friend whose relationship ended that there are "plenty more ___ in the sea".	35. To wish to see someone's reaction without being seen can be described as wishing to "be a ___ on the wall".



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Flat-Nosed Pets and Hot Weather



Dogs and cats with flat noses, also known as brachycephalic, are more susceptible to heat stroke and breathing problems. This is due to their shortened tracheas, small nostrils, and other structural differences caused by genetic mutations that have occurred over time with selective breeding.

A dog's ability to cool down depends on their ability to pant. This is more difficult for many flat-nosed dog breeds such as boxers, bulldogs, pugs, and King Cavalier Spaniels. (Cat breeds with flat noses include Persian, Burmese, Himalayan, British Longhair and Shorthair, Exotic Shorthair, and Scottish Fold.)

Cats are generally (and should be) kept indoors where the temperature is more easily controlled, but dogs have to go out sometimes. What can you do to keep them safe?

You can bring along extra water on walks or car trips to keep your dog hydrated. Opt for early morning or evening walks whenever possible, rather than midday outings. Don't forget that your dog can get exercise indoors, too, playing games like tug or walking up and down stairs. Keep your air conditioning set at 82° or cooler. Use drapes or blinds to keep direct sunlight from warming up your home. Take frequent shade and water breaks when outdoors. Help your pet to maintain a healthy weight (overweight pets are more affected by heat.) NEVER LEAVE ANY PET IN A PARKED CAR!

Seek veterinary care if your pet shows any signs of heat stroke: rapid or shallow breathing, red gums, drooling, feeling hot to the touch, or showing distress.

Heat stroke can be life-threatening!

Burlington The Cat (Continued)

(Continued from page 2)

Beatrix sat down with a satisfied look on her face.

"They are. You're familiar with them?"

"Only from videos," I replied, "I've never actually seen them."

"What are they?" Jersey asked.

Beatrix stood. "Watch this."



She slowly and deliberately walked over to the tile arrangement and paused, then lifted her paw and pressed a blue button in a grouping on the right.

"Poop!" the button proclaimed.

The humans laughed and Beatrix's mom opened the back door. Beatrix trotted out into the back yard.

Jersey and I looked at each other, dumbfounded.

"No way . . ."

"Yes, that was a 'poop' button," I confirmed.

Jersey bounced to her feet and ran over to the board. She looked a little confused for a moment. I was pretty sure she'd forgotten which button Beatrix had pressed, and I was right. She reached out and pressed.

"Walk!"

She tried again.

"Play!"

The humans were impressed, anyway.

Mom said, "Jersey, do you want to take a walk and play?"

And the Dad stated the obvious: "She doesn't know what the words are. It's the first time she's seen them."

Finally, Jersey landed on the button she was after.

"Poop!"



Proud of herself, she repeated: "Poop! Poop! Poop!"

We both laughed pretty hard about that, and the humans joined us.

In the two weeks that Beatrix stayed with us, she taught us all of the buttons, and even how to put words together to express more complex thoughts.

"For instance," she said one day, after her ball had rolled under our couch, "I can ask for help."

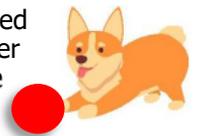
She pressed the "Help!" button and Mom asked Beatrix what she needed help with.

She followed by pressing "Ball" and "Couch".

Mom said, "Help, ball, couch?"

Beatrix wagged her tail and looked at the couch. Mom got on the floor and wriggled her arm under the couch, retrieving the ball.

Beatrix let out an excited "Yip" and Mom gave her a pat and a kiss before rolling the ball for Beatrix to chase.



Beatrix told us that her family also had a cat, which I already knew from their scent, and she showed Jersey that there was a "Cat" button that she would use when she wanted to ask where the cat was.

"Where *is* your cat, by the way?" I asked.

"Our next door neighbor is taking care of her."

Jersey asked, "Do you think she misses you?"

Beatrix laughed. "Probably not. She seems to enjoy having time to herself."

I knew how she felt. As much as I like Jersey, I do like my "me" time. At our old house, I often found that time in the basement. If Mom would notice

(Continued on page 7)



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Squirty's Words (Continued)

(Continued from page 3)

cane-force winds and a fall that caused a kidney injury led to her meeting NOAA atmospheric chemist Tim Bates.



Tim Bates

Bates was studying a gas emitted by microscopic plants called phytoplankton living at the ocean's surface. This gas is dimethyl sulfide, or DMS. Bates was studying DMS for its contribution to the formation of clouds and its possible potential to help combat climate change. Nevitt recognized the scent as an aroma like oysters on the half shell, and she made the connection: Krill (small crustaceans) are the main food source for



Black-browed albatross



Antarctic petrel

seabirds, and they release DMS when they eat phytoplankton! The seabirds pick up the scent of DMS and follow it to find schools of krill! Nevitt then tested her theory months later by launching aerosols of DMS, as well as other substances as controls, into the air from the ship RRS *James Clark Ross*, and volunteers tallied seabirds that made a beeline for the DMS plumes.

Nevitt and many other researchers including evolutionary biologist Danielle Whit-

taker, Massey University biologist Anna Gsell, Ph.D., and wildlife biologist (and Swarthmore Assistant Professor of Biology) Julie Hagelin continue pushing past criticism to disprove the old myth and push forward in this fascinating area of study, covering not only how birds use their ability to detect scent when searching for food, but also their ability to use scent in many other ways, such as distinguishing one individual bird from another and attracting a mate.



*Peace, Love, and Head-Butts,
Squirty.*

Burlington The Cat (Continued)

(Continued from page 6)

that I was staring at the basement door, she'd open it for me, allowing me to find a secluded spot for a nap, removed from the hustle and bustle in the rest of the house. Jersey didn't bother me in the basement because she didn't like the steps.

Well, one afternoon, not long before Beatrix's family came to pick her up and take her home, I was napping in one of my favorite spots in the basement and I heard the door close. I didn't think much about it at the time. Jersey later told me she'd been playing with Beatrix and had accidentally rolled into the door, pushing it closed.

A couple hours later, I was awoken by a growl of my hungry belly. Realizing by the look of the light coming in through the small basement window that it was close to dinner time, I got up, stretched, and made my way up the steps to be



reminded that the door was closed.

"Meow," I said.

Nothing.

"Meow!" I raised my paw and batted at the door.

"Burlington?"

It was Jersey.

"Yeah, Jersey. I'm hungry, but this door is closed."

A few seconds later, I heard the buttons: "Help!", "Friend", "Cat".

Mom's voice followed. "What is it, Jersey? Help, friend, cat?"

Her footsteps grew louder as she came closer to the door.

"Meow!" I said.

Mom opened the door and I made my way to my food dish, thanking Jersey as I passed.

The day after Beatrix went home, a package arrived. Mom called us into

the living room and made quite a show of opening the package, revealing a brand-new set of buttons and tiles! She laid it out in the same configuration as Beatrix's had been, and she and Dad got to work recording words and phrases for the buttons that Jersey had already learned, then placed them in the same spots as those same words had been placed on Beatrix's tiles. Jersey quickly began using them and has since learned some new words as well. The buttons came with us to our new house, and if ever there is a time when one of us (or a family friend's pet, or a foster pet)



should need assistance again, Jersey will be at the ready to jump into action as the button pressing hero!



Burlington is a fictional gray/silver tabby cat belonging to a family in the Northeast United States. "Mom" is Paige Turner, owner of a small book store. "Dad's" real name has not been mentioned to date. Their two (now adult) children are Mallory and Matthew. The family also adopted a Chihuahua and named her Jersey. See our web site, pacsnj.org, for other issues of Burlington Reports and read the ongoing adventures and learning experiences of Burlington and his family!



To learn about links for additional reading on topics mentioned in Burlington Reports, see "For Further Information" on page one!



Paws and Claws Society, Inc.

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Hot Asphalt Burns Paws / Hot Vehicles Can Be Deadly

The park sign at right was found online and is an always-important reminder of high asphalt temperatures during the warmer months of the year. When it is a gorgeous 77° outside, the asphalt temperature is hot enough to cause damaging burns to your pet's paws.

Rule of thumb: If it's too hot for your bare feet, it's too hot for theirs!

Also, take a look at the temperature chart in last month's newsletter, outlining which temperatures are too hot or too cold for dogs based on size. Of course, other factors can influence a dog's tolerance of high or low temperatures as well, such as age, type of coat, overall health, length of time outdoors, whether your dog (or cat) has a flat nose (see page 6), and more.

And it cannot be stressed enough that the temperature inside a vehicle climbs to fatally dangerous levels very quickly in warm weather (even with a window cracked), necessitating reminders to never leave animals or children in vehicles unattended.

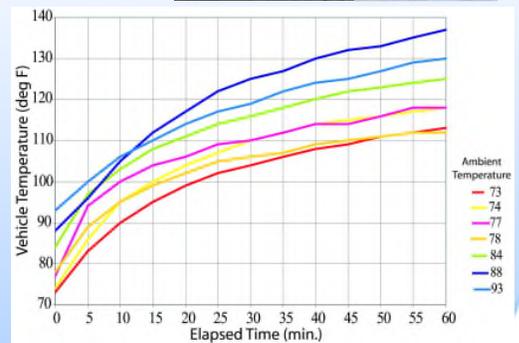


Chart provided by the National Weather Service