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Cicada Meets Altar Boy

While outside in the coming days, whether in city or country, listen for your first buzzing cicada of the year. Through decades now, living all my life since childhood in the lower Great Lakes area, the average date I've caught the first buzzing of summer has been about a week into July. In cooler summers, like this one, the first buzz might not occur until closer to the middle of the month. In the freakishly hot and foreboding summer of 2012, I noted my all-time earliest record in the third week of June.

A little background...

The cicada has been recently reclassified into the insect order, Hemiptera, and shares a suborder with many other species that are markedly smaller, including leafhoppers, treehoppers, froghoppers (A spittlebug is the nymph stage.) and aphids. Their tube-like, sucking mouthparts are made to pierce the leaves, stems, and, in the cicada's case, roots of various plant life.

There are many species across the continent exhibiting variation in size, buzzing quality, and natural community-type occupied, but all have basic similarities in relation to metamorphosis and behavior. The seventeen-year cicada is a well-known example of a "periodical" cicada. The nymphs grow for that many years underground on a simultaneous schedule and emerge en masse in their final summer. The annual or dog day cicada is heard every summer in our area once the mature nymphs begin to emerge, but any individual nymph still requires multiple years to mature.

The nymph will sip sap from the roots of a tree before emerging above ground to procreate in the winged adult stage. It dons a set of formidable-looking front claws, but they are used strictly for digging through its subterranean environment and to aid in climbing up the bark of a tree trunk prior to molting into the adult stage. The claws cannot be used in any defensive manner. In mid-to-late summer the life-like, dried, hollow, brown, nymphal skin is often found stuck to the tree trunk after the adult has already expanded its wings and flown off. It remains stuck there for days after emergence by pairs of fine hooks at the tips of the four back legs and by the oversized front claws.

From the human aspect the deep, drawn out, rolling and resonating buzz of the cicada is synonymous with warm summer days. Males buzz loudly from tree limbs over our heads in order to attract mates. The sound is produced by way of rapidly vibrating membranes in a hollow chamber at the front end of the abdomen. A pair of external vibrating plates amplify the sound. Once mated, the female lays eggs on



the newest, soft, green sprigs of growth on the tip of an outermost tree limb. She cuts a tiny angular slit into the tissue with the sharp tip of her ovipositor, then deposits a single egg under the flap. She will make a whole row of such slits and ovidepositions on the same sprig before flying to another tree. When the pinhead-sized nymphs hatch shortly thereafter, they allow themselves to freefall to the ground where they immediately burrow. They will not see the light of day again until the brink of adulthood.

Mature cicada nymphs emerge overnight. As a developing young naturalist in a residential neighborhood on Chicago's northwest side I would occasionally discover one at dusk, in the midst of the arduous, ultra-slow-motion trek across, perhaps, ten feet of sparse lawn from its perfectly round three-eighth-inch-wide excavation cavity under a tall, street-side elm toward the trunk to begin its ascent. After witnessing many incidences of predation of adult cicadas by house sparrows and other birds, it came very clear why this insect had evolved a behavior to emerge in its most vulnerable state under the cover of darkness.



I was the sixth child out of seven, named after my father's grandfather and an apostle... born into a not-atypical, baby-boomer era, Irish Catholic family. We attended St. Viator Parish and School on Addison and Keeler. In sixth grade, like my brothers before me, I signed-on to become an altar boy - the priest's right hand man during Sunday or weekday masses. The altar boy team was comprised of about three dozen boys spanning sixth through eighth grade. Each Sunday the church bulletin announced altar boy assignments for the next two weeks. The most brutal assignment, but fun and almost eerily different, was the 6 a.m. mass through all five weekdays.

In July of 1970 I got the nod. The relatively carefree, schedule-free days of summer were interrupted by a week-long stint of early morning responsibility. My mother woke me at 5:15 a.m. while the rest of the household continued to sleep. She would place a glass of orange juice and a slice of buttered toast at my bedside, make sure I was stirring, then return to bed. It didn't take me long to get myself washed, combed and out the door, strolling down Cornelia Street toward the church four blocks away. I had traversed the neighborhood in the evening darkness many times before, but the early morning atmosphere had a foreign, yet, distinctly peaceful quality. The early birds were not even awake yet. The sidewalks were empty. Few cars were visible as I crossed a normally much busier Pulaski Street. I arrived at the church in less than fifteen minutes. Preparation beforehand only took another fifteen minutes, and, with only about ten people in the pews, the service barely lasted a half hour. Another fifteen minutes of clean-up and I was on my short, homeward trek.

The feel of the summer morning had changed markedly over the hour. The sky had brightened as the sun just began to break the cityscape horizon. Robins tweedled and sparrows chirped. Commuter traffic was in full swing. In a few minutes I was back on quiet Cornelia again, just a block from our house.

On our particular block, like on many other residential streets then, majestic American elms loomed skyward on both sides of the street. A girthy, convoluted dark elm trunk rose from nearly every curbside lawn on both sides of the street. The fine, leafy branches spreading over the rooftops and street lights connected over the residential thoroughfare to form a shady canopied corridor.

When I turned on to Cornelia I spotted the first cicada on an elm trunk at eye level. The brown, nymphal skin was split along the back and the emerging adult's thorax and head had just popped out. The abdomen was still stuck inside. I watched its body expand and contract as it made progress a millimeter at a time to free itself. I decided on the spot to take it home so I could continue to observe its transformation to a functional adult. With the utmost care, I managed to loosen the hooked feet from the

trunk. I cradled it carefully in my hand as I walked ... when I noticed another cicada emerging on the very next trunk! This one was further along. It had completely extricated itself and hung from the hollow skin with semi-expanded wings. Its soft, new thorax and growing wings glowed a soft pastel, key lime green. To free both my hands I carefully held the emerging cicada sticky-feet-first up to my T-shirt. The tiny hooks caught securely into the fabric. I slowly let go. Yes! It was firmly stuck there. Now, I carefully coaxed my finger under the legs of the expanding cicada on the tree to separate it from the skin on which it clung. Foot by foot it transferred to my finger tip. Now I had two cicadas to observe!

You guessed it... A few trees later I found another nymph on a trunk. The seam on this one's back had just split, and the adult cicada inside had only just begun its attempts to push out. I gingerly hung the emerged, expanding cicada next to the first cicada on my shirt, carefully removed this nymph from the trunk, then adhered it to another spot on my shirt front. I circled trunk after trunk all the way down the block with more discoveries. It took me another twenty minutes to finally reach my front porch at the end of the block. Eight cicadas, in various stages of emergence or wing expansion clung to my shirt. I slowly climbed the stairs for fear one would become dislodged and drop to the ground. I quickly improvised, and turned a thick wooden supporting column where the stairs met the porch in front of our door into a convenient tree trunk substitute. I lowered myself to a sitting position next to it, then began the slow, careful process of transferring them one by one on to the post next to me. Within a few minutes all eight hung in various, advancing stages of emergence and wing expansion.



I then realized I was starving for some breakfast. I went into the still quiet house. Dad had left for work while I was gone. Mom was in the kitchen doing something. The rest of the kids were still in bed. After all, it was still only 7:30 on a summer morning. I told Mom about my cicadas on the front porch column. She made a face, said she didn't want to see them and told me to leave them outside. I poured myself some Cap'n Crunch with milk, returned to the porch with my big bowlful and spoon, then settled down next to the post again, rapt in the details of the

their collective, protracted progress.

Within an hour all were fully emerged and clinging either to a nymphal skin or to the post. As they dried and stiffened, the bright, pastel greens on the back and wings darkened to a deeper hue - a much more difficult shade to notice against the trunk or limb of a tree.

When I stood to go into the house the darkest one became startled and took flight. It slowly rose in its unsteady maiden flight and disappeared into the elm canopy over the front lawn. Minutes later I returned to find that another one had disappeared from the post. An hour later the last of them had taken flight. A handful of empty skins remained on the post. As the sun and the temperature rose, male cicadas around the neighborhood began rolling their buzzy sirens to attract mates and to begin the next round of their cycle of life. I warmed to the thought that *my* cicadas were surely among them.

Later that summer, and over the next few summers, a louder, obtrusive, fossil-fuel-driven buzz frequently drowned out the natural summer background of cicadas. The Dutch Elm Disease epidemic had arrived. It swept like fire through the shady corridor on our block, and through every other elm-graced neighborhood. City crews worked overtime to dismantle and haul away the windfall of massive standing skeletons. Within a few years, the cool, summer street canopies had become history. Puny, stick-like ash trees, glaring sunshine, hot sidewalks, and stark shadows took their place. From that time on, cicadas continued to buzz in the summer air of the neighborhood, but anyone with ears and memories that had registered the sounds of summers past could tell. The volume and intensity of buzzing cicadas had become an audio-ghost of what it used to be.

-Jim McGrath

Visit Our Interactive Michigan Reptiles & Amphibians Zoo

Sunday, July 12



Doors open from 1 to 5pm. Admission \$5/person.



Did you know Nature Discovery houses the state's only complete collections of all 13 species of native frogs and all 10 species of native turtles? Nine species of native salamanders and 12 species of Michigan snakes round out this impressive zoo.

Photo opportunities abound amidst up-close encounters with over 100 individuals of 44 Michigan species. Watch and feed turtles as they swim in pools at your feet. Feed mulberries to box turtles. Watch insects being fed to frogs and salamanders. Kids can help catch some

on the grounds to feed to them. Watch various snakes gobble up worms, fish, frogs and other prey. "Wear" a huge Black Rat Snake, the largest, and one of the rarest snakes in Michigan!

Knowledgeable staff is on hand to help participants of all ages make the most of their visit.

ALSO, check out our "farm" of growing giant silk moth caterpillars. Cecropia, Polyphemus, and Prometheus Moth larvae are available with complete written care instructions at a special discount for Sunday's visitors.



Catch Us on Coffee Break Friday, July 17

Jim is scheduled to appear on Friday, July 17 at 9:15am, discussing special DNR videos online that feature some of our snakes. The show airs weekdays from 9 to 10am on 89.7 FM. Listen live online at lcc.edu/radio/onair/ or watch it live (or later in the day at 6pm) online at lcc.edu/tv/watch. We'll post a reminder on our Facebook fan page.

There is Still Time to Raise Giant Silk Moths this Summer

Large Cecropia larvae will be available for one more week.

Polyphemus and Promethea larvae will be available until the end of the month.

Check the website for purchase information details.



Around the State in July

- ❖ *Saturday, July 18: 10:30am. Michigan Snakes Presentation; Huron County Nature Center.*
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- ❖ *Sunday, July 19: 10am to 2pm. Michigan Turtles Exhibit; Williamston Farmer's Market.*
- ❖ *Saturday, July 25: 11am. MI Reptiles & Amphibians Presentation; Benzonia Pub Library.*
1:30pm. MI Reptiles & Amphibians Presentation; Betsie Valley Library, Thompsonville.
7:30pm. Michigan Snakes Presentation; Hartwick Pines SP, Grayling.
- ❖ *Sunday, July 26: 1:30pm. MI Salamanders Presentation; Hartwick Pines SP, Grayling.*



Butterflies & Moths Day Camp

*For students 9 yrs & older
July 27-30*

For details see our summer camp flyer:

<http://naturediscovery.net/pdf/summercamps.pdf>

Camp participants will search for beautiful Spicebush Swallowtail larvae on small Sassafras trees. They hide in folded leaves.

Thank You...

To Chippewa Nature Center, the Latsko Family, and Judy Marr for their generous donations! We are truly grateful at your show of appreciation!

Pope: Greed is an “Ecological Sin”

Can you guess who said this and when?

He addressed the American public about the fact that “too many of us now tend to worship self-indulgence and consumption. Human identity is no longer defined by what one does, but by what one owns.” He urged Americans “for your good and for your nation’s security to take no unnecessary trips, to use carpools or public transportation whenever you can, to park your car one extra day per week, to obey the speed limit, and to set your thermostats to save fuel. Every act of conservation like this is more than just common sense – I tell you it is an act of patriotism.” –*from This Changes Everything (2014), by Naomi Klein.*

Answer: President Jimmy Carter; July 1979. According to Klein, this speech was strongly derided by talking heads of the day “and is frequently cited as one of the reasons Carter lost his reelection bid...”

The impetus for the speech was not climate change back then, but the energy scarcity crisis of the time.

“Economic powers continue to justify the current global system where priority tends to be given to speculation and the pursuit of financial gain. As a result, whatever is fragile, like the environment, is defenseless before the interests of the deified market, which become the **only rule.**”



Thirty-six years later we’re thrilled that Pope Francis has recognized and announced to the world the dire ecological and humanitarian consequences of our obsessive pursuit of material wealth. Klein cites a survey that speaks volumes: “...in 1966, a survey of U.S. college freshmen found that only about 44 percent of them said that making a lot of money was “very important” or “essential.” By 2013, the figure had jumped to 82 percent.”

From <http://all-that-is-interesting.com/pope-francis-climate-change-quotes>. Check out this site for 20 more quotes to ponder from the encyclical.

Watch this 22-minute release of the pope’s encyclical. It’s truthful, instructive, and, hopefully, inspiring.

http://www.washingtonpost.com/local/how-pope-franciss-not-yet-official-document-on-climate-change-is-already-stirring-controversy/2015/06/17/ef4d46be-14fe-11e5-9518-f9e0a8959f32_story.html

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