

## The Year of Brood X Cicadas

The late spring and early summer of 2021 is expected to welcome millions of visitors to the eastern United States: cicadas (not to be confused with locusts)! If you have spent time in this part of the country during the summer, you are likely familiar with these insects. They may be most well-known for their shed exoskeletons clinging to trees and the distinctive sound of their buzzing mating calls, a common refrain during early summer days.

However, the cicadas that will emerge in 2021 are different from those we see every year. These cicadas will be part of the Brood X (Brood 10) of periodical cicadas, the largest of all the broods.<sup>1</sup> These cicadas are easily identified from annual cicadas by their red eyes and their red and orange coloring.<sup>2</sup>

The Brood X cicadas also vary significantly from annual cicadas in their lifecycle. Periodical cicadas follow an uncommon 17-year lifecycle.<sup>2</sup> These cicadas spend the vast majority of their lifetimes maturing underground. The long development time helps ensure the brood is ready to emerge together, creating overwhelming numbers of this cicada brood every 17 years.<sup>2</sup> Their large emerging population makes it more likely that a significant number of cicadas can create the next generation of Brood X cicadas, thus ensuring the survival of the species.<sup>2</sup>



Periodical Cicada (above); Annual Cicada (below)

Emerging cicada nymphs dig up through the ground and climb to an elevated position, often a nearby tree or shrub.<sup>2</sup> The nymph then molts its exoskeleton to become an adult cicada capable of flight.<sup>2</sup> These exoskeletons are easy to find during a typical summer and will be even more prevalent in 2021. The adult cicadas will mate and the females will lay eggs in trees branches or shrubs.<sup>1</sup> Only a few weeks after emerging from the ground, the adult cicadas die.<sup>1</sup> This is an example of semelparity, a characteristic of species that undergo exactly one reproductive cycle before perishing shortly afterwards.<sup>3</sup> The eggs hatch a few weeks later and the nymphs crawl underground to mature for the next 17 years, thus beginning the cycle again.<sup>1</sup>

The large number of impending cicadas may lead many of us to ask: should we be concerned about cicadas this summer? Cicadas cannot bite or sting, so they are not dangerous to humans.<sup>2</sup> Cicadas can, however, pose a threat to young trees and shrubs. Female cicadas create a gouge into branches and twigs to lay their eggs. If enough of these occur on a young tree or bush, the plant could be irreparably damaged.<sup>2</sup> For this reason, it is recommended to wait to plant trees or bushes until later in the year, after the adult cicadas have died.<sup>2</sup> Alternatively, these plants can be covered with a netting with holes small enough to prevent large bugs like cicadas from landing on the plant.<sup>2</sup> A hole smaller than 0.25" is

recommended.<sup>2</sup> Most trees and shrubs of moderate size can withstand the damage caused by the egg-laying of cicadas.<sup>2</sup> For these reasons, the Brood X cicadas should not be considered a large threat. In many ways, these cicadas emerging from 17 years of slumber is a natural wonder. Most of us will likely see this brood of cicada only a handful of times during our lives! We hope everyone looks forward to the emergence of the Brood X cicadas beginning in May!