



Pocket Field Guide to

Night Singing

Insects of

Pennsylvania



PennState
College of
Agricultural Sciences

*“One way to open your eyes
is to ask yourself,
What if I had never seen this before?
What if I knew I would never see it again?”*

– Rachel Carson

THE SOUNDS OF insects during summer nights in Pennsylvania are abundant. The chirping of crickets, singing of katydids, and buzzing of coneheads fill the outdoors—from forests to neighborhoods. But could you imagine a silent night in the middle of July? Without these singing insects, there wouldn't be enough food for other animal choirs like frogs and birds. These insects are crucial to the ecosystem and if you listen, you can appreciate how complex a song they sing.

This field guide will give you the tools needed to identify some of the sounds you may hear on a summer night's hike in Pennsylvania. Ten common night singing orthopterans are featured, each labeled with their common and scientific names, an illustration, a graph displaying when you are most likely to hear the insect, and a mnemonic and sonogram of their sound. The QR code on the back of the guide will take you to a website that provides recordings of each insect's sound.

Use this field guide to enhance your summer nighttime experience. Bring it with you on walks from dusk to after dark.

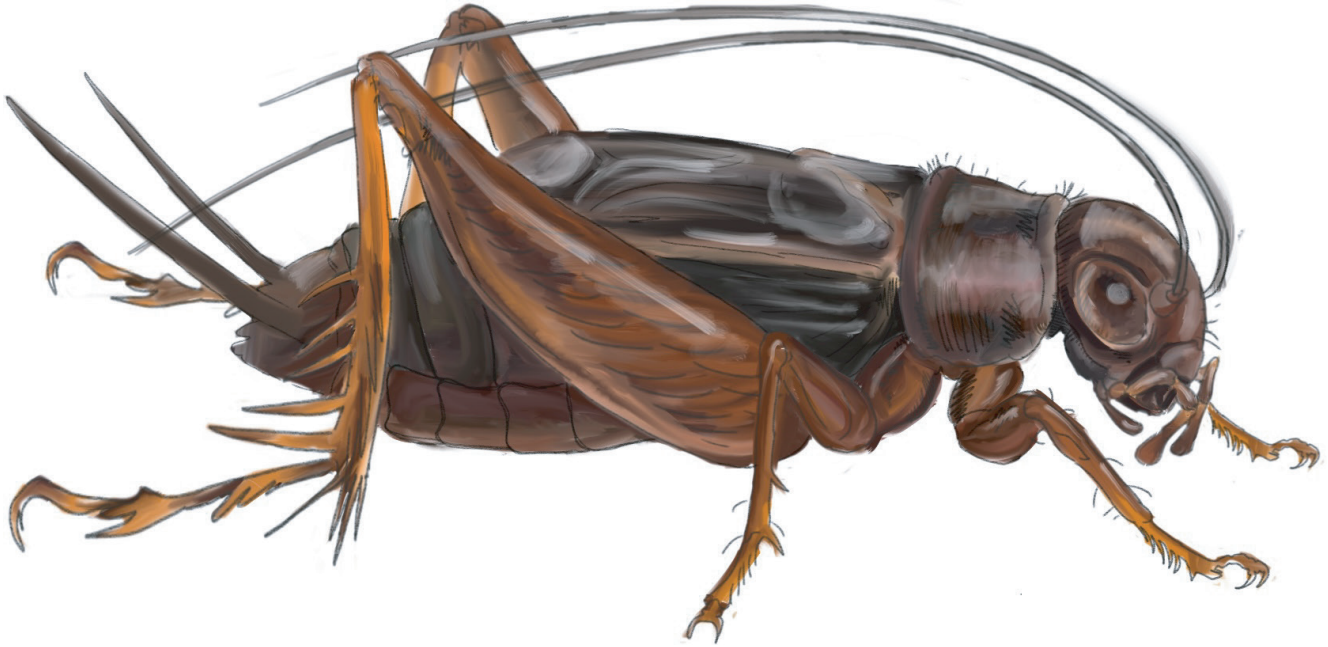
Crickets

Crickets are generally smaller than coneheads and katydids. They range in color from shades of brown to black. Crickets live in many different habitats including upper tree canopies, bushes, and grasses.

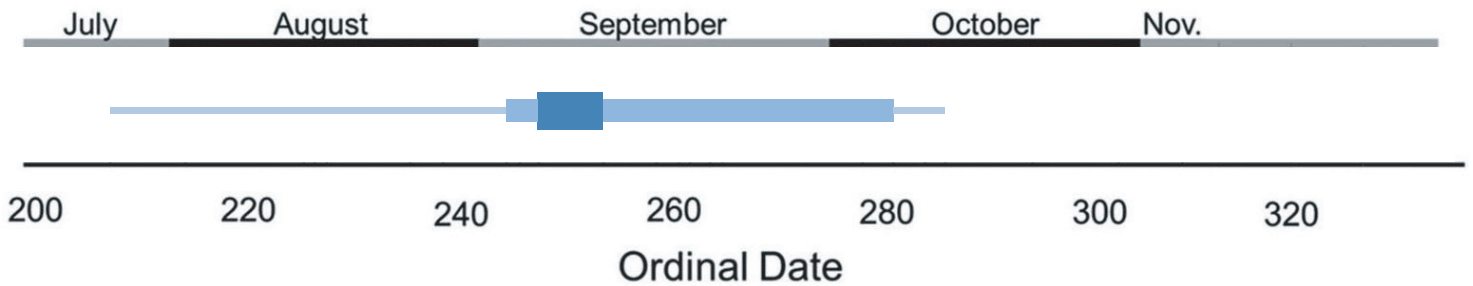
Males make sounds to attract females. Males use a special organ on their front wing, called a tegmen, rubbing it with a hind leg much like a washboard.

Allard's Ground Cricket

Allonemobius allardi

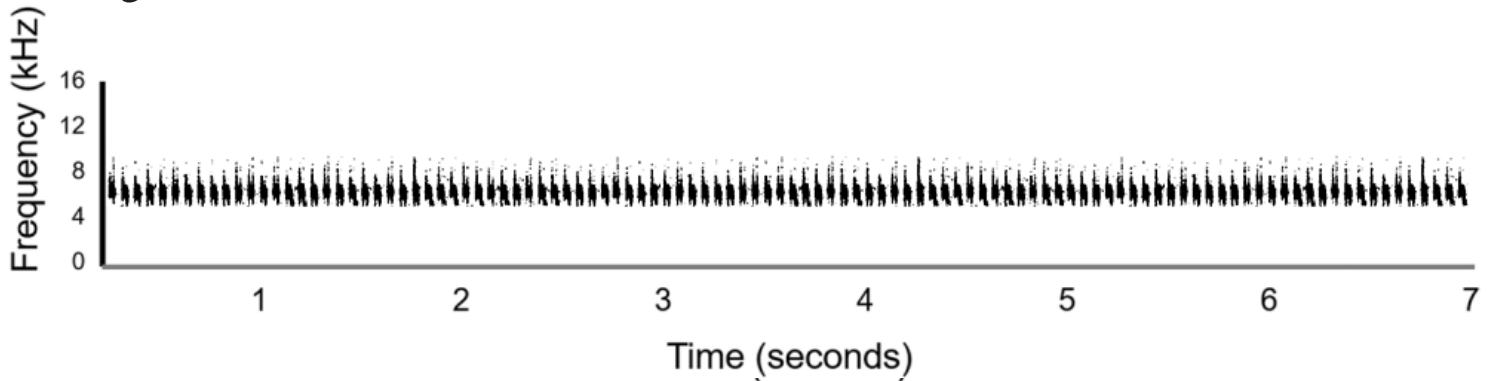


Likelihood of hearing based on month:



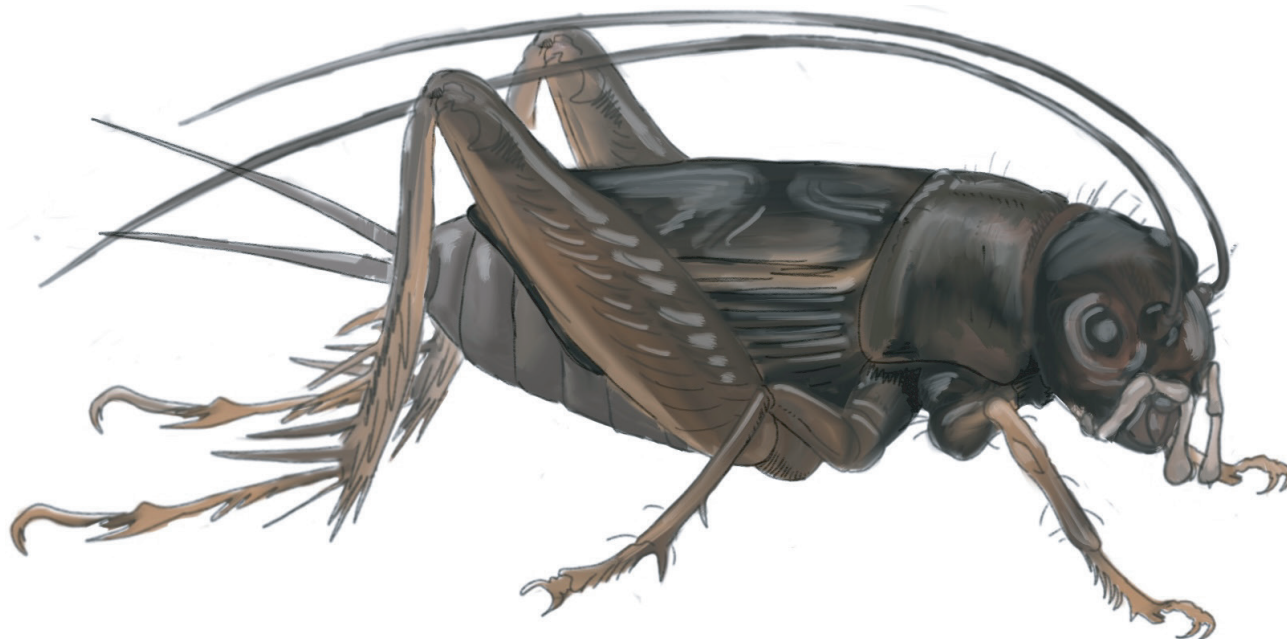
Mnemonic: High-pitched ringing laser

Sonogram:

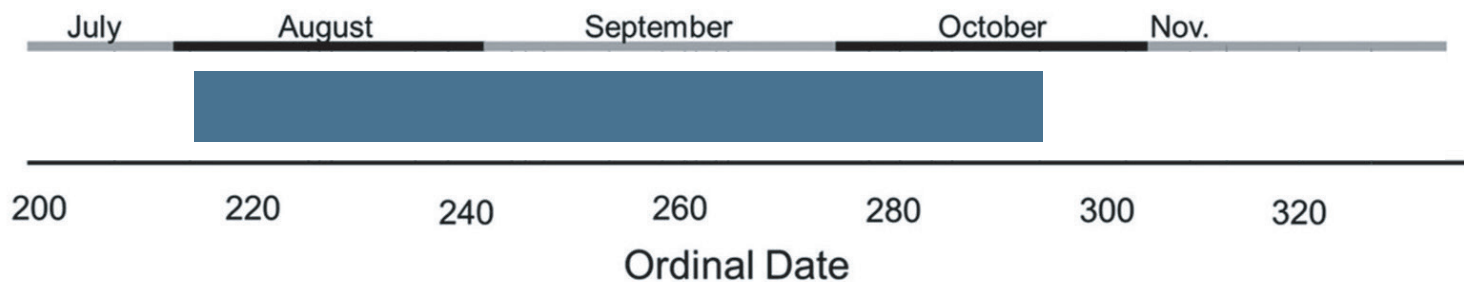


Carolina Ground Cricket

Eunemobius carolinus

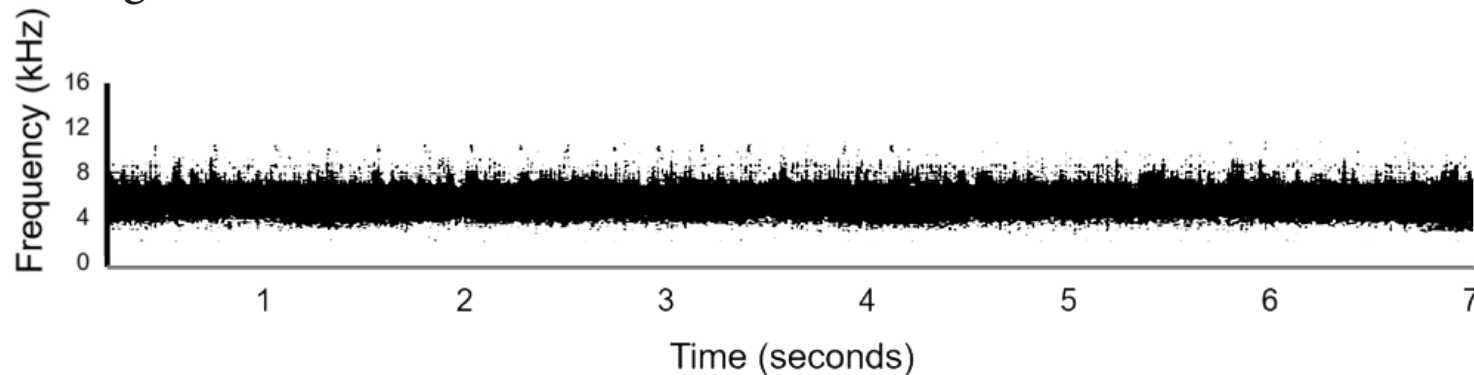


Likelihood of hearing based on month:



Mnemonic: Constant high-pitched buzz

Sonogram:

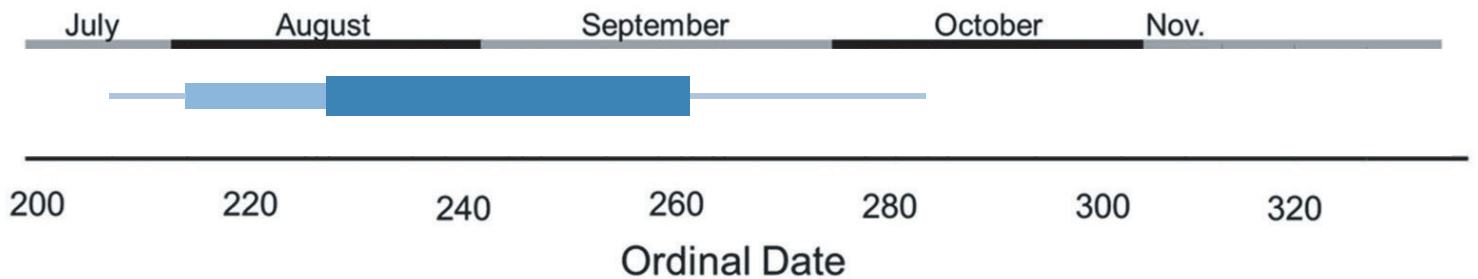


Fall Field Cricket

Gryllus pennsylvanicus

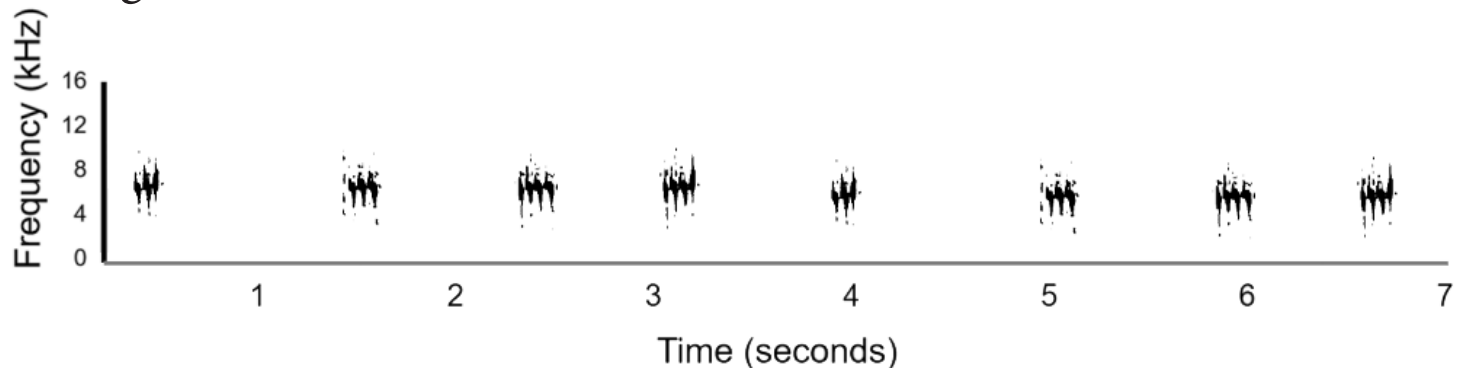


Likelihood of hearing based on month:



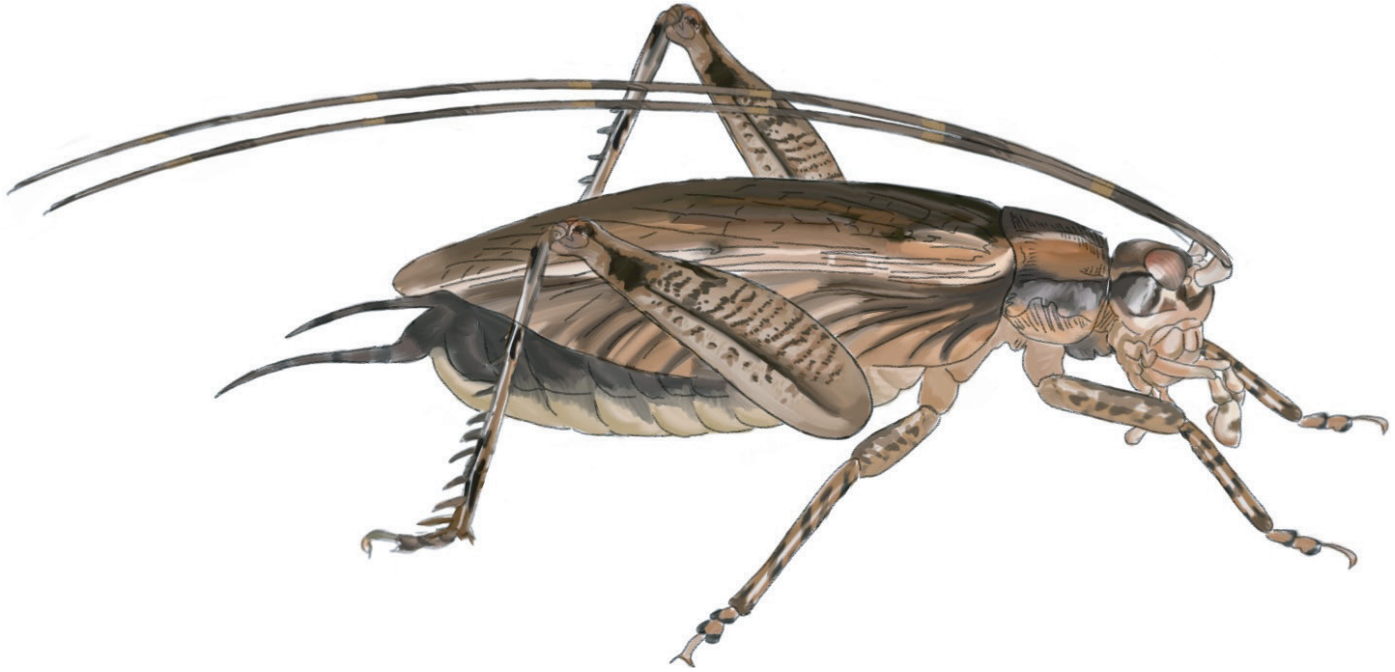
Mnemonic: Triple chirps

Sonogram:

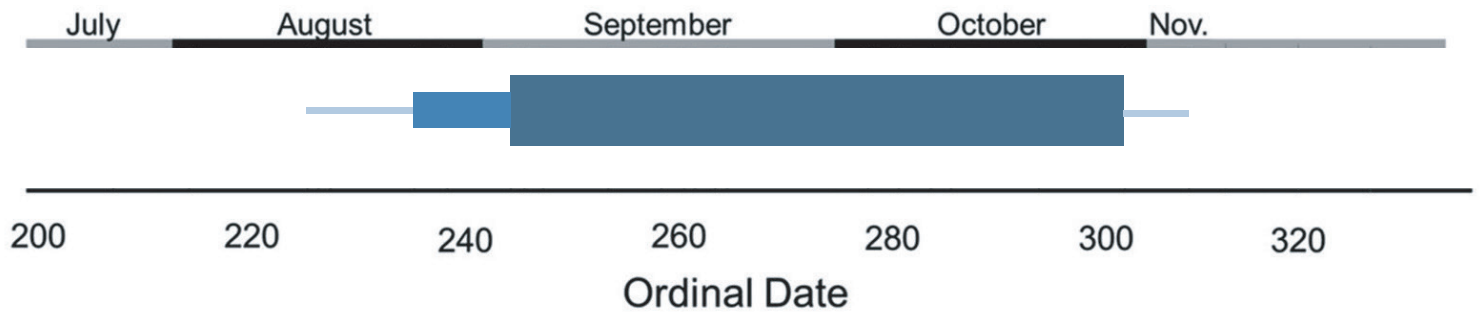


Jumping Bush Cricket

Hapithis saltator

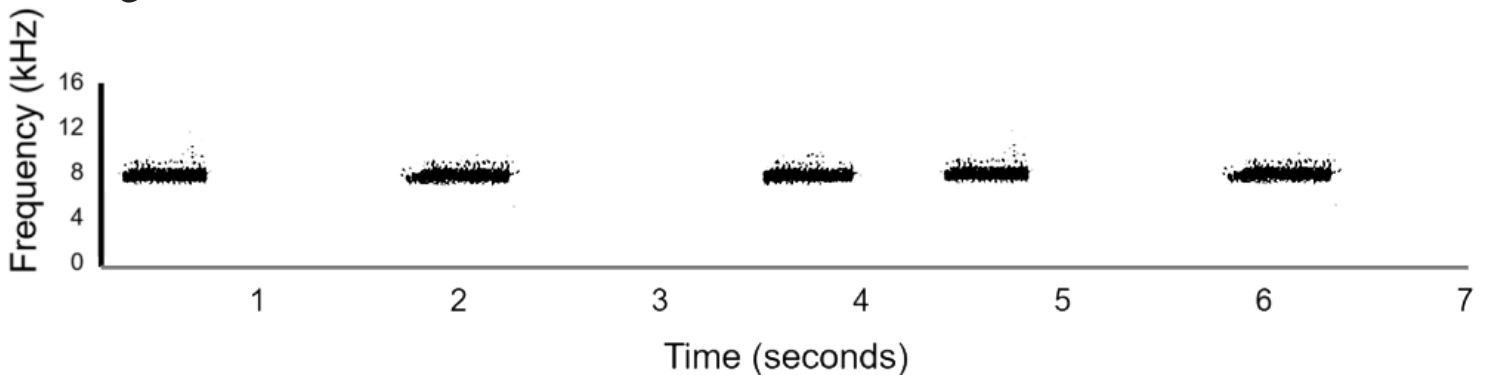


Likelihood of hearing based on month:



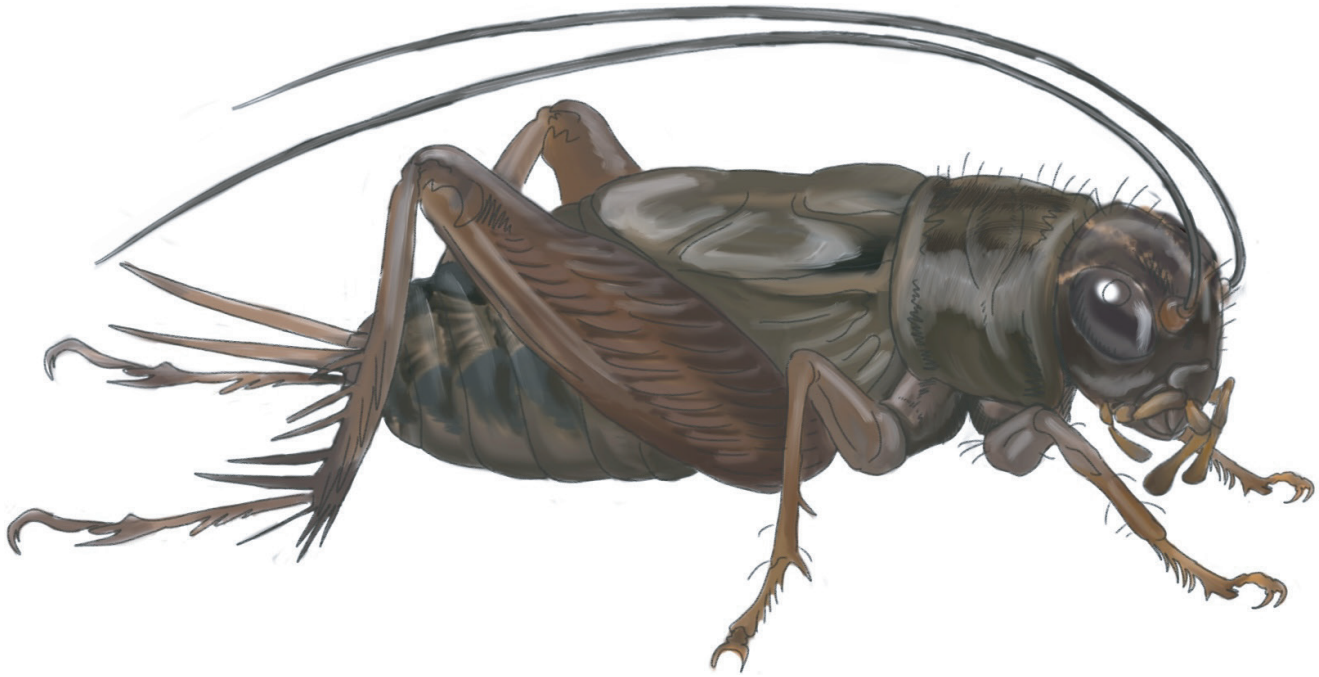
Mnemonic: Seperate rolling trills

Sonogram:

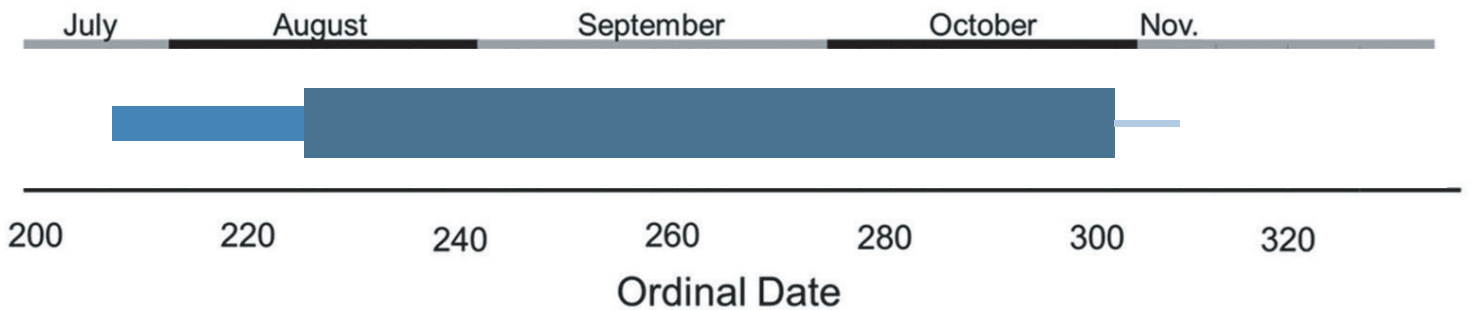


Striped Ground Cricket

Allonemobius fasciatus

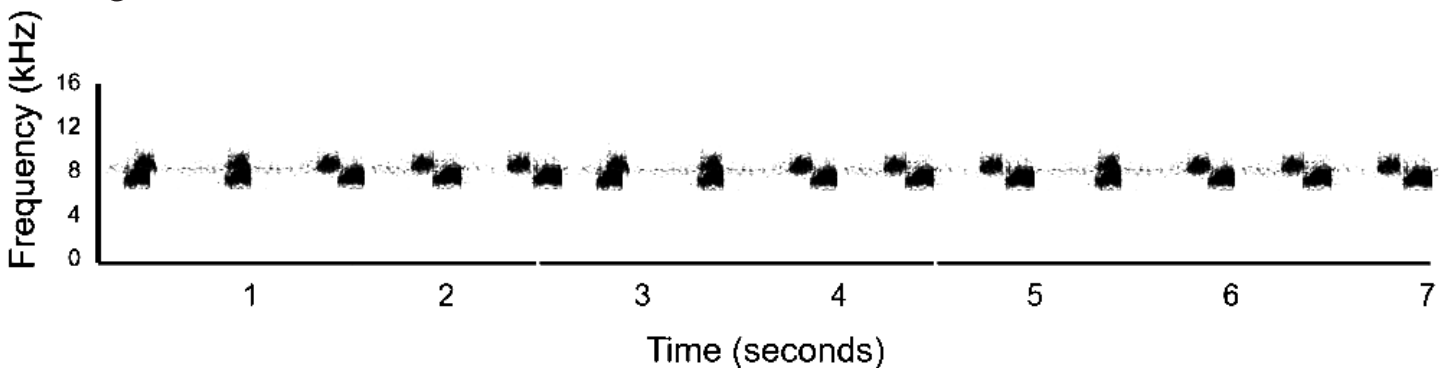


Likelihood of hearing based on month:



Mnemonic: Short chirps at distinct intervals

Sonogram:

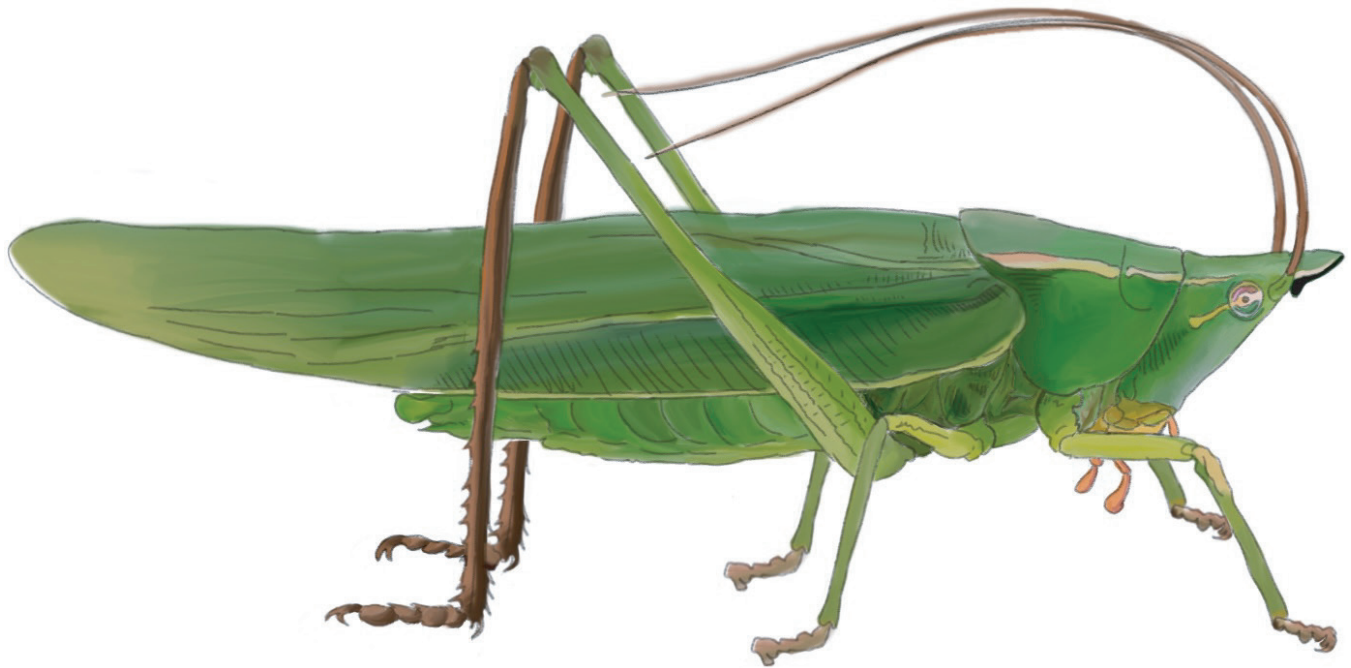


Coneheads

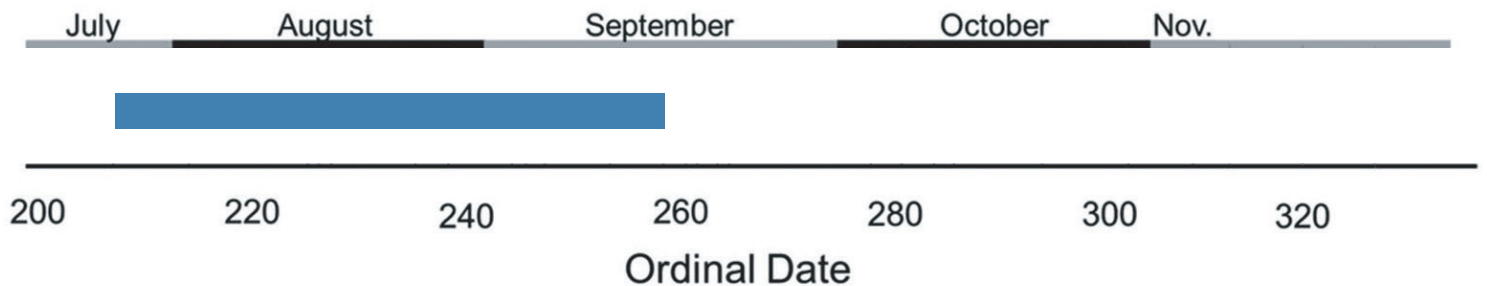
Coneheads are a type of grasshopper in the Orthoptera order of insects. They are named for their distinctive cone-shaped head and have long, slender bodies—around four centimeters long. They make their sound by rubbing their wings together. Coneheads live in long grasses and weeds, and are most commonly heard in late summer when this habitat is most abundant.

Nebraska Conehead

Neoconocephalus nebrascensis

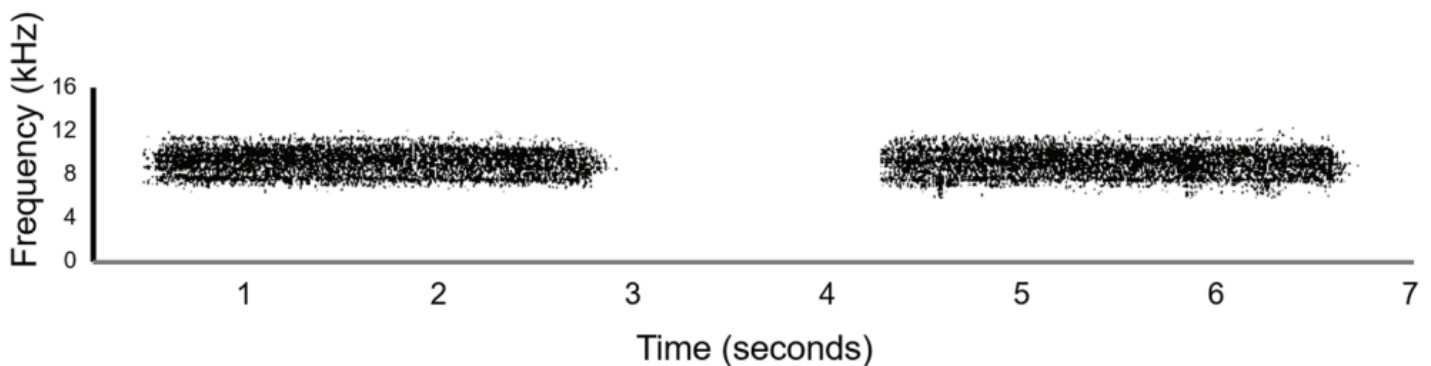


Likelihood of hearing based on month:



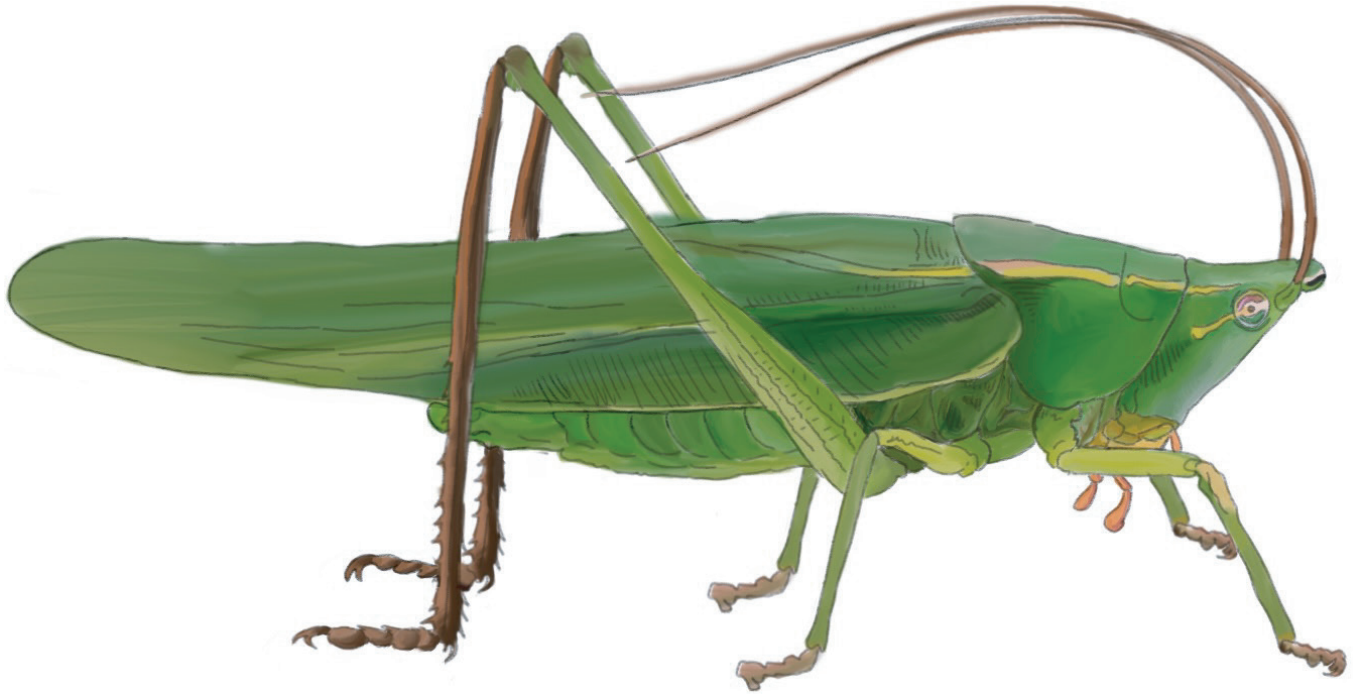
Mnemonic: Tsssip - tssssip

Sonogram:

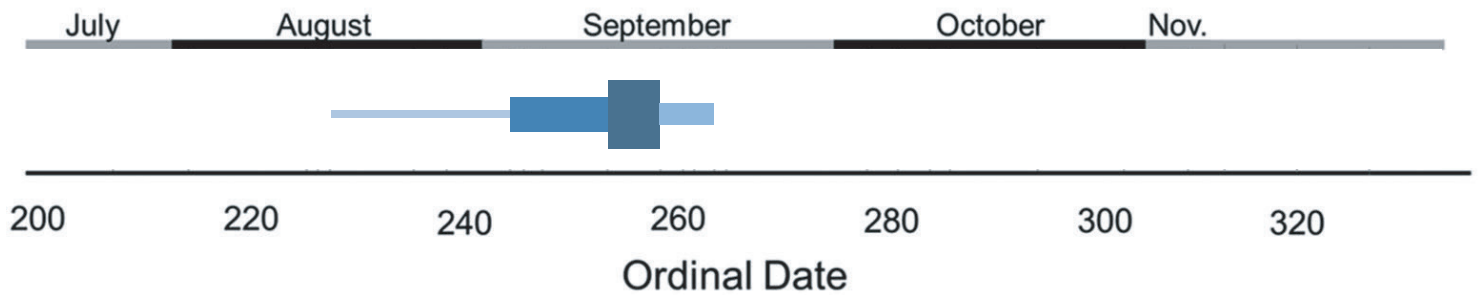


Round-Tipped Conehead

Neoconocephalus retusus

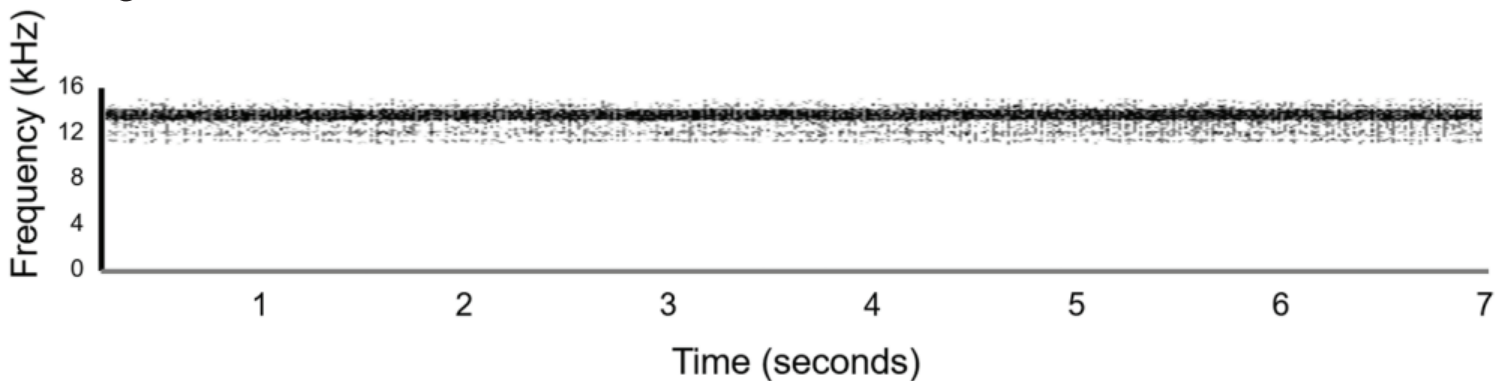


Likelihood of hearing based on month:



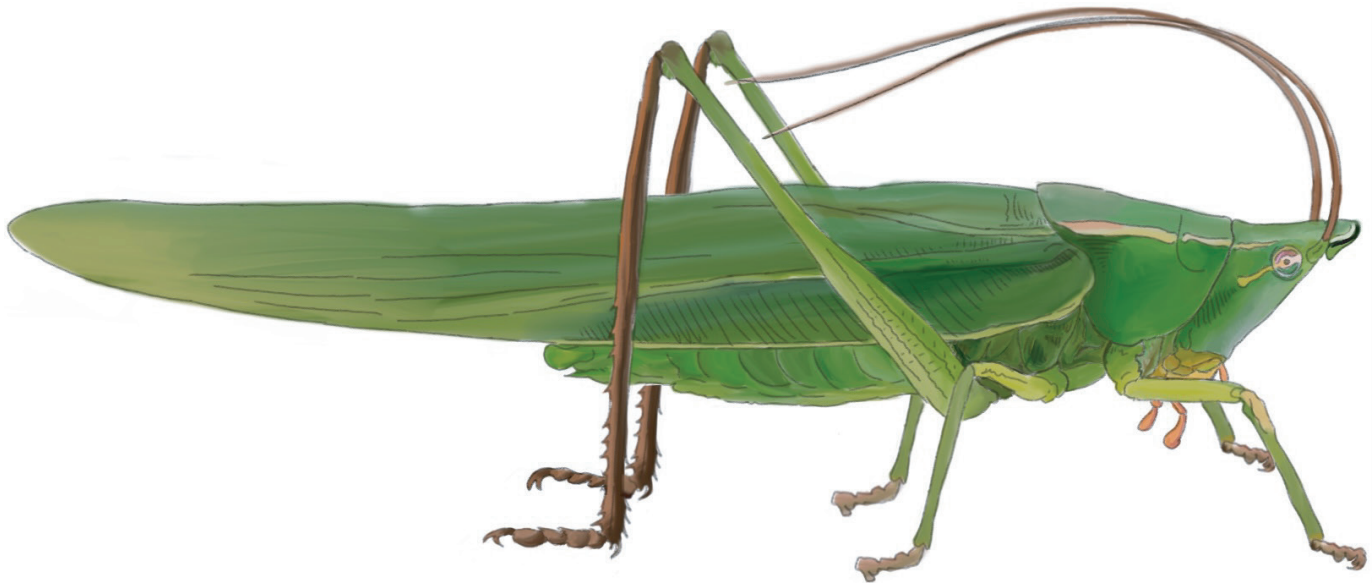
Mnemonic: Constant nasally buzzing

Sonogram:

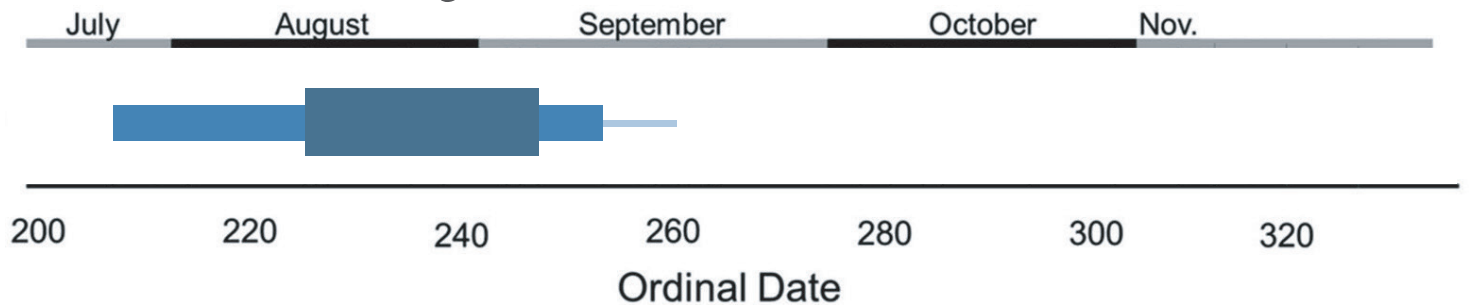


Sword-Bearing Conehead

Neconocephalus ensiger

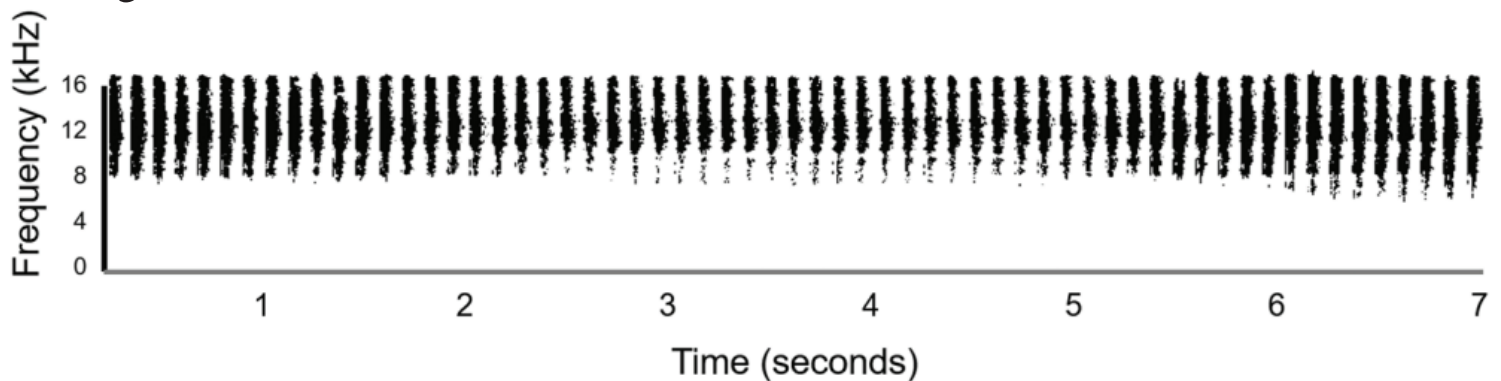


Likelihood of hearing based on month:



Mnemonic: Consistent quick tisp

Sonogram:

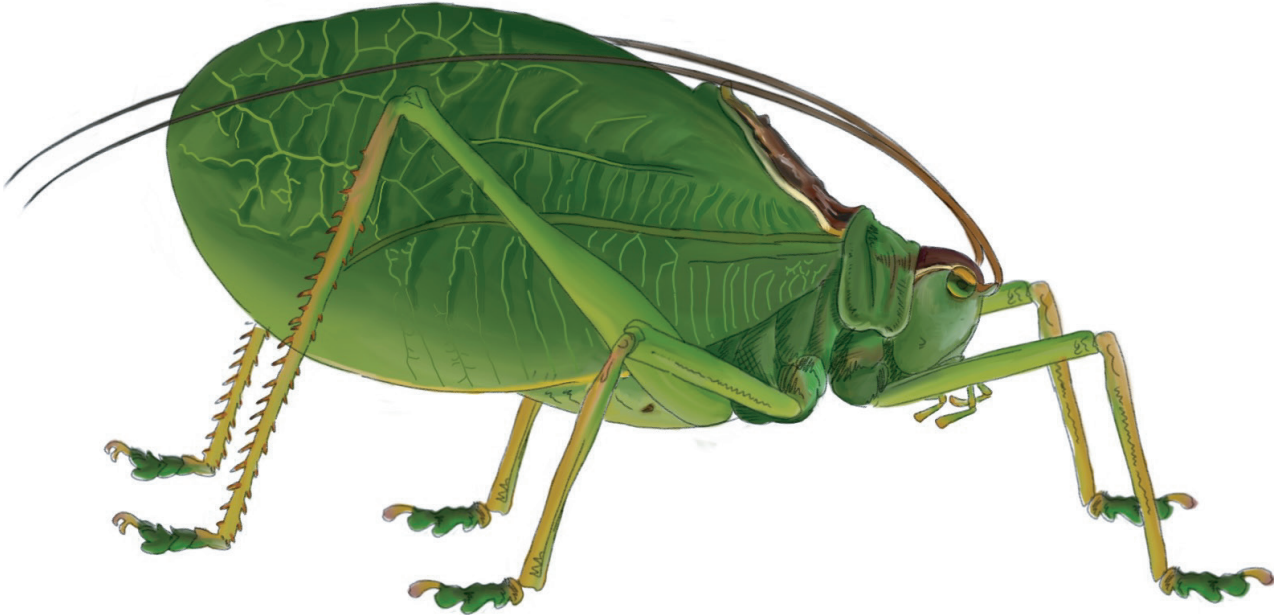


Katydids

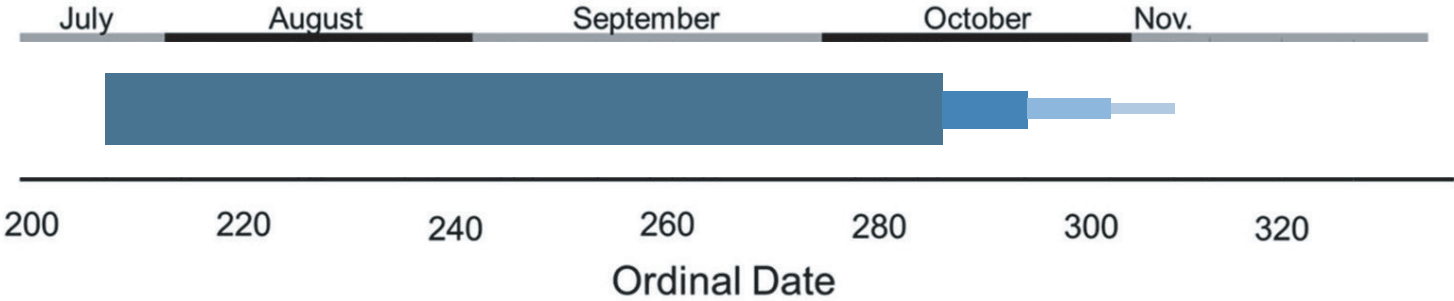
Katydids are more closely related to crickets than grasshoppers. They are sometimes referred to as 'long horned grasshoppers' because of their antennae that extend longer than the length of their body. Katydids camouflage with their surroundings because of their leafy-looking wings. Their wings also double as their sound machine, producing noise when the insect rubs its forewings together.

Common True Katydid

Pterophylla camellifolia

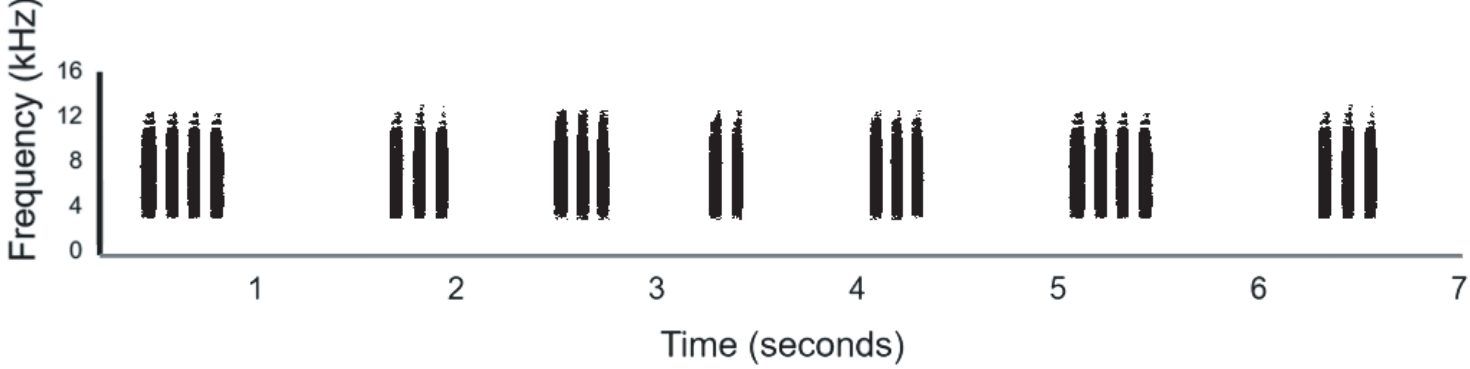


Likelihood of hearing based on month:



Mnemonic: Katy DID - katy DIDN'T

Sonogram:

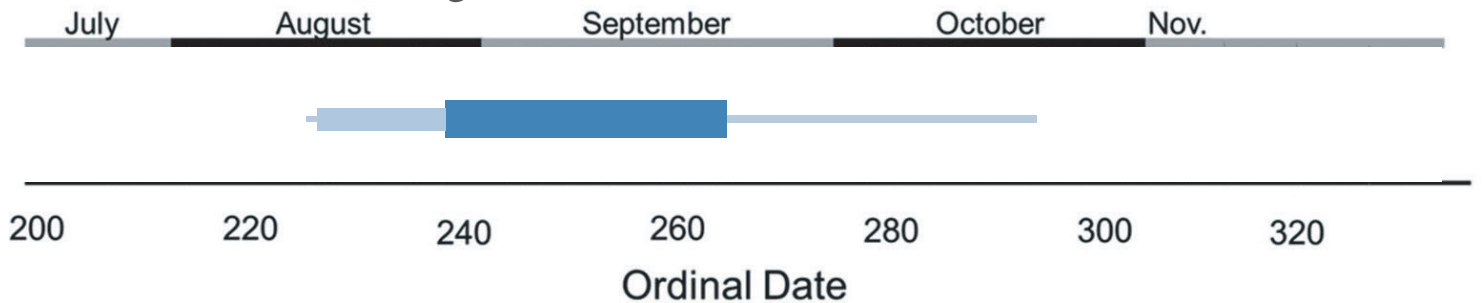


Greater Angle-Wing

Microcentrum rhombifolium

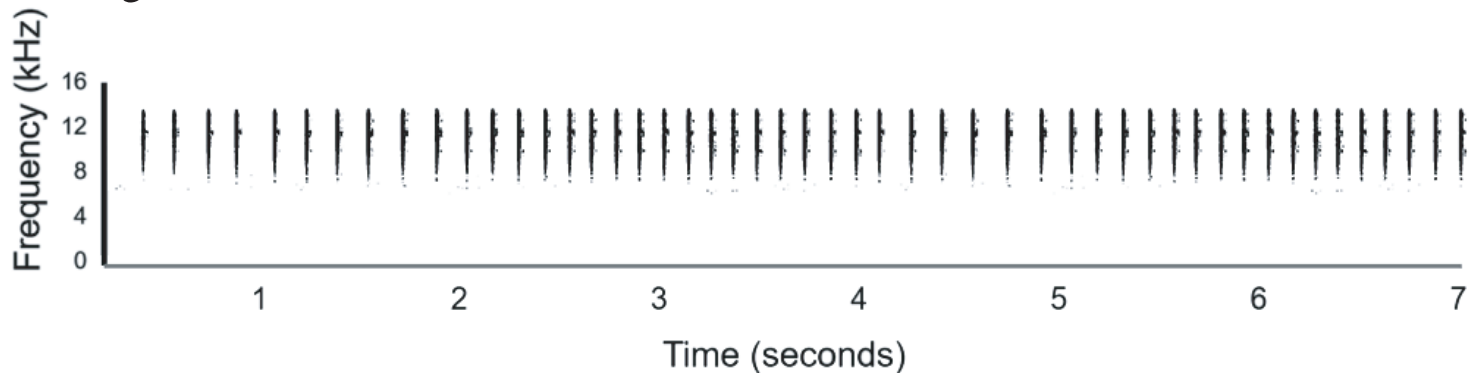


Likelihood of hearing based on month:



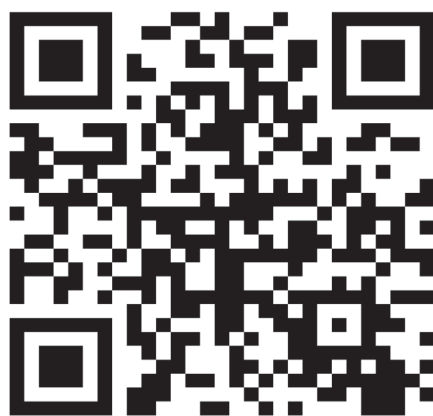
Mnemonic: Quick chipping, like tapping on glass

Sonogram:



This field guide was created by Celia Graef with support from Heather Frantz, Harland Patch, and Christina Grozinger. Data and illustrations produced by Darin J. McNeil. Funding provided by the Insect Biodiversity Center, the Huck Institutes of the Life Sciences, and the Penn State College of Agricultural Sciences.

Scan the QR code or visit
psu.pb.unizin.org/nightsinginginsects
for more information including sound recordings.



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