



CENTRAL COAST BEEKEEPERS NEWSLETTER

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NEXT MEETING TBD 2021

PRESIDENT'S MESSAGE

By Becca Fain

Happy Holidays !!!!

Well, at least as happy as can be given our current restrictions. Luckily, our bees do not recognize any restrictions and are out and about, as the weather allows, gathering pollen, nectar and propolis. If you have not started feeding your hives yet, please be sure to heft the back of the hive to determine its weight. If you can easily lift it, their stores are low or nonexistent so emergency feeding is needed and should be in the form of fondant (a slurry made of sugar and water about the consistency of peanut butter cookie dough). A hive should have about 60 to 80 pounds of stores to get it through the winter without feeding so be sure to check it periodically over the winter to be sure it has adequate stores and feed as needed. You should continue to monitor for mites and a sticky board is the best way to do this in winter when we do not want to open the hive any more frequently than necessary. Lots of beekeepers are now also doing a final oxalic

acid treatment for the year in hopes of getting their mite load down before the spring. The rule of thumb is if you lose your bees before the end of the year it is probably due to mites. If you lose them between the beginning of the year and March/April it is probably due to starvation. Also, with the winds of winter kicking up of late, a brick or rock placed on top of your hive may keep you from losing your bees and your wooden ware in a storm.

The Board is beginning to plan for 2021, and though we are anticipating that the Covid vaccine will be available next year and that we will once again have access to the Newport Library for our monthly meetings, we anticipate that for at least the first 3 to 6 months of the year we will not be meeting in person. We are currently exploring ways to offer educational opportunities and consultation prior to getting back to normal. **SO, WE NEED YOUR HELP. We need members to step forward to assist us in the planning and implementation of programs in 2021. We need Board members as well as committee members who can help us identify topics of interest and methods of delivery that will keep the club vibrant and relevant as we go forward. If you are willing to help us, please respond to this e-mail and we will connect with you asap.**

As we look toward a productive 2021, we are looking to identify our next leadership group and are asking for nominations (self or others) for the positions of club President, Vice president and Secretary/Treasurer. Please also forward those to the club e-mail no later than December 18th. We will be voting by e-mail for these positions later this month.

Last, but certainly not least, the club will once again be ordering bees in 2021. It has been determined that due to issues with nucs, that we will only be ordering packages this coming year. We do not yet have a price or even a commitment from our supplier due to issues experienced by commercial beekeepers with the fires this year and weather. We are monitoring this and as soon as we have information, we will pass it on to you. It would be helpful in our planning to have a general idea at this time about the anticipated demand for bees. Please respond

to this e-mail if you are thinking about getting packages next year and if you have a general idea as to how many you would want. This is not a commitment just something to give us beginning working numbers as we negotiate.



Scientists remove 98 ‘murder hornets’ in Washington state

By **NICHOLAS K. GERANIOS** (Associated Press)

SPOKANE, Wash. Oct. 27, 2020 6:25 a.m.

Scientists removed 98 so-called murder hornets from a nest discovered near the Canadian border in Washington state over the weekend, including 13 that were captured live in a net.

Workers from the state Department of Agriculture managed to destroy the first nest of so-called murder hornets discovered in the U.S. without suffering any stings or other injuries, the agency said Monday.

The nest, located in Whatcom County near the Canadian border, created concern because the Asian giant hornets are large and their sting can be lethal, especially if a person is stung numerous times. The hornets also pose a huge threat to honey bees that pollinate many crops.

"No one was stung and no one was even attacked that I am aware of," said Sven-Erik Spichiger, an entomologist who directed the nest eradication Saturday near the town of Blaine.

Scientists recovered 98 hornets from the nest, including 13 that were captured alive in a net, the agency said.



"The WSDA is not selling any Asian giant hornet specimens," spokesman Karla Salp said in response to questions from the public. The captured specimens will be given to various researchers, she said.

Another 85 Asian giant hornets in the nest were vacuumed into a special container and died. The nest, high up in an alder tree, was sealed with foam and shrink wrap and hornets that remained inside were asphyxiated, Spichiger said. The queen hornet was not collected, although she is expected to be inside the nest, Spichiger said.

"This is only the start of our work to hopefully prevent the Asian giant hornet from gaining a foothold in the Pacific Northwest," he said, adding scientists will continue looking for a suspected one or two more nests in Whatcom County, near Blaine and Birch Bay.

Saturday's operation began at about 5:30 a.m. with the team donning protective suits — purchased from Amazon — thick enough to prevent stingers from penetrating and setting up scaffolding around the tree so they could reach the opening of the nest, which was about 10 feet high. The team stuffed dense foam padding into a crevice above and below the nest entrance and wrapped the tree with cellophane, leaving just a single opening. This is where the team inserted a vacuum hose to remove the hornets from the nest.

Team members used a wooden board to whack the tree to encourage hornets to leave, the agency said.

When the hornets stopped coming out of the nest, the team pumped carbon dioxide into the tree to kill or anesthetize any remaining hornets. They then sealed the tree with spray foam, wrapped it again with cellophane, and finally placed traps nearby to catch any potential survivors or hornets who may have been away during the operation and returned to the tree. The work was completed by 9 a.m.

“We congratulate the Washington State Department of Agriculture for eradicating this nest,” said Osama El-Lissy, Deputy Administrator of the U.S. Department of Agriculture’s Plant Protection and Quarantine program. “Thanks to their expertise and innovation, this nest is no longer a threat to honey bees in the area. ”

Entomologists will now try to determine whether the nest had begun to produce new queens who could establish additional nests.

WSDA will continue setting traps through at least November in hopes of catching any more Asian giant hornets still in Whatcom County.

WSDA has been actively searching for Asian giant hornet nests since the first hornets were caught earlier this year. The first confirmed detection of an Asian giant hornet in Washington was made in December 2019 and the first hornet was trapped in July of this year. Several more were subsequently caught, all in Whatcom County, which is in the northwestern corner of the state.



Sven Spichiger, Washington State Department of Agriculture managing entomologist, displays a canister of Asian giant hornets vacuumed from a nest in a tree behind him Saturday, Oct. 24, 2020, in Blaine, Wash. Scientists in Washington state discovered the first nest earlier in the week of so-called murder hornets in the United States and worked to wipe it out Saturday morning to protect native honeybees. Workers with the state Agriculture Department spent weeks searching, trapping and using dental floss to tie tracking devices to Asian giant hornets, which can deliver painful stings to people and spit venom but are the biggest threat to honeybees that farmers depend on to pollinate crops. (AP Photo/Elaine Thompson)

Elaine Thompson / AP

Asian giant hornets, an invasive pest not native to the U.S., are the world's largest hornet and a predator of honey bees and other insects. A small group of Asian giant hornets can kill an entire honey bee hive in a matter of hours. The honey bees pollinate many of the crops in Washington's multi-billion-dollar agriculture industry.

Asian giant hornets can deliver painful stings to people and spit venom. Despite their nickname and the hype that has stirred fears in an already bleak year, the world's largest hornets kill at most a few dozen people a year in Asian countries, and experts say it is probably far less. Meanwhile, hornets, wasps and bees typically found in the United States kill an average of 62 people a year, the Centers for Disease Control and Prevention has said.

The real threat from Asian giant hornets — which are 2 inches (5 centimeters) long — is their devastating attacks on honeybees, which are already under siege from problems like mites, diseases, pesticides and loss of food.

The invasive insect is normally found in China, Japan, Thailand, South Korea, Vietnam and other Asian countries. Washington state and the Canadian province of British Columbia are the only places the hornets have been found on the continent.



The Washington State Department of Agriculture team tracked the Asian giant hornet for about an hour earlier this month, before losing her signal in a forest.

Courtesy of the Washington State Department of Agriculture

The nest was found after the state Agriculture Department trapped some hornets and used dental floss to attach radio trackers last week to some of them.

When they found the nest on the property of a resident, researchers were disturbed to see a children's playset only about 30 feet away, Spichiger said.

It remains unclear if the hornets will establish a toehold in Whatcom County from which they could spread to many portions of the United States, Spichiger said.

"It still looks optimistic that we are ahead of this," he said. "We still can keep this out."

"It is worth the battle," he said.

And then...

Scientists Destroyed a Nest of Asian Giant Hornets. Here's What They Learned.

By Christina Morales

Asian giant hornets inspired menacing headlines throughout the summer amid warnings that the invasive insects could decimate American honeybee populations. Last month, after various sightings across the Pacific Northwest, officials in Washington State [discovered and removed the first known murder hornet nest in the United States](#). As officials continue to seek out other nests for destruction in hopes of eradicating the hornets from the country, entomologists are revealing what they have learned from the first nest removal.

“It really seems like we got there in the nick of time,” Sven-Erik Spichiger, managing entomologist at the Washington State Department of Agriculture, said at a [news conference](#) about the nest’s findings this week.

Here’s what the scientists have discovered.

The nest could have held about 200 queens.

Late last month, officials in Blaine, Wash., removed the nest of aggressive hornets — which were about to enter their “slaughter phase” — before they could multiply and kill the area’s honeybees. Had they not been removed, the insects could have laid waste to the pollinators vital to the region’s raspberries, blueberries and other crops.

The hornet is not native to the United States and can be more commonly found in Asia, where it has been known to [kill up to 50 people a year in Japan](#).

The Blaine colony was located in a region of forests and farmland after officials attached radio trackers to three hornets that they had trapped earlier. One of those hornets led officials to the nest, which was about eight feet up in a tree.

Entomologists extracted a few hundred hornets with a vacuum and then sealed the rest of the nest shut on Oct. 24, Mr. Spichiger said at the news conference, held virtually on Tuesday. Officials later removed the section of the tree where the nest had been sealed and took it to a quarantine research center at Washington State University.

On Oct. 29, officials opened the nest to find most of the insects still alive. Including the hornets that were vacuumed up days before, officials said they removed about 500 hornets in various life stages from the nest, which was about 14 inches long and at least eight inches wide.

In addition to the 112 worker hornets that were found, there were hundreds of larvae and pupae (the life stage after larvae), as well as some eggs and male hornets. Mr. Spichiger also said the nest was capable of holding about 200 queens.

CORONAVIRUS BRIEFING: *An informed guide to the global outbreak, with the latest developments and expert advice.*

The nest is smaller than those found in areas to which the hornets are native, where there can be as many as 700 queens, Mr. Spichiger said.



Two Asian giant hornets vacuumed from the tree in Blaine. Credit... Elaine Thompson/Associated Press

Some queens may have escaped.

Although Mr. Spichiger said officials removed many of the queens from the nest just in time, he said there were some that could have escaped and could form new colonies next year.

At least three queens were found in a nearby water bucket after the extraction, he said, adding that it was impossible for officials to be certain that they had caught all of the hornets or of how many more there could be.

“When you see all the relatively small nests able to pop out 200 queens, it does give one a little bit of pause, because eventually each of those queens could be a new nest,” he said.

If any queens escaped, they might not survive if they had not received adequate nutrition before leaving the nest. But if one was properly fed and had mated with a male,

she could theoretically go off and pick a protected area to be insulated through the winter, helping to form new colonies in the spring.

“It’s clear since we captured specimens last year and captured queens early on that a few of them did manage to establish nests in 2020,” he said.

There could still be nests out there.

Hoping to eventually eradicate the hornets, State Agriculture Department workers will continue trapping them until at least Thanksgiving.

However, officials will not track any queens they may capture because they are not likely to return to a nest for officials to eradicate. At this point in the season, officials’ best chance of locating another nest is if the hornets go on to attack a beehive, Mr. Spichiger said.

The discoveries from this nest have left officials unsure of how the hornets got to the Pacific Northwest in the first place. Mr. Spichiger said it was likely that a mated queen made its way to Washington through international trade. He also said it was possible that someone had smuggled the hornets into the United States to raise them as food. (They are sometimes eaten as [snacks or used as an ingredient in alcoholic drinks](#).)

Even if there are no other hornets found in the area in the future, officials will continue to use traps for at least three more years to ensure that the area is free of the hornets.

“These are not going to hunt you down and murder you,” Mr. Spichiger said. But, “If you walk into a nest, your life is probably in danger.”

Still, he added, “your life is also in danger if you walk into the nest of other stinging insects as well.”



Pesticide deadly to bees now easily detected in honey

Source: University of Waterloo

A common insecticide that is a major hazard for honeybees is now effectively detected in honey thanks to a simple new method.

Researchers at the University of Waterloo developed an environmentally friendly, fully automated technique that extracts pyrethroids from the honey. Pyrethroids are one of two main groups of pesticides that contribute to colony collapse disorder in bees, a phenomenon where worker honeybees disappear, leaving the queen and other members of the hive to die. Agricultural producers worldwide rely on honeybees to pollinate hundreds of billions of dollars worth of crops.

Extracting the pyrethroids with the solid phase microextraction (SPME) method makes it easier to measure whether their levels in the honey are above those considered safe for human consumption. It can also help identify locations where farmers use the pesticide and in what amounts. The substance has traditionally been difficult to extract because of its chemical properties.

"Pyrethroids are poorly soluble in water and are actually suspended in honey," said Janusz Pawliszyn, a professor of chemistry at Waterloo. "We add a small amount of alcohol to dissolve them prior to extraction by the automated SPME system."

Farmers spray the pesticides on crops. They are neurotoxins, which affect the way the brain and nerves work, causing paralysis and death in insects.

"It is our hope that this very simple method will help authorities determine where these pesticides are in use at unsafe levels to ultimately help protect the honeybee population," said Pawliszyn.

The Canadian Food Inspection Agency tests for chemical residues in food in Canada. Maximum residue limits are regulated under the Pest Control Products Act. The research team found that of the honey products they tested that contained the pesticide, all were at allowable levels.

Story Source:

[Materials](#) provided by [University of Waterloo](#). Note: Content may be edited for style and length.

Hello and Happy Christmas to our UK Readers!

Gaelyn Matthews tells me that she shares this newsletter across the pond. If you'd like to share any news from your part of the world, respond to this email. We'd love to hear about your beekeeping adventures.

Bees Hold Dance-Offs to Make Decisions

For honeybees, elaborate group decisions are made in a process that involves dancing.

By

Katherine Butler

Honeybees represent only a small fraction of the 20,000 known species of bees, but new evidence shows that they might be the most democratic. They are mostly distinguished from other bees by their honey production and construction of nests out of wax. As [Cornell University explains](#), they also make mass decisions based on a democratic dance-off.

Thomas Seeley is a professor of neurobiology and the author of the book, "[Honeybee Democracy](#)." As Seeley describes it, when a hive becomes overpopulated, around two-thirds of the bees will leave the nest with an old queen. A honeybee colony usually consists of one fertile queen bee and a few thousand drone bees, or fertile males. There is also a large population of sterile female worker or scout bees.

Gathering in a temporary location, they will send out hundreds of scouts to look for the best new home. And when they return to the hive, the bees announce their finds with a dance. If the scout likes the possible new place, she will dance vigorously. If she's so-so on it, her moves are more lackadaisical.

As Seeley explains it, "A scout adjusts how long she dances according to the goodness of the site. She has a built-in ability to judge site quality, and she is honest; if the site is mediocre she won't advertise it strongly." This in turn elicits

the bees to go investigate the sites for themselves. And the new home is chosen once the majority agrees that it is worthy.

This means that the bees operate as a sort of collective super-brain. Each bee contributes enough information to help the group make the best decision as a whole. As Seeley puts it, "Consistencies like these suggest that there are general principles of organization for building groups far smarter than the smartest individuals in them."

In other words, since every bee has the same common interest, they make the best decisions with different members and an impartial leader.





First map of bee species around the globe

November 19, 2020

Cell Press

There are over 20,000 species of bee, but accurate data about how these species are spread across the globe are sparse. However, researchers reporting in the journal *Current Biology* on November 19 have created a map of bee diversity by combining the most complete global checklist of known bee species with the almost 6 million additional public records of where individual species have appeared around the world. The team's findings support that there are more species of bees in the Northern Hemisphere than the Southern and more in arid and temperate environments than in the tropics.

"People think of bees as just honey bees, bumble bees, and maybe a few others, but there are more species of bees than of birds and mammals combined," says senior author John Ascher, an assistant professor of biological sciences at the National University of Singapore. "The United States has by far the most species of bees, but there are also vast areas of the African continent and the Middle East which have high levels of undiscovered diversity, more than in tropical areas."

Many plants and animals follow a pattern, known as a latitudinal gradient, where diversity increases toward the tropics and decreases toward the poles. Bees are an exception to this rule, having more species concentrated away from the poles and fewer near the equator, a pattern known as a bimodal latitudinal gradient. There are far fewer bee species in forests and jungles than in arid desert environments because trees tend to provide fewer sources of food for bees than low-lying plants and flowers.

"When it rains in the desert, there are these unpredictable mass blooms that can literally carpet the entire area," says first author Michael Orr, a postdoctoral fellow at the Institute of Zoology, Chinese Academy of Sciences. "There's a much higher turnover in the desert because of how patchy the resources are year after year. So there's a lot of potential for new species there."

To create their maps, Ascher, Orr, Hughes, and colleagues compared data about the occurrence of individual bee species with a massive checklist of over 20,000 species compiled by Dr. Ascher and accessible online at the biodiversity portal DiscoverLife.org. Cross-referencing multiple datasets with complementary coverage resulted in a much clearer picture of how the many species of bees are distributed in different geographic areas. This is an important first step in assessing the distribution and potential declines of bee populations.

"We're extremely interested in abundance of bees, but that's something that has to be done in relation to a baseline," says Ascher, "We're trying to establish that baseline. We really can't interpret abundance until we understand species richness and geographic patterns."

While some of these patterns had been hypothesized by previous researchers such as Charles Michener, they were difficult to prove because of inaccurate, incomplete, or difficult-to-access data. "Cleaning" these data was a major hurdle for the researchers.

"I was surprised how terrible most of the prior global data really was about bee diversity," says Alice Hughes (@AliceCHughes), an associate professor of conservation biology at Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences and another author on the paper. "A lot of the data were just too patchy or too concentrated on a small number of countries that have prioritized data sharing to be able to use these resources for any large-scale analysis."

While there remains a lot to learn about what drives bee diversity, the research team hopes their work will help in the conservation of bees as global pollinators.

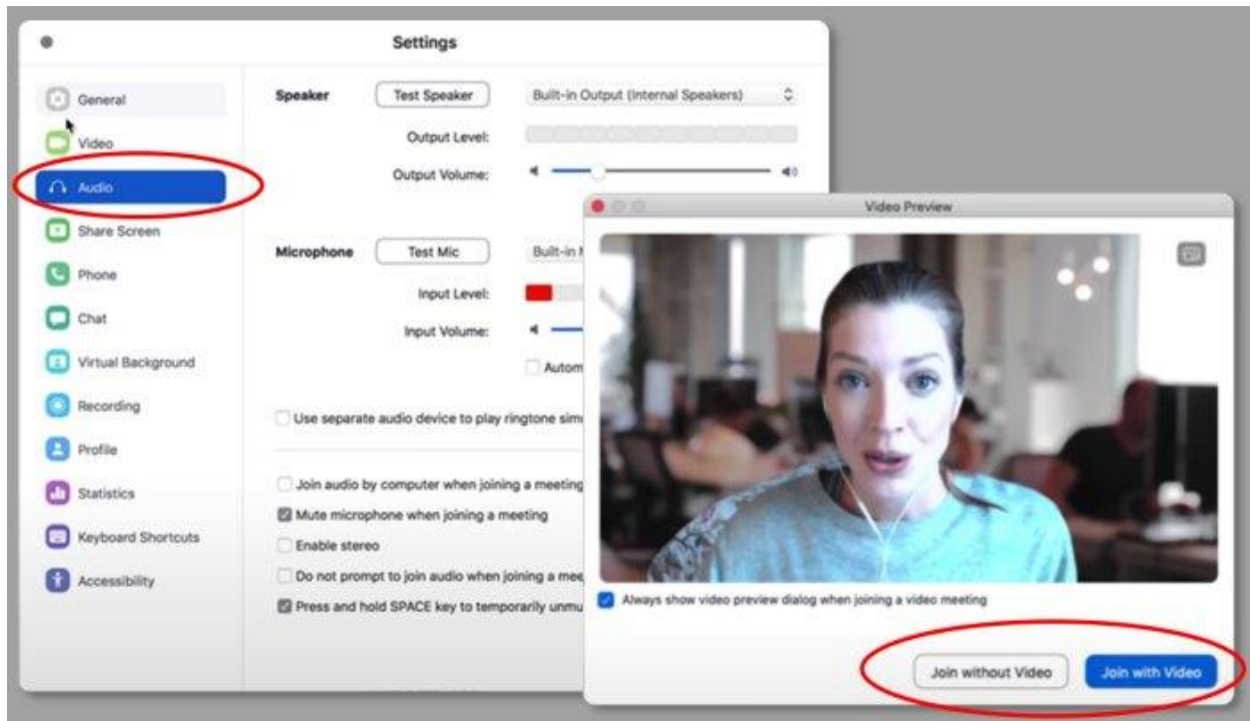
"Many crops, especially in developing countries, rely on native bee species, not honey bees," says Hughes. "There isn't nearly enough data out there about them, and providing a sensible baseline and analyzing it in a sensible way is essential if we're going to maintain both biodiversity and also the services these species provide in the future."

The authors view this research as an important first step towards a more comprehensive understanding of global bee diversity and an important baseline for future, more detailed bee research.

Zoom Primer

How do I join a Zoom session?

An invitation typically arrives via email or text. Click the Join link in the body of the message. You'll be prompted to download Zoom or to launch the app if you already have it. You then just choose to join a meeting with or without video.



On a desktop, Zoom will play a tone and record your voice as part of a mic and speakers test when you join a meeting. A video preview shows how you'll look to others.

If the host hasn't started the meeting yet, you'll have to wait on hold. Use the time to test your computer audio and video settings (typically through the internal microphone and speaker on your system). As part of a test, Zoom will play an audio tone and record your voice — you will know something is off if you can't hear the tone or your voice. A video preview window lets you see how you'll look to others. Tip: If you plan on using video, make sure light is shining on you, rather than coming from behind.

You may reach the platform in other ways, too. If you're attending a Zoom webinar, click the link for the meeting that has likely been provided on the sponsor's website. You can also join directly from the Zoom application. Click the Meetings tab to check out any scheduled events and select Join at the appointed time.

Certain meetings can be joined by telephone using the teleconferencing number and meeting ID supplied by the host. Some also require a password, which the host will share.



COURTESY OF ZOOM

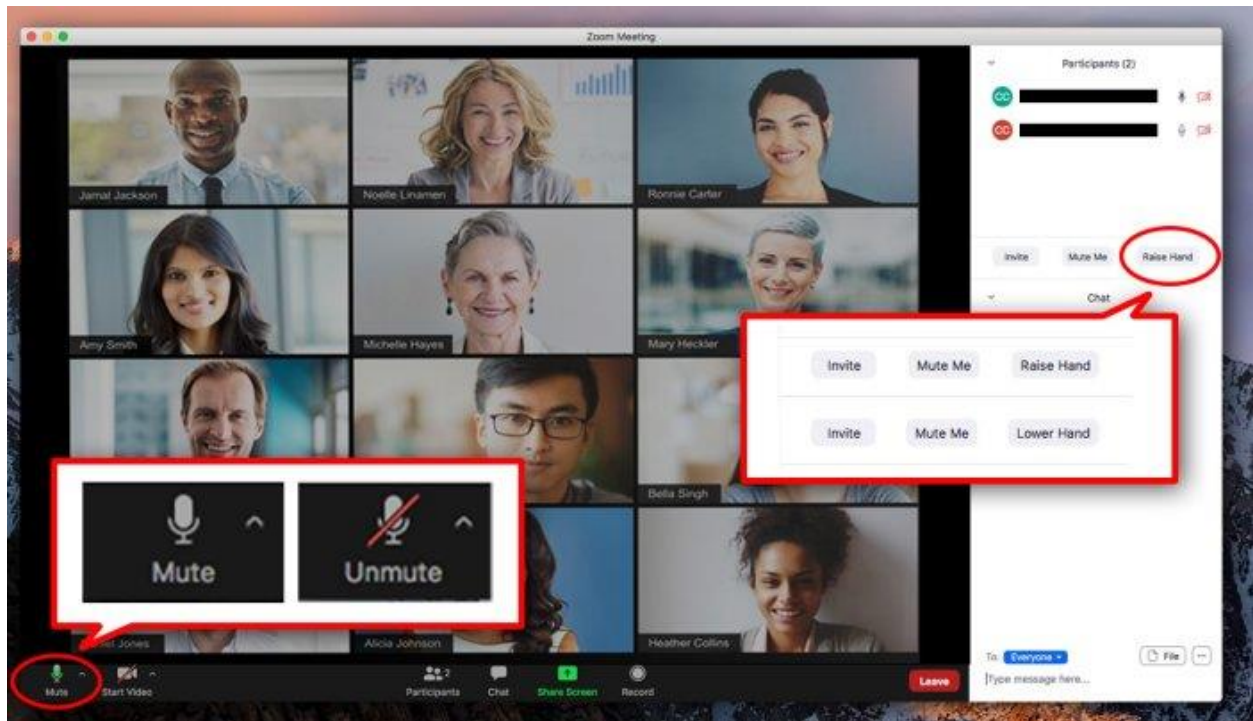
Speaker view, on the left, and gallery view. The control to toggle between views is towards the top right corner of the Zoom window on laptops and desktops.

How will I see other people?

There are two common layouts: speaker view, in which the active speaker takes up the majority of the screen, and gallery view, with thumbnails of participants laid out as a grid. On a laptop or desktop computer, the control to toggle between these views is toward the top right corner of the Zoom window. On a tablet the control is on the upper left — you may have to gently tap the screen to see it. You'll see all participants' live video feeds if they've enabled their camera. In the absence of video, you'll see a dark rectangle with the person's name or initial.

Should I mute my microphone?

If you're not about to speak, yes, especially if you are with other people. Screaming teenagers and barking dogs are a distraction.



Press the mute button when you're not speaking. To raise your hand, click on "More" in the top right corner of the Zoom window on laptops and desktops.

"I think that the mute button is everybody's friend," says Marisa Giorgi, director of curriculum development at [Senior Planet, which offers free Zoom training for older adults](#). You'll know that the mic is muted when a red slash appears on top of the microphone icon. Remember to tap or click the icon to unmute when it's time for you to pipe up. Worth noting: Hosts have the power to mute all the participants.

To be recognized by the host to speak in a webinar, you may be able to tap or click a "raise hand" icon, but the host can disable this feature.
