



2026 Midwest Microscopy and Microanalysis Society UGLY BUG CONTEST – NATIONAL QUALIFYING COMPETITION (due Friday, **October 30, 2026**)

Rules and Instructions

The **Microscopy Society of America (MSA)** and the **Midwest Microscopy and Microanalysis Society (MMMS)** welcomes your participation in the first annual National Ugly Bug Contest. It is our hope that this educational outreach program will provide a fun and rewarding educational experience for your students.

WHO CAN PARTICIPATE?

The 2026 National Ugly Bug Contest is open to all elementary schools, public or private. Elementary is defined as kindergarten through 8th grade. Only one (1) bug per school may be submitted.

WHAT TO DO

1. Collect bugs. **Bugs must be collected locally to the MMMS region. Spiders, stinging (wasps, bees, horse flies etc.), scorpions, and endangered insects will NOT be accepted.**
2. Pick the ugliest or most unique "bug" (only one entry per school!). Small insects make the best entries because photography is easier and the images are typically of better quality.
3. Write a description of your ugly bug. See the Description section of the rules on the form.
4. Contact one of the MMMS member laboratories listed below. Contestants must be **submitted by Friday, October 30, 2026**. Be sure to include the form attached to these rules. Bugs will not be entered into the contest without a completed form.
5. Vote on the **Ugly Bug** web site (<https://uglybugcontest.org/>) in January and February for the ugliest bug in your region/state!
6. The ugliest bug of the regions/states will compete for the ugliest bug in the nation. Vote for the ugliest bug of the nation in April.

SCHEDULE

Beginning of School year: Learn about insects and find your most interesting specimen.

In-house preliminary contests are often used to pick the ONE bug who will represent your school. Pack the bug and mail it to an MSA Member Lab listed below. Bugs must be **postmarked & sent by October 30, 2026!**

From the time we receive your bugs, into **December**, your bugs will be processed, photographed, and uploaded to the web portal by MSA members and others. Watch on the site for your bug to be posted. Public voting will occur through **January and February** on state/regional level. MMMS winners will be announced on the Ugly Bug web site in **March** when we are all done voting! Check the site from time-to-time at <https://uglybugcontest.org/>, to see how your bug is doing. Winning schools for each state/region will be contacted about receiving their prize and automatically be entered into the national competition. And even if you didn't win a prize, your poster and bug photo will be mailed to you in the next few months. The prizes are a **STEREO MICROSCOPE EQUIPPED WITH A CAMERA, awarded to each of the winning schools for your science lab.**

Regional or state winners will advance to the National Ugly Bug Contest, where another round of public voting will determine the National Ugliest Bug of 2026 in America. The top national bug will be announced in **April 2027**.

COLLECTING BUGS: (FIRST RULE: NO ARACHNIDS [that means no spiders or scorpions]!) MSA is concerned about students' safety while they are collecting insects, so we will not accept poisonous bugs in the contest. All spiders and scorpions can be considered venomous--especially black widow and brown recluse, so the MSA has decided NOT to accept spiders or scorpions. Please read the suggestions at the end of this document for more info on potential hazards.

Origin: Only 'local', or **bugs native to your state/region** will be accepted so that students are ensured of the opportunity of observing the bugs in their natural habitat. Exotic bugs that might have been obtained from collections are not in accordance with the educational spirit of the contest.

Size: SMALL BUGS ARE BETTER (they don't squash as easily!!! And they require smaller packages). The size of the bug's body is not as important as the size of its head, which should be 1/2 inch or less in diameter. Bugs with big heads are difficult to photograph in the scanning electron microscope (SEM). If the entire head cannot be photographed, the 'ugliest' part of the bug (a subjective opinion of the MMMS member doing the photography) will be used for the contest.

Condition: The bug must be in good condition; i.e., not crushed, dirty, or partially eaten.

Packaging: Please send a **dead specimen whenever possible**. A live specimen can be euthanized by placing it in a freezer for approximately 48 hours. Soft-bodied specimens should be preserved in small amount of isopropyl (rubbing) alcohol to prevent shrinking or decomposition. Place alcohol-preserved specimens in a tightly sealed, leakproof container, then place that container inside a second sealed bag or container with absorbent material. Before mailing, confirm that the package complies with the carrier's current shipping requirements. Place the specimen in a sturdy container that will protect it from crushing during transit. A small mailing box is strongly preferred over an envelope. Use sufficient packing material to prevent the specimen container from moving inside the box. For questions about packaging or mailing, please contact the participating laboratory. Depending on the laboratory's location and availability, specimen pickup may also be arranged.

Further preparation and imaging will be completed by the participating microscopy laboratory.

Only ONE BUG PER SCHOOL may be submitted to the participating states or region contest!!

Sorry, but prepping the bugs and photographing them takes a long enough time that we can't accept more. If only one classroom at the school is participating in the contest, the bug can be from that classroom alone. *We would suggest holding in-classroom and/or in-school preliminary contests, using magnifying glasses or stereomicroscopes (if available) to pick the very ugliest bug for submission.* The decision of whether to have all students find a bug and write individual descriptions or to pick the ugliest bug first and write a description as a class is at the discretion of the teacher. In determining which bug is the ugliest, look at the head, or 'face' of the bug. This is what MSA members will try to photograph.

MAILING

Mail your ugly bug to the designated Local Affiliated Society (LAS), partner laboratory, or contest

coordinator serving your state or region. A current list of participating LAS chapters and submission addresses will be maintained on the National Ugly Bug Contest website.

Please mail your bug to:

Fengyuan Shi
RM2218, SES
845 W Taylor St.
Chicago, IL 60607
fyshi@uic.edu

DETAILS ON SUBMISSIONS: In order for the bug to be included in the contest, it must be accompanied by a description (approximately a paragraph, though you may do more if you'd like). The quality and accuracy of the description will be considered in the judging process and used to break any ties between ugly bugs. The description may include, but is not limited to, the following:

1. We call it a "bug", but what is it, really?
Give the bug's common name, and its scientific name if possible.
Peterson Field Guides are an excellent source for classifying.
2. Describe some things about this "bug"
Where does it live? What does it eat? How long does it live? How does it affect people or plants or animals? What is important about this bug?
3. Describe your collection of this "bug"
Where did you find it? (county, town, etc.) What did you observe about its surrounding habitat?

THE SCANNING ELECTRON MICROSCOPE

The ugly bug you send to MSA will be processed, coated with gold or another metal to make it conductive, and examined in the scanning electron microscope of an MSA member. The scanning electron microscope allows us to observe objects at very high magnifications. Instead of using light, as in the familiar optical microscope, the electron microscope uses a fine beam of electrons. Because light is not used, no color is seen. The photograph of your bug will be black and white. Electron microscopes can magnify objects from 10 times to more than 500,000 times! Depending on the size of the bugs submitted for the contest, they will only need to be magnified 10 to 500 times their original size.

JUDGING

Judging will take place in two stages. First, the public and MMMS contest judges will vote on the MMMS entries. The MMMS entry receiving the most votes will be named the **MMMS Ugly Bug Contest winner** and will advance to the first **National Ugly Bug Contest**, together with winning entries from other participating states and regions. The national competition will take place in **March 2027**, when public voting and contest judges will select the **National Ugliest Bug in America**. The voting page and voting dates will be announced at www.uglybugcontest.org.

More information regarding Midwest Microscopy and Microanalysis Society could be found on the following website: <http://www.midwestmicroscopy.org/>

PRIZES

Local and regional winners will receive microscopes, slide kits, certificates, and educational materials through participating LAS chapters. The national winning school will receive an additional National Ugliest Bug Award and an additional microscopy prize along with educational materials. National winners may be recognized at a Microscopy Society of America event. Bugs

entered in the contest will also be displayed on the internet at the Ugly Bug web site, <https://uglybugcontest.org/>. MSA considers the bugs in the contest to be submitted on behalf of the school, and therefore any prizes awarded belong to the school itself and not to the student who originally found the bug.

MOST LIKELY "BUGS" TO BE FOUND

The phylum ARTHROPODA will be the likely source of the bugs. Arthropods have a characteristic chitinous exoskeleton. The name Arthropoda means "jointed legs" and refers to one of the basic characteristics of the group. Most accepted entries will belong to the class INSECTA. Arachnids, including spiders, scorpions, ticks, and mites, are not accepted.

Kingdom - ANIMALIA

Phylum - ARTHROPODA

Class – ARACHNIDA: spiders, scorpions, ticks, mites (we do NOT accept Arachnids!)

*Six pairs of appendages on the cephalothorax; Two for eating or stinging. Four for walking
Cephalothorax and abdomen*

Often simple eyes, never compound eyes or antennae

Class – CHILOPODA: centipedes

*Body: many segments all alike, one pair of legs per segment
Feed on small animals*

Class – DIPLOPODA: millipedes

*Same as Chilopoda except two pairs of legs per segment
Feed on vegetable matter*

Class – INSECTA: grasshoppers, flies, beetles

*Three body regions - head, thorax, abdomen
Compound eye; may also have simple eye or ocelli
Three pairs of mouth parts and three pairs of thoracic legs*

A WORD ABOUT **ENDANGERED BUGS...**

Bugs on the Endangered Species List are not allowed to be entered. Please check for the endangered bugs native to your region. If you see one of these insects, please do not disturb it. You can search the endangered species from the U.S. Fish and Wildlife Service Species: <https://www.fws.gov/species/endangered-species>. Here is a link to google images: <http://www.google.com/search?q=American+Burying+Beetle+image>

A WORD ABOUT POTENTIAL HAZARDS OF BUG COLLECTING...

*Use Care When Collecting Insects! // **No Spiders, Scorpions, Arachnids, Wasps, Bees!***

Many insects are capable of stinging and biting for protection from predators and therefore should always be handled with care. Wasps, bees, cicada killers, horse flies, robber flies and numerous other flying insects can yield a powerful sting if provoked. Insects such as assassin bugs (aka wheel bugs, [note wheel shape on top of thorax]) and aquatic bugs (giant water bugs, backswimmers) do not sting but have piercing mouthparts that inflict a painful bite. All Arachnids (scorpions and spiders) are venomous and can inflict a painful bite if their chelicera (teeth) bite you or your teachers, so we don't accept them in the contest. Two native spiders can cause a severe reaction and even death to an infant or an elderly person: the Black Widow and the Brown Recluse. Because of safety concerns, we do **NOT accept spiders or scorpions**. Centipedes (one leg per segment) are venomous and Millipedes (two legs per segment) are non-venomous and are safe to handle, but predators such as wheel bugs are venomous! Handle them with special care because they can yield a nasty bite!

WHO WE ARE?

The National Ugly Bug Contest is sponsored by MSA, a nonprofit scientific and educational organization dedicated to promoting the advancement and application of microscopy and microanalysis. Through

education, outreach, and professional development, MSA works to increase public understanding of science and the role of microscopy in discovery and innovation. This contest is made possible through the collaborative efforts of MSA, Local Affiliated Microscopy Societies (LAS) across the United States, Project MICRO (Microscopy in Curriculum-Research Outreach), universities, government laboratories, industry partners, and volunteer microscopists. Together, these organizations provide students with opportunities to explore the natural world, learn about biodiversity, and experience the power of advanced scientific imaging.

The National Ugly Bug Contest is designed to inspire curiosity, encourage scientific observation, and introduce students to microscopy through hands-on learning. By connecting classrooms with scientists and microscopists, the program helps foster the next generation of STEM explorers and innovators. For additional information about the Microscopy Society of America and its educational programs, please visit the contest website or the MSA website.

SAFETY DISCLAIMER and ASSUMPTION OF RISK

Participation in insect or arthropod collection activities is voluntary and may involve risks, including bites, stings, allergic reactions, exposure to venomous or disease-carrying organisms, poisonous plants or hazardous substances, cuts, falls, adverse weather, traffic hazards, property damage, and other injuries or accidents. Participants must use appropriate protective clothing and equipment, follow applicable laws and school safety requirements, obtain permission before entering private property, and avoid unfamiliar or potentially dangerous organisms and environments. Minors must have appropriate adult supervision and parent or legal guardian permission before participating. Local collection activities are organized and supervised by participating schools or other local organizers. The Microscopy Society of America, the National Ugly Bug Contest, and participating affiliated microscopy societies do not select, supervise, inspect, or control collection locations, organisms, equipment, or collection methods. Participating schools are responsible for obtaining and retaining all required parent or legal guardian permissions and safety acknowledgments. Participation is also subject to any additional requirements established by the school or school district.