

UGLY BUG CONTEST - 2009



Flagstaff Festival of Science • Mt. Campus Science Day

who will be the ultimate champion?

vote by december 15th at askabiologist.asu.edu



Polistes "The Shocker" Paper Wasp

Record: 25-2 **Size:** 25mm **Weight:** 60mg

Fighting from the Order of: Hymenoptera

Bouts: Prey include caterpillars, flies and beetle larvae.

Bio: These wasps have a painful sting and will attack any creature approaching or disturbing their nest. The nests are made of chewed up wood pulp, used to make a paper-like material, which gives the wasps their name. Stings can cause anaphylactic shock in humans, and can therefore be quite dangerous. Most paper wasps die in the autumn or winter. Paper wasps are a social wasp consisting of small colonies of 12-20 individuals.

Apis "Sweetness" Honey Bee

Record: 21-2 **Size:** 13mm **Weight:** 120mg

Fighting from the Order of: Hymenoptera **Family:** Apidae

Bouts: Predators include dragonflies, ants, yellowjackets, some birds, skunks and bears.

Bio: Worker honey bees will sting intruders and signal other bees with an alarm pheromone. Bees die after stinging and the stinger remains in the prey, pumping in venom, even after the bee is gone. Bees always have 'plumose' or 'feather-like' hairs on the back of their legs and these structures, known as pollen baskets, help in collecting pollen. Bees can collect 30kg of pollen per year for each hive – that's 66 pounds! Scientists have also found that honey has antibacterial qualities. All worker bees are female, but they are not able to reproduce.

Harpegnathos "The Ringleader" Jerdon's Jumping Ant

Record: 26-1 **Size:** 19mm **Weight:** 3mg

Fighting from the Order of: Hymenoptera **Family:** Formicidae

Bouts: Prey on many insects, but have few predators.

Bio: These ants can jump 2cm high and 10cm long, and lift 50 times their weight. They jump to catch insects and then sting the prey to paralyze it. The paralyzed insect is then dragged back into the nest to be fed to the ant's young. Ants attack and defend themselves by biting and, in many species, by stinging or spraying chemicals, like formic acid.

Agulla "Stretch" Snakefly

Record: 19-2 **Size:** 15mm **Weight:** 4mg

Fighting from the Order of: Raphidioptera

Bouts: Prey include aphids, caterpillars and wood-boring beetles.

Bio: Fossilized snakeflies are dated as far back as the early Cretaceous period (146 million years ago – during the time of dinosaurs). They are called snake flies because their necks extend out far beyond the body and their heads resemble a snake's head. Their larval period lasts at least one year and sometimes up to three years. They have narrow bodies with an elongated neck, movable head and two pairs of wings which range from 5 to 20 mm wide.

Macrosiphon "The Blade" Aphid

Record: 22-4 **Size:** 2mm **Weight:** 1mg

Fighting from the Order of: Hemiptera **Superfamily:** Aphidoidea

Bouts: Predators include lady bugs, wasps and spiders.

Bio: Aphids feed by inserting their beaks into stems, leaves or roots, and sucking the plant juices. Usually, they gather in large colonies. Certain aphid species have a symbiotic relationship with various species of ants that resemble the relationship of domestic cattle to humans; and are referred to as "ant cows." The ants take care of the aphids, transporting them to their food plants and sheltering the aphid eggs in their nests during the winter. The aphids, in turn, provide honeydew for the ants.

Hadrurus "The Stinger" Scorpion

Record: 32-3 **Size:** 64mm **Weight:** 1g

Fighting from the Order of: Scorpiones

Bouts: Predators include birds, centipedes, lizards, mice, possums and rats. Prey include small arthropods and insects.

Bio: Scorpions are related to the common spider because they have eight legs (Arachnida class). All scorpions are venomous but in most species, the venom has little to no effect on humans. They crush prey with their pincers and inject them with a neurotoxic venom. Baby scorpions stay on their mothers back until they are large enough to take care of themselves.

Contestants prepared and photographed: Northern Arizona University, Imaging and Histology Core Facility • **Microscope:** Zeiss 435 VP Scanning Electron Microscope

Photography: Thery The, Research Technician, Senior • **Manager:** Marilee Sellers • **Co-Directors:** Loretta P. Mayer, Ph.D. and Timothy Vail, Ph.D.

Contestant recruitment and special effects: Page Baluch Ph.D., Manager, ASU W.M. Keck Bioimaging Laboratory

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did you know . . .

10 average grains of table salt are equal to 3 milligrams (mg) and 10 millimeters (mm) equals 1 centimeter.

1 inch = 25.4 mm
0mm 10mm 20mm

