



Good News Bulletin

September 2023

SEPTEMBER STUDENTS OF THE MONTH:

We are proud to announce The Students of the Month have been selected for September 2023 They are:

Freshman – Dakota Benenati
Sophomore – Nia Powell
Junior – Angelina Mayo
Senior – Harrison Wolk

The above students have met the following Criteria:

1. Must meet high academic standards in class.
2. Exhibit positive character and influence on class/school, dignity, respect, trustworthiness, responsibility, caring, and citizenship.
3. No unexcused lates of any kind for the month.
4. No discipline referrals in the last month.

Congratulations to all of you!



FIELD HOCKEY

Congratulations to Isabella Heiser and Amara Thomas for making first team all conference.



GIRLS TENNIS

The Girls Tennis GMC Tournament was held in Veterans Park in Hamilton from 9/28/23- 10/2/23. The first doubles team of Rithika Penumada-11 and Sanya Miglani-10 finished in fourth place out of 28 teams. Our second doubles pairing of Anokhi Patel-12 and Simran Kumar-12 finished in fourth place as well.

NEWSLETTER ANNOUNCEMENTS

Paws for a Cause Club
September 2023

By: Amber Smilen



Mrs. Ballard has adopted 2 new dogs over the summer from Wag On In Rescue. Cookie is 9 years old terrier with black fur and Evie is 5 years old morkie with white fur.

<https://wagoninn.rescuegroups.org/>



Meetings Announcements and Events -
September -
Club meeting @ 2:20 G231 - Only for Executive board members/leadership positions and newspaper writers.

Club Rush @ 2:30-3:30 Virtual - need volunteers for time slots.

Animal Allergies

By: Ella Simmonds

Similar to their human counterparts, many of our furry friends can experience allergies. Food, environmental factors, and medications are just some of the factors that affect dogs. Flare ups can begin as soon as 6 months but are most common in one and two year olds. All animals react differently to allergens, including itchy skin, localized (one area) or generalized (all over body), and digestive issues, vomiting and diarrhea. Flat ups are caused by a slight malfunction in the immune system, where the body harms itself instead of helping. If your dog is experiencing symptoms, medication or cutting out certain foods can help reduce the effects. The important thing is recognizing the symptoms and talking to your veterinarian about what steps to follow next.

Common Allergy Triggers



PEACOCK MANTIS

Paws for a Cause Club
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SHRIMP

By: Amber Smilen



Mantis shrimp live in the burrows of north tropical and subtropical water, in the Indian and Pacific oceans. There are 450 species of mantis shrimp but the most famous is the peacock mantis shrimp known for being larger and more colorful. The area it lives depends on the type of mantis shrimp, soft substrate houses the spearing peacock mantis shrimp and harder substance houses the smashing peacock mantis shrimp. They are not endangered and can even be kept as pets if they have a 20 gallon tank all to themselves. The males have a range of colors all over their body namely bright red, green, orange and blue, they also have spots of color on their forearms. Females also have bright colors but are more red colored. They usually live 2-7 years in the wild but can live to 20 maximum when in captivity. They can grow to 4 inches in length but have been recorded to grow to 18 inches. They have a hard shell but it only covers the back of the head and the first segments of the thorax.

Some species of mantis shrimp wield sharp spear-like limbs with barbed tips to impale their targets, called spears. Some have round club-like limbs to bash their prey, called smashers. The "clubs" of the smashers have a special shock absorbent to keep them from breaking bones. A Mantis Shrimp's punch is so fast that it has the same acceleration as a .22 caliber bullet. That speed is 50 times faster than a human can blink. Underwater the punch creates a current of low pressure bubbles which collapses upon itself to create heat and light. This heat is estimated to reach 8,500 degrees Fahrenheit, which is nearly as hot as the surface of the sun. Also their eyes have a special feature that allows them to see a huge variety of light wavelengths including the ultraviolet spectrum. They have at least 12 types of photoreceptors, which increase the speed at which they can see colors. They can even detect cancer cells with their eyes.



The diet of Mantis Shrimp varies depending on the species but they have been known to eat gastropods, snails, crabs, oysters, worms, squid, fish and mollusks. Mantis shrimp that can club their prey eat even harder food such as clams, snails and smaller crustaceans. They are highly predatory so they should never be kept in the same enclosure with any other animal in captivity. Putting the same species in the same tank is also not a good idea as they will go cannibalistic. They have enough force to punch and crack their tanks open so these animals as pets are only for skilled and experienced pet owners. The only predators of Mantis Shrimp are humans, yellowfin tuna, and larger fish. However, they do have the nickname "thumb splitter" due to painful pashes they can cause to humans if mishandled. They are cooked in dishes and eaten in Japanese, Cantonese, Vietnamese, Mediterranean, Filipino and Hawaiian cuisines.



They live in a U or O shaped burrows that they dig, and only go out to hunt and attract mates. After they mate, females carry around the egg from their front appendages until they hatch. They make sure to protect and keep them clean. They can breed year round but mostly during the early months of the year. Depending on the species they can mate with multiple mantis shrimp or build one long-term monogamous relationship for the rest of their lives.

They are also highly intelligent as they are able to exhibit complex social behavior, such as retaining knowledge of who they interacted with, ritualized fighting and protective activities. They are stomatopods and began to evolve independently from the malacostraca class 400 million years ago. That is 170 million years before the dinosaurs!

ENGINEERING

Governor's School of Engineering and Technology (GSET) Summer 2023

Congratulations to Gokulraj Kumarassamy, who attended the New Jersey Governor's School of Engineering and Technology (GSET) at Rutgers University over the summer. He attended classes in physics, robotics, digital logic design, and game design. Along with his research group, he completed a research project on stomatal dynamic activity in the face of climate change which involved an Arduino Circuit and plant growth chambers. He also toured prominent engineering companies like Lockheed Martin and JAKTOOL to network with professionals in the industry. Congratulations!



Mrs. Vanitha Gaurishanker (Mrs. G) attended the 2023 New Jersey Governor's School of Engineering & Technology (GSET) Research Symposium held on Friday, July 28th, 2023. Some of the topics covered were:

- **Machine Learning for Neural Decoding: Using EEG Signals to Detect Freezing of Gait in Parkinson's Patients**
- **Thermal Characterization of a Pouch Lithium Ion Battery by Measuring In-Plane and Through Plane Thermal Conductivity**
- **Smart Cities: Reducing Noise Pollution Through an Adaptable Barrier**
- **Battery Thermal Testing**

Gokul and his team presented on the topic "**Monitoring, Characterization, and Modeling of Stomatal Dynamic Behavior Under Climate Changes**". Cool use of Arduino boards integrated with Gravity infrared CO₂ sensors, DFRobot Gravity Digital 1-8 Multiplexers and Digital light sensors to name a few of the electronics used to collect data from the plant of choice to research about the stomatal behavior and function under varying climatic conditions.

We are very proud of all of our students and their accomplishments!

