

# Global Insect Collecting Association

Newsletter

Vol. 1 No. 1

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Promoting Entomology for Professionals & Beginners of All Ages

Front cover

Auplopus carbonarius; Potter Spider Wasp (Psammocharidae, Hymenoptera)  
[Center Illustration] by Valerie Ackerson

Lucanus elaphus; Elephant Stag Beetle (Lucanidae, Coleoptera)  
[Upper Left Photo] by Gerald Wegner

Heliconius numata; Variable Long Wing Butterfly (Nymphalidae, Lepidoptera)  
[Upper Right Photo] by Gerald Wegner

Polistes exclamans; Common Paper Wasp (Vespidae, Hymenoptera)  
[Lower Left Photo] by Gerald Wegner

Anoplius americanus; Blue-Black Spider Wasp (Psammocharidae, Hymenoptera)  
[Lower Right Photo] by Gerald Wegner

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## **EDITOR'S PAGE and GENERAL NOTES**

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A hearty welcome to all! Children & Adults; Young & Old; Beginners & Professionals. Thank you all for choosing to advance the field of Entomology. I am very excited to have the opportunity to work along with each and every one.

The objective of this association is to unite Entomologists and promote the study of Entomology for professionals, beginners, adults, children, and amateurs. The focus will be globally to create a network of adults and children with the idea of members helping each other and motivating each other by sharing their knowledge about insects.

Topics will include: 1. The art of collecting and identifying insect specimens, and the different techniques used; 2. Learn how insects relate to the environment around us; 3. Promoting the love for insects and the study of insects for all age groups; 4. Members offering informative help where other members seek help; and 5. Members corresponding with other members, making new friends that love insects, and having the opportunity to collect and exchange insects with other members in the United States and abroad.

### **General Notes**

The Global Insect Collecting Association (GICA) does not have membership fees of any type. Newsletters will be sent to all members as an e-mail attachment. A complete and updated membership list will be included in the Vol. 1, No. 2 newsletter.

In the next issue of the GICA newsletter, we would like to dedicate a special section on the Order Hymenoptera. Articles on all types of Hymenoptera are welcome. If you would like to submit an article, or have an interest in the ants, wasps, and bees, please prepare an article for us, and send it to: Sal Nolfo, 59 Cambridge Drive, Angier, North Carolina 27501. Or, feel free to e-mail it to: [aculeatanc@gmail.com](mailto:aculeatanc@gmail.com). Illustrations or photographs should also be included. But, if you need help with writing an article, or with photos or illustrations, please contact me and I will be glad to help you. Remember, articles from beginners and children are just as important as articles from professionals.

Please note the Want Ads & Exchanges at the back of the newsletter. If any members would like to swap insects with other members from different States or Countries, send me your name, address, and e-mail address, and I'll put you in touch with them. Also include which types of insects you are interested in.

## **MANUSCRIPTS, ARTICLES, AND PHOTOS**

### The World of the Tiny Oak Gall Wasp (Cynipidae)

By Sal Nolfo



Photo by Gerald Wegner

Cynipid wasps have very small wings and very simple wing venation.



Photo by Sal Nolfo



Photo by Sal Nolfo

Cynipid wasps also have a compact abdomen.

The tiny Oak gall wasps are responsible for the abnormal plant growths known as galls. These galls protect the tiny wasps from environmental threats. In addition, the galls also serve as a source of food for the Gall wasps eggs and larvae. The female wasp injects her eggs and venom into the plant, and the plant responds by producing a gall. There are over 1300 different species in the world.



Cross-Section of a Hollow Tree, Exposing a European Hornet Nest  
Photo by Sal Nolfo

## The European Hornet (Vespa crabro germana)

By Caleb Ackerson  
Youth Entomology  
Johnston County 4-H Club

The European Hornet is the largest social wasp in North America. It was introduced from Europe in the late 1800's, and is now well established. It is found mostly east of the Mississippi River in the United States. The head, thorax, and abdomen are a mixture of reddish-brown and yellow, and the wings are yellowish to red. They are large wasps, averaging over 1 inch in length.

Their nests and cells are very large, and may be found inside of a hollow tree trunk or inside of an attic. Although these hornets are large, and their nests are large, they are very difficult to find. The photo above shows a European Hornet's nest which was taken from inside of a hollow tree. My dad used a chain saw to cut out the section of the tree for removal. The nest is made from a yellowish brown paper, and is very brittle. It easily falls apart if handled roughly.

European Hornets have a painful sting, and can sting more than one time. And they are the only hornet that may be seen flying around lights after the sun goes down. So care must be taken at night as well as the daytime, to avoid getting stung.



European Hornet at Nest Entry  
Photo by Gerald Wegner



European Hornet and Nest Comb  
Photo by Gerald Wegner

A Biological Investigation of a Pteromalid Wasp Nasonia vitripennis  
and  
Its Housefly Host Musca domestica

By Sal Nolfo  
State University of New York, Farmingdale, New York  
May 1974

An investigation was made on the habits, longevity, and dispersal of the Pteromalid wasp Nasonia vitripennis and its housefly host Musca domestica in May 1974, under the auspices of Dr. Austin Frishman, State University of New York, Farmingdale, New York. This manuscript is a very brief synopsis of the original manuscript, which contained field data and ratios.

In considering certain factors, the question of application in the field of biological control arises. Is the introduction of this Pteromalid wasp into the field an effective way to control houseflies? If so, then are there specific determining factors which play a role in the success of controlling host numbers.



A Pteromalid wasp parasitizing a housefly pupae.

Photo by Sal Nolfo

A stock of Nasonia was forwarded to Dr. Samuel Ristich, Boyce Thompson Research Institute, Yonkers, New York, by Dr. Sue Saul, Department of Biology, Middlebury College, Middlebury, Vermont. I am very grateful to Dr. Ristich for obtaining these specimens for this study, and to Dr. Saul for providing both the wasps and the

housefly pupae. The disclosure of the original techniques, observations, and results of this study will be limited in this article. The main focus is, “What role can this Pteromalid wasp play in biological control of houseflies?”

Six important observances were noted:

1. The female wasp locates a fly pupae by being attracted to the decaying matter of which the fly is in or near.
2. The female wasp searches the pupae for a suitable spot to oviposit. Most female wasps prefer the middle of the pupae instead of the ends.
3. When the female wasp finds a suitable spot, she pierces the puparium with her ovipositor, and lays her eggs on the surface of the pupae. Prior to laying her eggs she stings the pupae, putting it into a state of paralysis.
4. The female wasp then constructs a feeding tube for herself. The female wasp, after oviposition, withdraws its ovipositor until only the tip protrudes into the puparium. She then secretes a fluid which hardens into a hollow tube. It is through this tube that she obtains her nourishment.
5. When the wasp is finished feeding, she then cleans herself, using her mouthparts.
6. When finished cleaning herself, she flies off in search of another pupae.
7. The average longevity of a female was 6 days, while the male longevity was 2 days.

The final results: The Greater The Amount of Wasps Introduced...

1. the greater the percentage of host paralysis.
2. the greater the percentage of hosts producing neither fly nor wasp.
3. the percentage of parasitized hosts (producing the parasites) decreases.
4. the total number of wasps that emerge increases and then decreases.
5. the percentage of hosts surviving decreases.
6. the amount of pupae that produces the wasps increases and then decreases.

These results demonstrate the fact that introducing Nasonia into an ecological environment would be a viable option for biological control of houseflies. In turn, by studying these types of interactions, scientists may continue to develop resources for wildlife conservation and to help prevent ecological disasters and diseases.



## **BUG OF THE MONTH**

### **Ant or Wasp?**

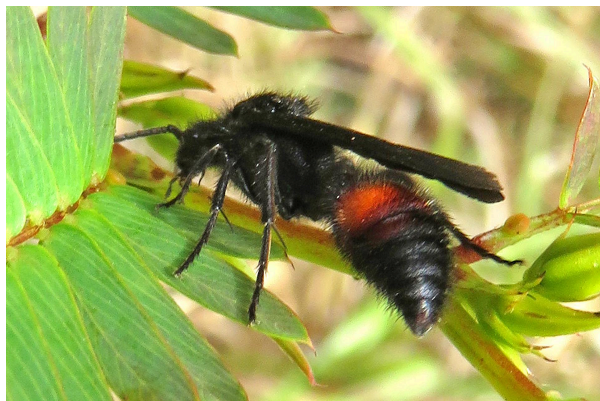
By Sal Nolfo



Female Velvet Ant  
Photo by Gerald Wegner

If you guessed that this photo is of a wasp, you are correct. The common name is Velvet Ant, of the Family Mutillidae. The wingless female velvet ants closely resemble ants. They have a stinger, they are able to run very quickly, the females have no wings, and they have an ant-like waist. Many of the species of this family are very colorful. Color variations range from red, to brown, to cream, to white, to black.

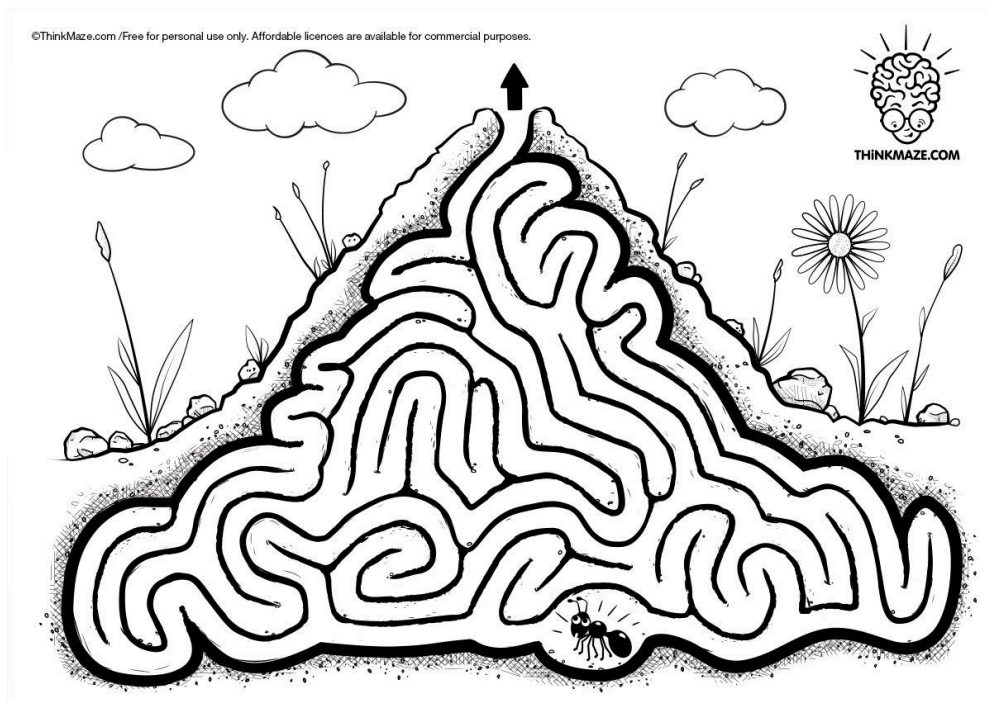
Their exoskeleton is thick, making it difficult for other wasps and bees to sting her. Female velvet ants are predators of other insects, particularly bumble bees. She will enter a bumble bee nest, and deposit her eggs on bumble bee larvae. The velvet ant larvae will then pupate, and emerge from the bumble bee comb as adults.



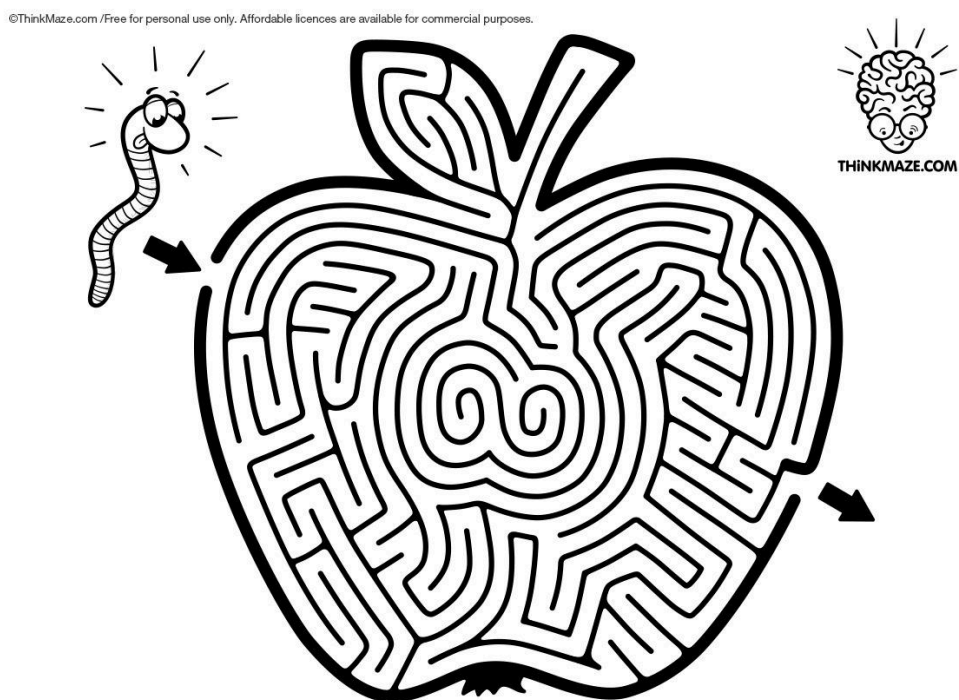
Male Velvet Ant  
Photo by Gerald Wegner



## Kid's Corner & Learning Center



The Lost Ant Maze

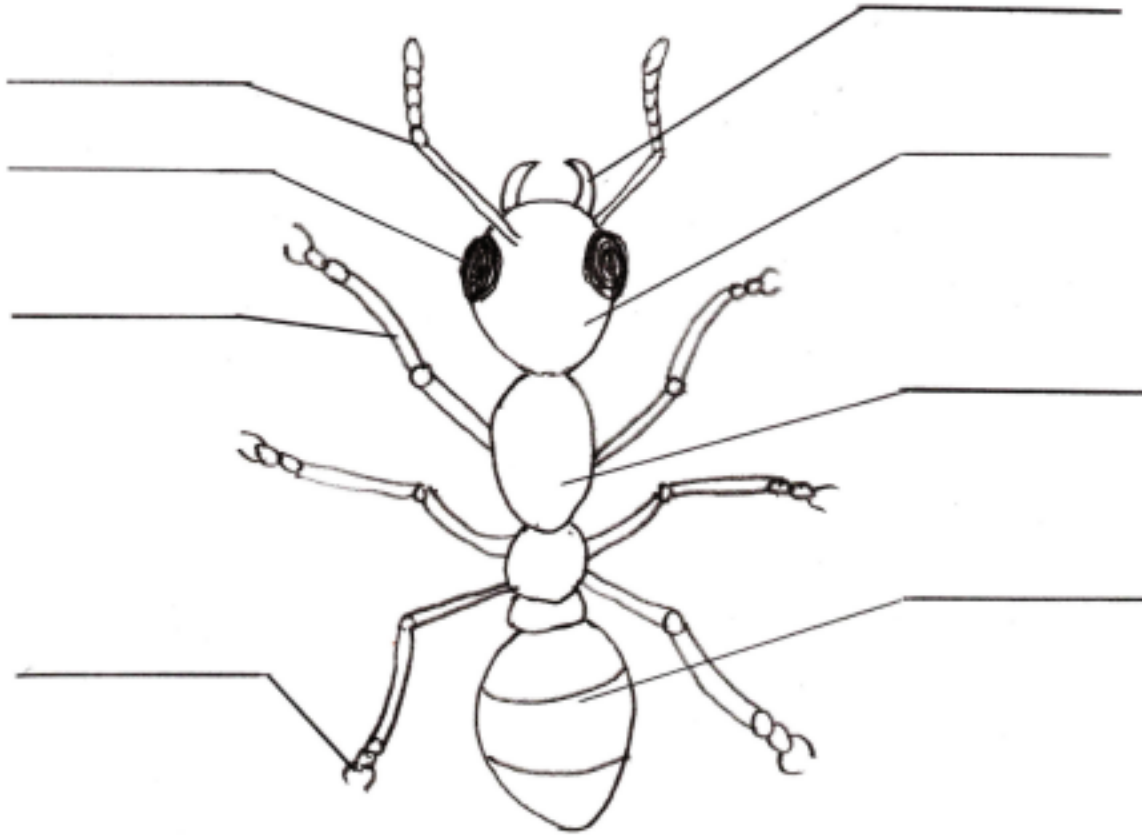


The Lost Caterpillar Maze

# **INSECT BODY PARTS**

(Answers on page 16)

By Paul J. Bello



## 1. head

Insects have three main body parts, the head, thorax and abdomen.

## 2. thorax

An insect's Thorax includes three sections and the legs and wings are attached here.

## 3. abdomen

The abdomen is where the egg-laying ovipositor and stinger is located when present.

## 4. antennae

Ants have geniculate (elbow-shaped) antennae.

### 5. eyes

Insects may have Compound Eyes and Simple Eyes. Ants can have both.

### 6. legs

Insects are Arthropods, which means “jointed legs”.

### 7. mandibles

The Mandibles are large jaw-like structures.

### 8. tarsi

The Tarsi is composed of multiple segments which make up the insect's foot.

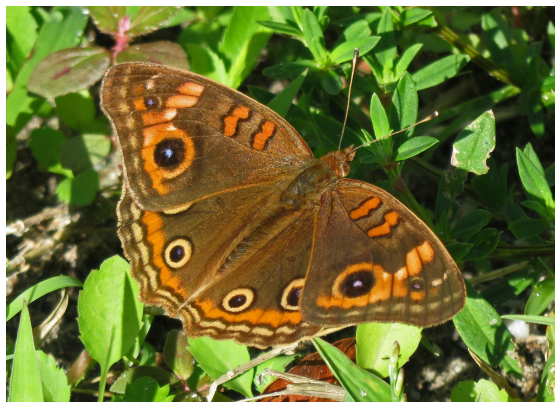
## Insect Photo ID Gallery

Photos by Gerald Wegner

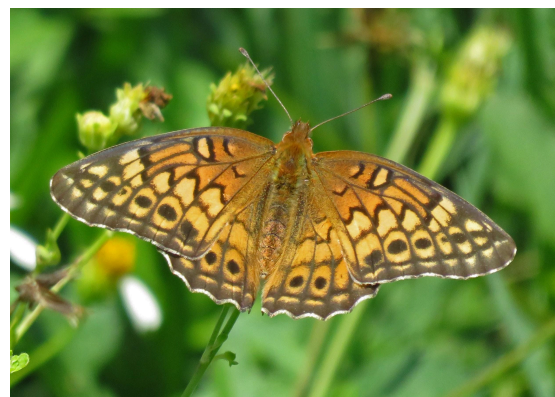
Can you name these insects? (Answers on page 16)



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## **SPECIALTY TOPICS & SUGGESTIONS**

### The Art of Trapping Insects Using a Malaise Trap



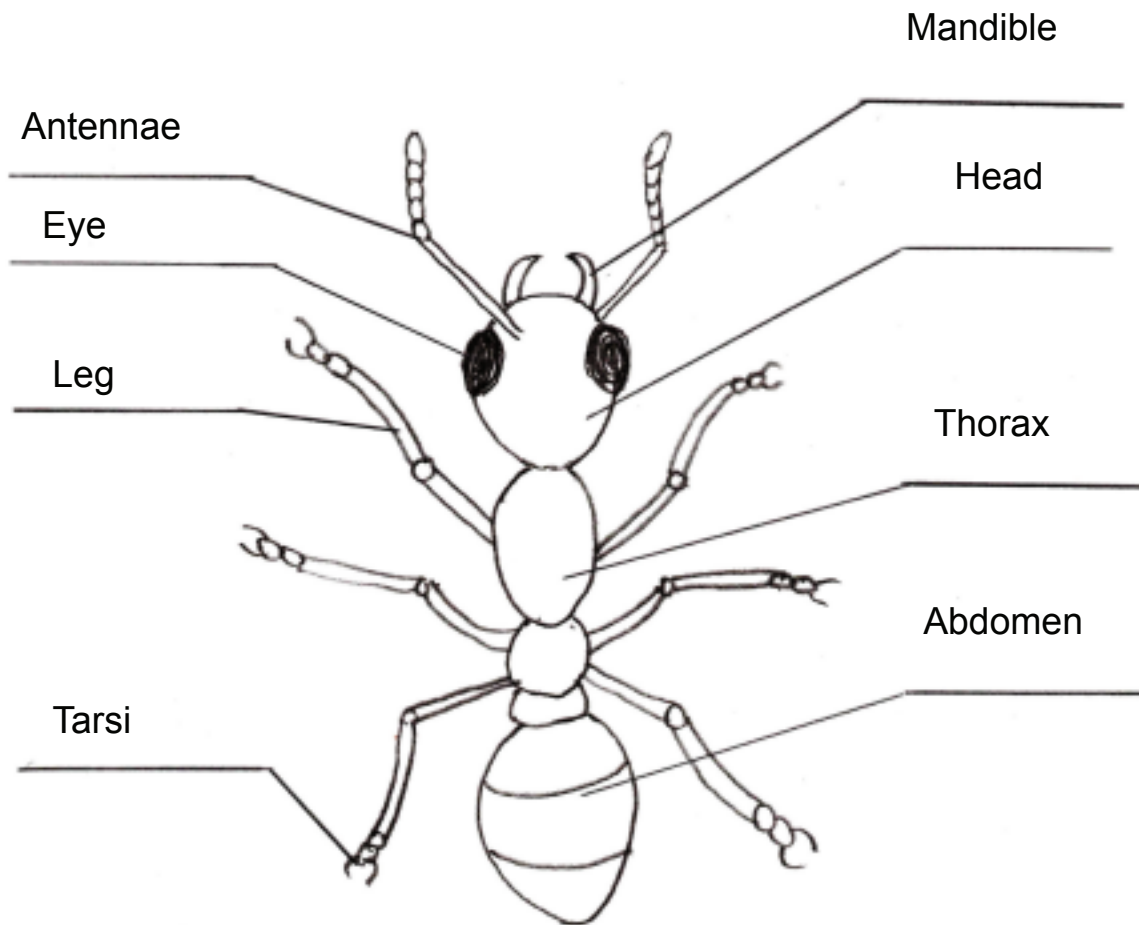
Photo of a Malaise Trap by Brandon Claridge of Claridge Malaise Traps

One of the primary ways of collecting insects is to use a Malaise trap. It is a tent-like trap, with 5 mesh panels sewn together (one panel on each end, one panel in the center, and two panels for the canopy). This type of trap is very effective for catching a variety of flying insects. The idea for trapping is simple. As insects fly into the sides of the trap, the center panel guides them upward into the canopy. The canopy then directs them upward into a collection head with a killing jar. 91% Isopropyl Alcohol or 80-90% Ethanol is typically used in the killing jar. After several days, the insect collector empties the jar, refills with fresh alcohol, analyzes the insects caught, and builds his/her collection. In addition to catching groups of interest, malaise traps also generate a lot of insect bycatch which can then be traded with other insect collectors.

If anyone is interested in learning more about Malaise Traps, or to purchase a Malaise Trap, then please contact Brandon Claridge....[claridgetraps@gmail.com](mailto:claridgetraps@gmail.com)



**Answers To Insect Body Parts (page 12)**

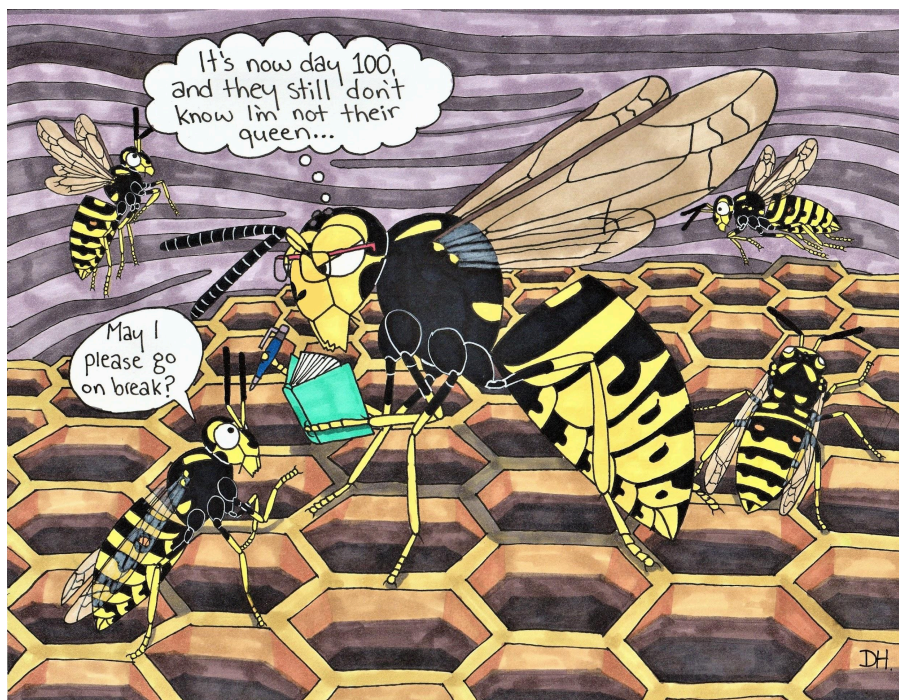


**Answers To Insect Photo ID Gallery (page 14)**

1. Red Spotted Purple Butterfly (*Limenitis artemis*)
2. Mangrove Buckeye Butterfly (*Junonia genoveva*)
3. Variegated Fritillary Butterfly (*Euploietia claudia*)

## Devon's Corner

Entomology Humor by Illustrationist Devon Henderson





## **WANT ADS & EXCHANGES**

**\*All members are welcome to correspond with, and swap insect specimens with, other members. If members are under the age of 18 years old, then it is required that they contact the general manager (Sal Nolfo [aculeatanc@gmail.com](mailto:aculeatanc@gmail.com)) prior to corresponding. In addition, they must have parental/guardian consent, with the parent/guardian being responsible for managing and supervising their correspondences.**

1. Would like to correspond with any members who have an interest in illustrations and photography of insects. Valerie Ackerson, Benson, North Carolina. [waveriders1111@gmail.com](mailto:waveriders1111@gmail.com)
2. Wanted: Specimens from the order Coleoptera, especially the Scarab Beetles. I live in Thurmond, North Carolina, and would like to exchange specimens from other states and countries. Vincent Nolfo, Thurmond, North Carolina. [bugmanvin@yahoo.com](mailto:bugmanvin@yahoo.com)
3. Wanted: Specimens of the Spider Wasp family Psammocharidae from other US states, Mexico, Central & South America. I live in North Carolina, and in exchange would be willing to trade insect specimens of any insect family from this area. Sal Nolfo, Angier, North Carolina. [aculeatanc@gmail.com](mailto:aculeatanc@gmail.com)
4. Wanted: Specimens of the family Colletidae, especially the genus Hylaeus. This study is a fulfillment for a PhD dissertation using DNA sequencing. Please contact me at [gerardquintos@gmail.com](mailto:gerardquintos@gmail.com). Gerardo Quintos, Maestro en Ciencias, Instituto de Ecología (INECOL AC) Xalapa, Veracruz, México