



### 2020 4-H Entomology Collection Contest Guidelines – Photograph Submissions

Due to the COVID-19 pandemic, the 2020 4-H Entomology Collection Contest will be submitted through photographs. Photographs will be uploaded to 4-H Connect, May 1- May 28, 2020. The LAST DAY to upload submissions is May 28th.

For additional questions or information, please contact superintendent, Molly Keck at [meck@ag.tamu.edu](mailto:meck@ag.tamu.edu).

For help with pinning and spreading, visit [www.YouTube.com](http://www.YouTube.com) – Bexar Entomology channel.

General requirements for all 4-H Entomology Collection contestants are as follows:

1. All **arthropods** must be properly identified to Order.
2. Only use order and common names from <https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>
3. No duplication of insects/arthropods.
4. Only adult specimens.
5. Only insects collected in Texas allowed (no pets, store bought, or insects collected from other states).
6. You may only use insects collected between August 2019 and June 2020.
7. Only 5% of your collection may be collected by others.
8. Insects should be labeled – three types of labels:
  - a. **Order Labels** You may group Orders together and provide only one label (ie – if you have 4 beetles, you may provide one label “Coleoptera” and place all beetles under that label)
  - b. **Common Name Labels** – Pin or glue common name label above your insect (like a header). NOT ALL SPECIMENS IN COLLECTION NEED A COMMON NAME LABEL
  - c. **Collection Labels** – each insect should have a label with the following information:
    - i. Collection County, State, any specific location information (optional), Date Collected and Collector
    - ii. Show as little white as possible. Try to keep your label smaller than your insect, if possible. You may use more or less lines than shown in the examples.

County, State
Specific location
Date
Collector

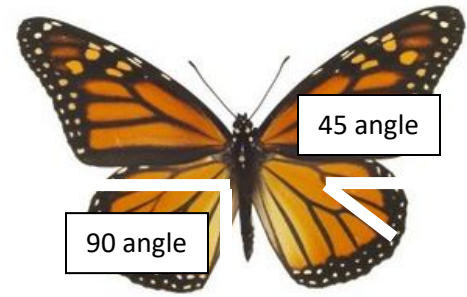
Bexar Co, TX.
Eisenhauer Park
X.20.2013 M. Keck

Roman numeral is month. Use this format.

- d. For printable labels - <http://extension.entm.purdue.edu/401Book/pdf/SpecimenLabels.pdf>.
- e. Labels may be handwritten or typed.
9. Insects must be mounted correctly and placed in an organized fashion in a collection box.

10. Spreading guidelines (see - [www.YouTube.com](http://www.YouTube.com) – Bexar Entomology channel)

- a. The bottom of the forewings should be at a 90° angle from the body. Hindwings should be at a 45° angle from the forewing.
- b. Insects required to be spread:
  - Butterflies and moths (Lepidoptera)
  - Dragonflies and damselflies (Odonata)
- You can spread any insect you would like; you will not be penalized for spreading insects, but if spreading is not correct, you may be penalized.



11. Insects/Arthropods that should be preserved in vials and at least 70% alcohol. Vials should be able to be removed easily for viewing. **BE SURE VIALS ARE SECURED IN BOXES TO AVOID THEM ROLLING AND DESTROYING YOUR COLLECTION.**

- |                                  |                              |                             |
|----------------------------------|------------------------------|-----------------------------|
| • Silverfish (Thysanura)         | • White Flies (Hemiptera)    | • Caddisflies (Trichoptera) |
| • Springtails (Collembola)       | • Spiders (Aranae)           | • Mayflies (Ephemeroptera)  |
| • Scales & Mealybugs (Hemiptera) | • Ticks (Acarina)            | • Booklice (Psocoptera)     |
| • Fleas (Siphonaptera)           | • Small Earwigs (Dermaptera) | • Termites (Isoptera)       |
| • Thrips (Thysanoptera)          | • Scorpion (Scorpiones)      |                             |
| • Lice (Phthiraptera)            | • Sulfugids (Sulifugae)      |                             |

12. **Please see scoring cards for minimum and maximum insects allowed by age group.**

## Photography Requirements for all Age Categories

- Images must be taken in good enough quality, lighting, and focus to allow for identification of key characteristics. When the image is opened and enlarged, it should not distort and remain clear. If pictures are not clear and/or specimens are not viewable, it is the judge's discretion to deduct points. <https://citybugs.tamu.edu/2018/06/27/insect-id-via-mobile/>
- Submit images as only jpeg, jpg or png files.
- Save image name to include Name, Division and type of file (Order, Common, Vial, Bonus).  
Example JohnSmith.Junior.Coleoptera
- Photographs to submit:
  - One picture of the entire collection.
  - One picture per order, including all insects within that order (for example, if you have four beetles, all four must be photographed together and submitted as Coleoptera).
  - Individual pictures of any insect or arthropod that is placed in a vial. For the sake of this photography submitted contest, please limit your vial submissions to only TWO.
  - Pictures of insect identified to common names. You may send individual pictures of each insect identified to common name OR include 2 or more insects in a single image. Just be sure the quality is clear enough that characteristics can be identified.
  - BONUS INSECT – this is an insect of your choosing to be used as a tie breaker, if needed. You decide why you chose this insect and provide an explanation. Maybe it is unique to your area, maybe you find it's colors fascinating, maybe it was hard to catch. Bonus insect is optional, but recommended!

## Tips for Insect Photography for the Collection Contest, 2020

Whether you use a phone camera or a dedicated camera, there are a few simple tips that will help you get better images.

1. "Fill the Frame", which means get close enough to the insect or insects (or use the zoom feature on a phone camera) so that the insects occupy most of the photo. Sometimes this is hard to do, but it is important.
2. Stay in focus. Taking photos of small subjects can be hard to focus on and slight movement can result in blurry photos. Steady your camera on a hard surface or use a tripod, if available. Use manual focus on a camera to focus on the subject or tap on the subject on a smartphone until the subject is in focus.
3. Sometimes a flash will help, especially when a dark insect is on a dark background or when there is little sunlight. If you can adjust the flash then it is usually a good idea to turn down the intensity a bit. A flash can also add drama. Refrain from using flash in well-lit areas, such as outdoors during the day or indoors with good lighting.
4. Take pictures from above, but if you cannot identify the insect by this view, please take side view pictures as well. You want the judges to be sure you submitted the correct insect and if they aren't certain, you probably won't receive credit.

## Specific Level Requirements

### Junior Level Requirements

10 insects minimum

Of those 10+ insects:

- There must be 4 different insect/arthropod orders
- There must be 5 insects/arthropods identified to common name (no repeated common names)

All arthropods must be identified to proper order. There must be a minimum of 5 different insect orders and 6 arthropods identified to common name based on the Texas 4-H common names. Arthropods must contain the proper collection labels. Insects must be pinned and spread correctly for full point value.

### 4-H Entomology Score Card – Junior Level

	Points Possible	Your Score
<b>Total of at least 10 insects</b>	<b>20</b>	
<b>4 Insect Orders</b>	<b>8</b>	
<b>Orders correctly identified</b> (-2 for each incorrect ID)	<b>8</b>	
<b>5 Common names correctly identified</b> (-2 for each incorrect, missing)	<b>10</b>	
<b>Pinning and Spreading</b> Condition of insects All legs, antennae and other body parts intact Wings spread on appropriate insects and spread properly Pins in correct location on insects Insects uniform height on pins (see youtube video for guidelines) Legs positioned consistently Insects level on pins, pinned straight	<b>10</b>	
<b>Labels</b> Neat and accurate, Uniform height, Not twisted Not too large for the specimen Not too much white on the label	<b>14</b>	
<b>Arrangement in Boxes</b> Variety of insects No duplication of insects Grouping accurate, correct, and neat Spacing of insects neat, attractive Overall neatly arranged and attractive	<b>10</b>	
<b>Quality of Images for Identifying Insects</b>	<b>10</b>	
<b>BONUS INSECT</b>		
<b>TOTAL SCORE</b>	<b>90</b>	

## Specific Level Requirements

### Intermediate Level Requirements

16 insects minimum

Of those 16+ insects:

- 6 different insect/arthropod orders
- 10 different insects/arthropods identified to common name

All arthropods must be identified to proper order. There must be minimum of 6 different insect orders and 10 arthropods identified to common name based on the Texas 4-H common names. Arthropods must contain the proper collection labels. Insects must be pinned and spread correctly for full point value.

	Points Possible	Your Score
<b>Total of at least 16 insects</b>	<b>16</b>	
<b>Total of 6 orders</b>	<b>12</b>	
<b>Orders correctly identified</b>	<b>12</b>	
<b>10 Common names correctly identified</b>	<b>20</b>	
<b>Pinning and Spreading</b> Condition of insects All legs, antennae and other body parts intact Wings spread on appropriate insects and spread properly Pins in correct location on insects Insects uniform height on pins (see youtube video for guidelines) Legs positioned consistently Insects level on pins, pinned straight	<b>10</b>	
<b>Labels</b> Neat and accurate, Uniform height, Not twisted Not too large for the specimen Not too much white on the label	<b>10</b>	
<b>Arrangement in Boxes</b> Variety of insects No duplication of insects Grouping accurate, correct, and neat Spacing of insects neat, attractive	<b>10</b>	
<b>BONUS INSECT</b>		
<b>Quality of Photographs for Identifying Insects</b>	<b>10</b>	
<b>TOTAL SCORE</b>	<b>100</b>	

## Specific Level Requirements

### Senior Level Requirements

30 insects

Of those 30+ insects:

- 10 different insect/arthropod orders
- 15 different insects/arthropods identified to common name

All arthropods must be identified to proper order. There must be a minimum of 10 different insect orders and 15 arthropods identified to common name based on the Texas 4-H common names.

Arthropods must contain the proper collection labels. Insects must be pinned and spread correctly for full point value.

	Points Possible	Your Score
<b>Total of at least 30 insects</b>	<b>30</b>	
<b>Total of 10 orders</b>	<b>10</b>	
<b>Orders correctly identified</b>	<b>10</b>	
<b>15 Common names correctly identified (-1 for each incorrect, missing)</b>	<b>15</b>	
<b>Pinning and Spreading</b> Condition of insects All legs, antennae and other body parts intact Wings spread on appropriate insects and spread properly Pins in correct location on insects Insects uniform height on pins (see youtube video for guidelines) Legs positioned consistently Insects level on pins, pinned straight	<b>10</b>	
<b>Labels</b> Neat and accurate Uniform height Not twisted Not too large for the specimen Not too much white on the label	<b>10</b>	
<b>Arrangement in Boxes</b> Variety of insects No duplication of insects Grouping accurate, correct, and neat Spacing of insects neat, attractive	<b>10</b>	
<b>Quality of Pictures for Identifying Insects</b>	<b>10</b>	
<b>BONUS INSECT</b>		
<b>TOTAL SCORE</b>	<b>105</b>	

## Collection Material Resources:

### For supplies such as pins, pinning blocks, spreading boards, collection boxes, etc:

BioQuip Products  
2321 Gladwick Street  
Rancho Dominguez, CA 90220  
PH: (310) 667-8800 FAX: (310) 667-8808  
<http://www.bioquip.com>

Carolina Biological Supply Co.  
2700 York Rd.  
Burlington, NC 27215-3398  
PH: (800) 334-5551  
<http://www.carolina.com>

NASCO Science Catalog  
901 Janesville Ave.  
Ft. Atkinson, WI 53538-0901  
PH: (800) 563-2446 FAX: (920) 563-8296  
<http://www.enasco.com>

Ward's Natural Science Establishment, LLC  
5100 West Henrietta Rd.  
P.O. Box 92912  
Rochester, NY 14692-9012  
PH: (800) 962-2660 FAX: (585) 334-6174  
<http://wardsci.com/>

### For locations for purchasing collection boxes:

Hobby Lobby (shadow boxes)  
Michael's Crafts (shadow boxes)  
Office Depot (shipping boxes)  
Carolina Biological  
Wards Scientific  
Bioquip

### Guides for Taking Pictures of Insects

<https://citybugs.tamu.edu/2018/06/27/insect-id-via-mobile/>

## Frequently Asked Questions

### **What type of file should the pictures be submitted in?**

JPEG

### **How many total pictures do I need?**

This depends on your age level, how many orders you have and how many insects you can fit into one picture.

You need one good picture of your overall collection so we can see arrangement and neatness. You also need a picture to include all of one order. And pictures (your discretion) of common named insects)

Example – a Junior with 4 beetles, 2 butterflies, 3 true bugs, and 1 grasshopper

1 picture of entire collection

1 picture of Coleoptera

1 picture of Lepidoptera

1 picture of Hemipter

1 picture of Orthoptera

1 picture that includes 3 Common names (June Beetle, Lady Beetle, Longhorned Grasshopper) \*

1 picture 3 Common names (Red Admiral, Green Stink Bug, Wheel Bug) \*

\* in the case of this 4-Header, they are able to group three insects in one picture and the image is still clear and of good quality.

### **What should I use to take my pictures?**

Anything, even a camera phone, as long as the pictures are clear and of good quality. Please see this site for help with pictures: <https://citybugs.tamu.edu/2018/06/27/insect-id-via-mobile/>

### **Does my collection need to be in a box?**

For 2020's photo submission, no. You can have them on a Styrofoam board, foam board, or other substance. They must be pinned properly and placed on some surface, but not necessarily inside a box.

### **What if I don't have the minimum number of insects to submit?**

Try submitting anyway. You will be deducted the points for what is missing, but may still receive a score.