



4-H Entomology

Guide for County and State Fair Judges

Insect Collections, Classes I - III

Oct 2012



Resources to Use:

Judging is based on the 4-H Entomology Manual and requirements in the Nebraska State Fair Fairbook. A PDF copy of the Manual is available through the Nebraska 4-H website. A new manual, which reflects the current insect classification system, is being developed for use in 2014.

Other valuable sources to use for reference while judging are:

- **Kaufman Field Guide to the Insects of North America**, by Eric Eaton and Kenn Kaufman, 2007.
- **National Wildlife Federation Field Guide to Insects and Spiders**, by Arthur V. Evans, 2007.
- **Peterson Field Guide to the Insects of America North of Mexico**, by Donald Borner and Richard White, 1970.

Guiding Principles:

Observe the State Fair ribbon restriction. Only static exhibits in all Classes which receive a PURPLE ribbon at the County Fair are qualified to go to the State Fair.

Consider age. Entomology collections are grouped according to Class. Class I, or the First-Year collection, is a single box with a minimum requirement of 25 insect specimens. The participants are quite young and are just learning how to master the technical skills necessary for making an attractive collection. The second year, more specimens are needed, which usually requires an additional box. Class III participants are often older teens who enter collections with three boxes. In judging displays, be generous with younger age groups and apply somewhat higher standards to older, more experienced exhibitors. Judges should encourage beginning 4-H entomologists to continue in the project and grow in experience each year, and also inspire older youth to strive for excellence which will help them in future studies in entomology.

What is the first impression? Check for overall neatness and orderliness of the collection. Are specimens in good condition, and is there a diversity in form and color which makes the collection attractive? Are labels and specimens aligned consistently and in an orderly fashion?

Get technical. Be familiar with the Judging Sheet. Examine the collection in detail for proper pinning, labeling, spelling, correct identification of specimens and proper spreading of wings of butterflies and moths. Be sure to commend exhibitors who mount insects on paper points and preserve specimens in vials.

Assign points. With a total of 100 points possible, score collections and award ribbons as follows:

Section	Possible Points	Award	Point Range
A Minimum Number of Orders and Specimens	20	PURPLE	94 - 100+
B Correct Identifications	25	BLUE	85 - 93
C Pinning, Mounting, Spreading of Wings	20	RED	75 - 84
D Labels – Spelling, Direction, Order, Spacing, All Data	15	WHITE	50 - 75
E Overall Appearance, Condition of Specimens	20		
	100		

Box Size/Orientation:

Boxes approximately 12" x 18" are encouraged with bonus points, because they fit securely in the display racks. Do not penalize larger boxes. Horizontal orientation is required, or bonus points should be negated.

Minimum Number of Orders and Specimens:

If the minimum order number is not met, penalize one ribbon value lower. This isn't the same as mistakenly placing an incorrect order label for a group of specimens which each have the correct order name. Some boxes may have open spaces because of the minimum number of specimens within them. Others may be crowded with additional orders and many more specimens to hedge against identification errors. Both are acceptable. The table below shows minimum requirements.

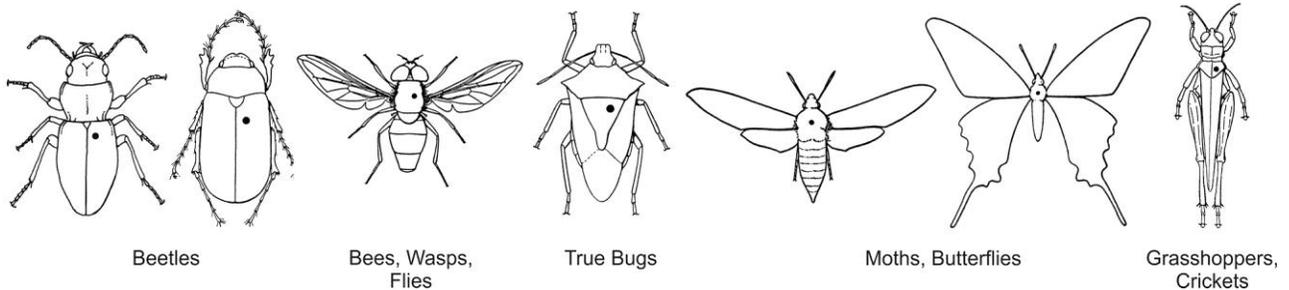
CLASS	ORDERS	SPECIMENS	NOTES
I (1st-Year)	6	25	Duplicates of the same insect do not count in any class.
II (2nd-Year)	8	50	25 must be new since July 1 of the previous year.
III (2nd-Year)	10	75	25 must be new since July 1 of the previous year.

Correct Identifications:

Correct identifications are emphasized by scoring points as most important, and misidentifications have greater impact on collections with minimum requirements. Misidentifications are often "look-alike" insects, such as flies and moths which mimic bees or wasps, or stink bugs that resemble beetles.

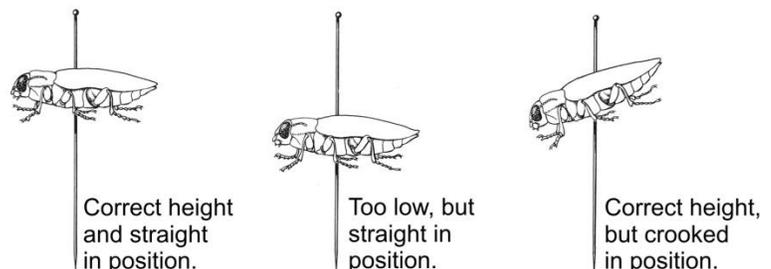
Location of Pin on Specimens:

The only insects pinned in the center of the thorax are moths, butterflies and skippers. All others are pinned slightly off to the right of an imaginary center line. Some beetles are pinned incorrectly in the "thorax".



Position of Specimen on Pin:

A specimen should be low enough on the pin to be able to grasp the pin without damaging the specimen. The distance is about 1 cm or 3/8" between the pinhead and top of the specimen. There should be room beneath to comfortably fit two labels.



Orientation of Labels:

Labels should be parallel to the insect, which faces forward, and be read from the right. An insect on a paper point (ant) should face to the right, the same direction the label is read.



Order of Labels:

4-H collections require two labels---- The collection label on top and order label beneath it. A host or site label is optional and is placed at the bottom. Labels should be legible, either printed by hand or computer printer. Labels should align evenly above each other and be pinned through the center.

Essential information for 4-H collections includes **state, county, date, collector, and order name**. If any of these are missing, points should be deducted, but ribbon value should not be lowered for this error alone.

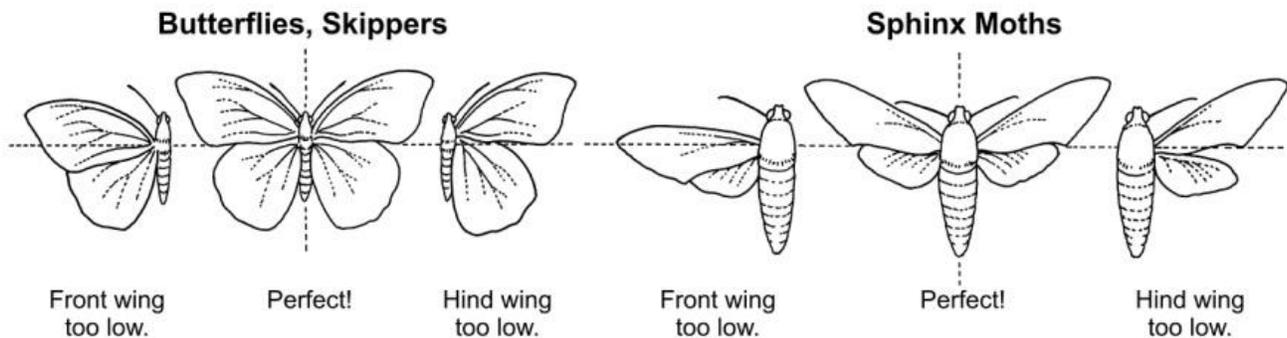
Labels will vary in amount of information, and abbreviations are permitted. Below is an example of labels typical of 4-H and university student standards. Additional information such as family, genus, species and GPS coordinates are permitted as long as it is accurate.



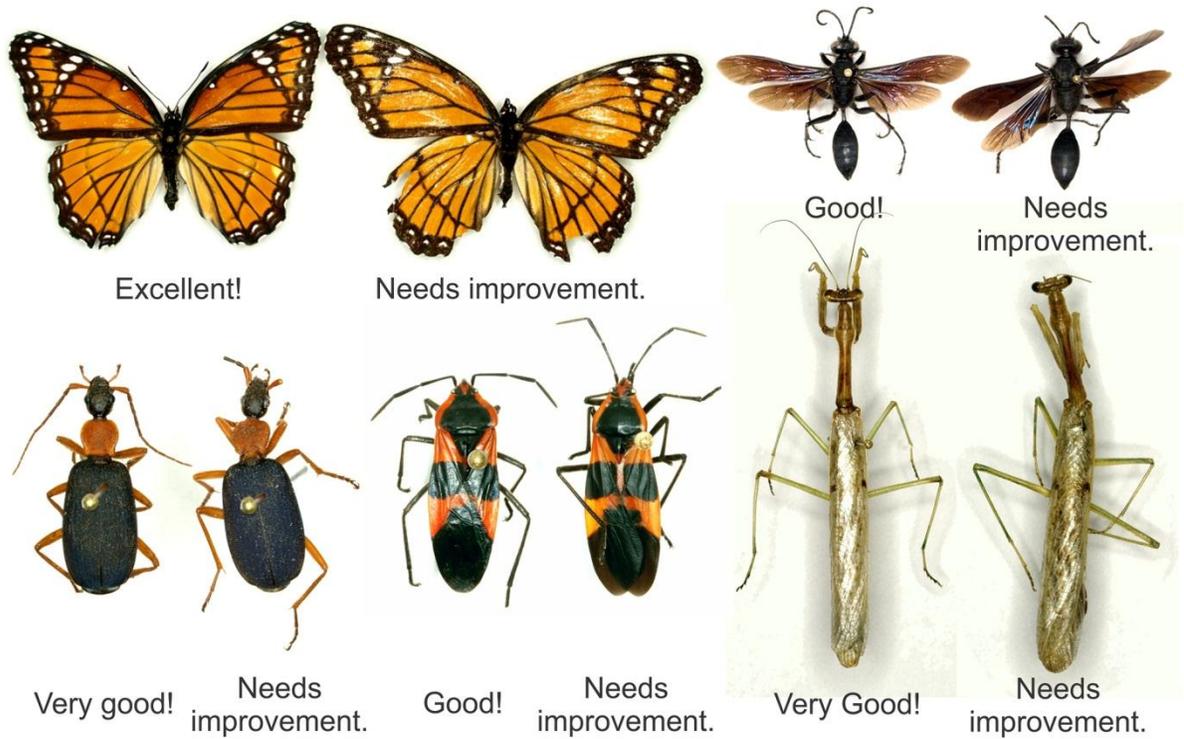
	4-H COLLECTION STANDARD	SCIENCE STUDENT STANDARD
COLLECTION LABEL	Lancaster Co., NE Sept 10, 2011 John Smith, Coll.	Lincoln, Nebraska Lancaster County September 10, 2011 John Smith, Collector
CLASSIFICATION LABEL	Order Diptera	Order Diptera Family Calliphoridae DET: John Smith 2011
HOST or SITE INFORMATION	Dead Raccoon	Dead Raccoon-Roadside

Wings of Butterflies and Moths:

The wings together as a unit should be flat and parallel, not droopy. The hind margin of the front wings should be lined up perpendicular to the axis of the body to make a cross. The hind wing should rest slightly under the front wing so that a small notch remains between the two of them. Encourage collectors to continue to develop these skills and to replace poor specimens with better ones the next year.



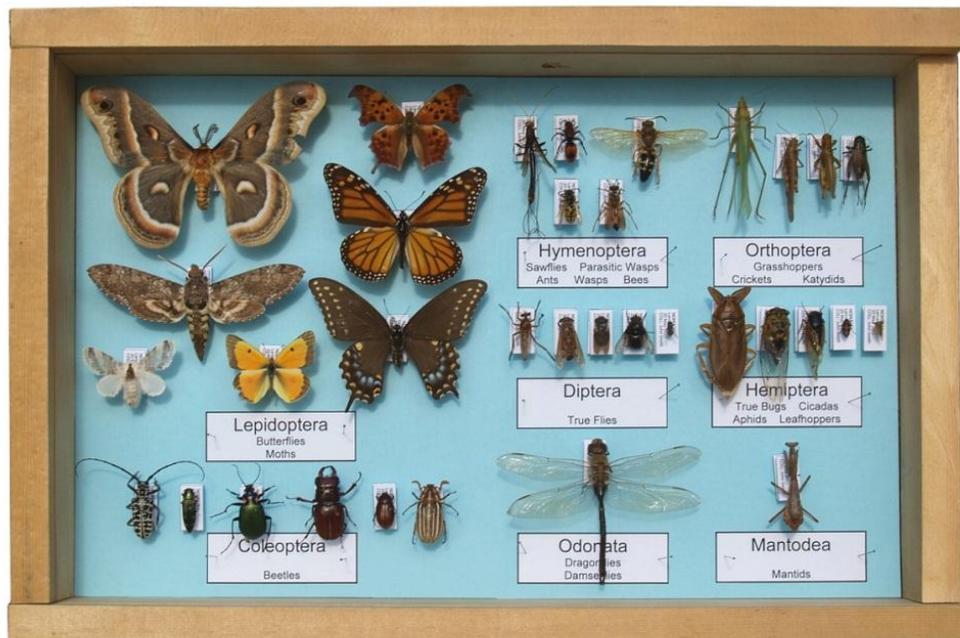
Condition of Specimens/Symmetry:



Specimens in the best condition should be displayed. They should look fresh and bright with no broken or missing body parts. Lepidoptera should have wings spread properly, and wings should not be worn or tattered. Legs, antennae and wings on each side should oppose each other in symmetrical fashion.

Appearance, Diversity and Orderliness of Specimens in Box:

Collections are more attractive when specimens express a range of diversity in color pattern and form. Specimens should always face the top of the box, with the exception of paper-pointed specimens. Spread wings in Lepidoptera are important and reveal colorful, diagnostic wing patterns. Specimens should be clearly grouped by insect order in rows and columns using order labels. Color backgrounds or borders can also be used to help partition orders visually. The display should be orderly and easy to examine for judging.



Specimens should be clearly grouped by insect order in rows and columns using order labels. Color backgrounds or borders can also be used to help partition orders visually. The display should be orderly and easy to examine for judging.