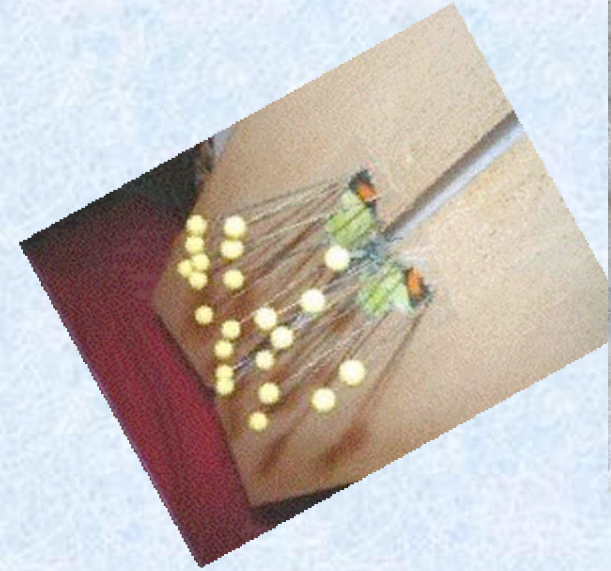


Lepidoptera Spreading Techniques



Presented by Vernon E. Evans

9 April 2005

Techniques discussed

- Standard groove board spreading with pins
- Vern's upside down non-groove board method
- Magnetic groove board spreading

But wait...

First we need to...

prepare the specimen.

The injection method

- Take a syringe with warm water and inject it into the thorax of the specimen.

Advantages

1. Fast way to prepare specimen for spreading.
2. Very little setup preparation needed.
3. Easy to learn.

Disadvantages

1. Does not provide a completely relaxed specimen.
2. Sticking a syringe into a dried specimen could cause damage.

Freezer method

- All freshly emerged specimens and fresh field caught specimens are placed directly into the freezer to spread be spread soon thereafter.
- Remove from freezer and let specimen thaw and spread.

Advantages

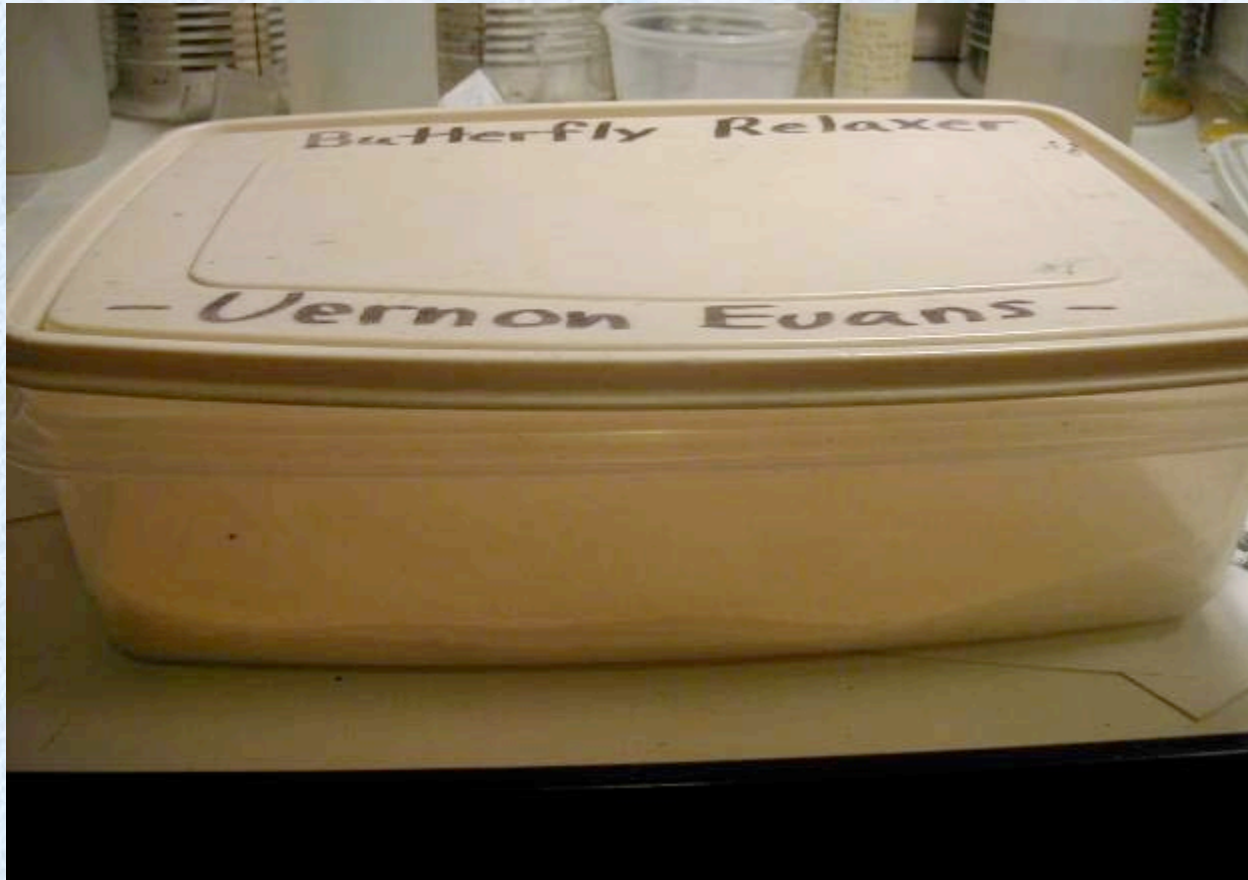
1. No setup required.
2. No materials needed.
3. Fast and easy.

Disadvantages

1. Potential problem with spouse when they find dead bugs near their food.
2. Specimen will eventually dehydrate and another method must be used.

Vern's Relaxing chamber

I utilize a relaxer similar to what others may use with only a few modifications for speed.



Differences in MY relaxer

- I use only water on my multiple layers of paper towels.
- I place my specimens directly onto the damp paper towels.
- Data goes on a corresponding board in the same order the specimens are in the relaxer.

Advantages of MY relaxer

- Complete specimen is relaxed
- Because specimen is in direct contact with moist towel re-hydration occurs very quickly.

Time to re-hydrate

Lycaenidae	20-30 minutes
Papilionidae	2-3 hours
Saturniidae	6-10 hours

Possible disadvantages

- You can not leave the specimens in the relaxer too long or mold will occur.
- There is a possibility of the relaxer being disturbed while the specimens are in it and this would cause a problem since the data will no longer correspond with their location in the relaxer.

**** This have never happened to me.**

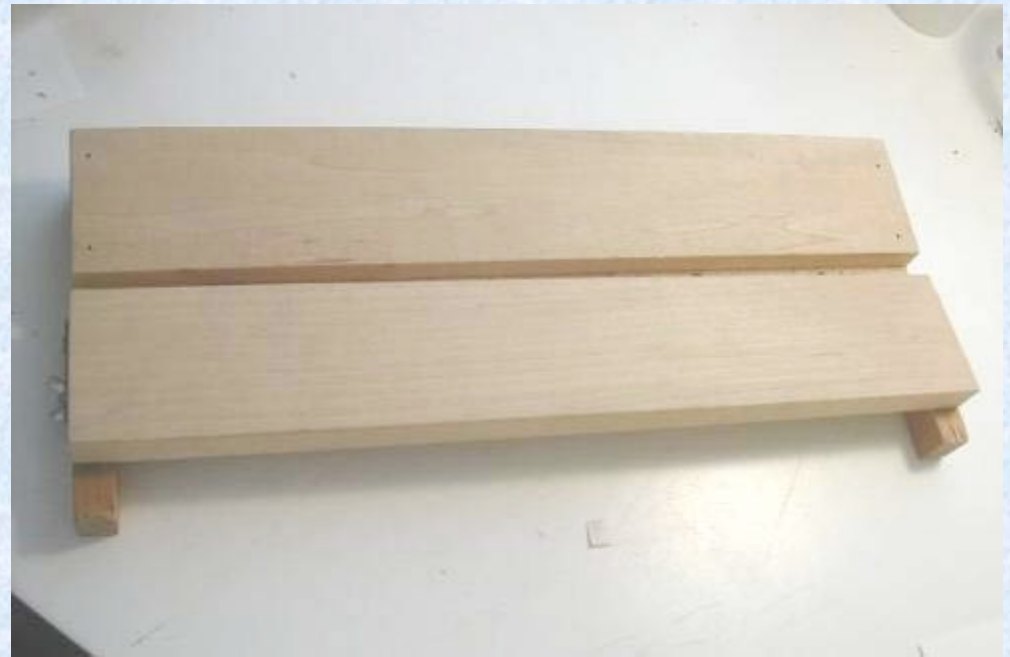
**Now onto the specimen
spreading...**

Standard groove board with pins

This is the most commonly described way to spread lepidoptera.

Materials needed:

1. Grooved spreading board



Standard groove board with pins

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1. Grooved spreading board
2. Pins

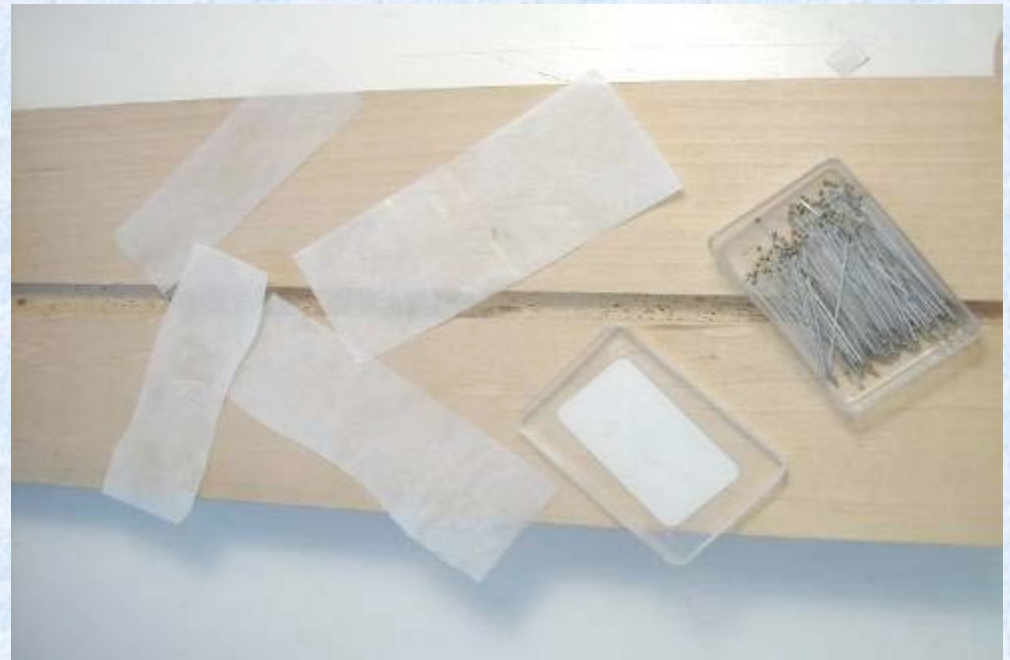


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2. Pins
3. Paper strips



Standard groove board with pins

This is the most commonly described way to spread lepidoptera.

Materials needed:

1. Grooved spreading board
2. Pins
3. Paper strips
4. Don't forget the Specimen.



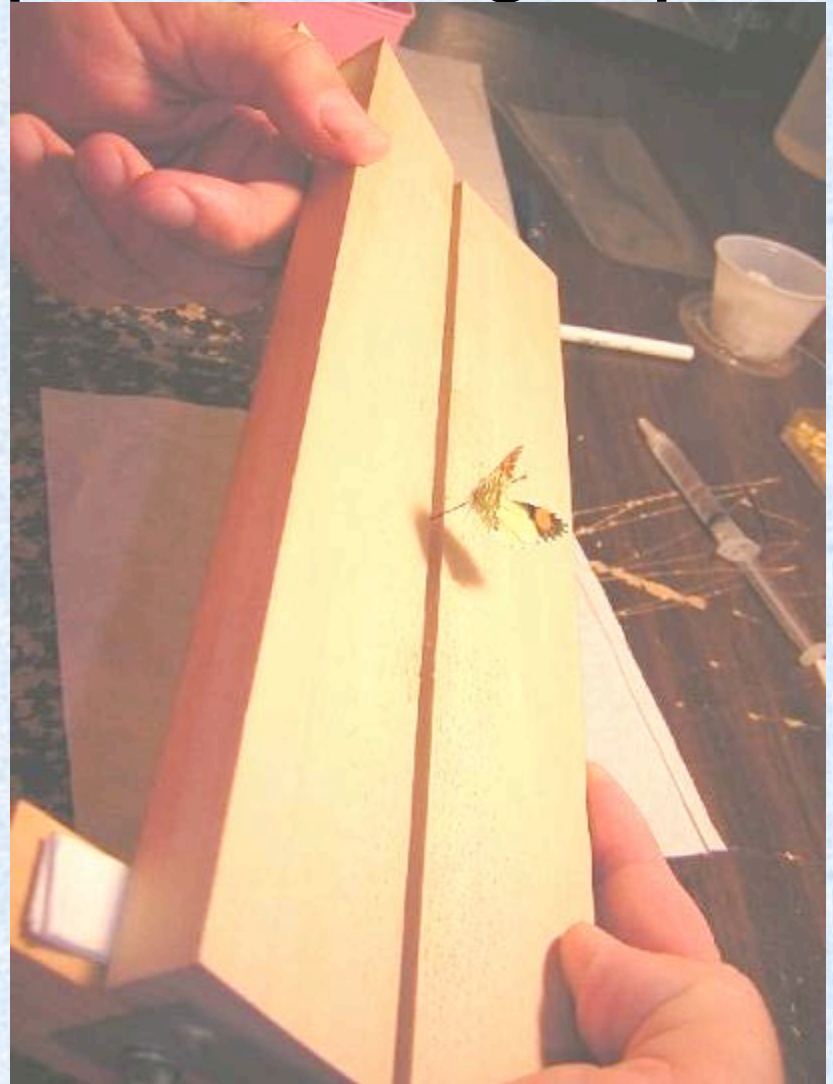
Todd Stout is demonstrating this method with a pima orangetip

1. Insert pin into specimen's thorax



Todd Stout is demonstrating this method with a pima orangetip

1. Insert pin into specimen's thorax
2. Set specimen into grooved board



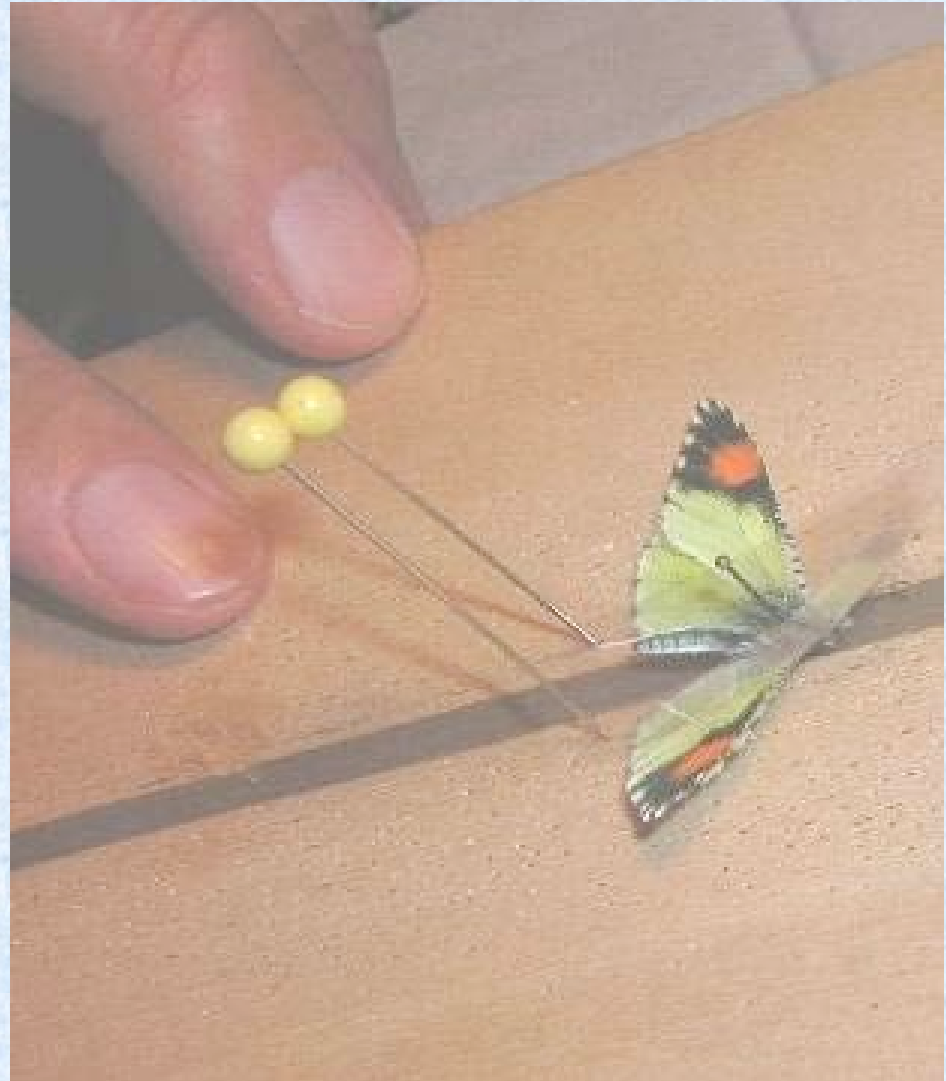
Todd Stout is demonstrating this method with a pima orangetip

1. Insert pin into specimen's thorax
2. Set specimen into grooved board
3. Set body flush with board



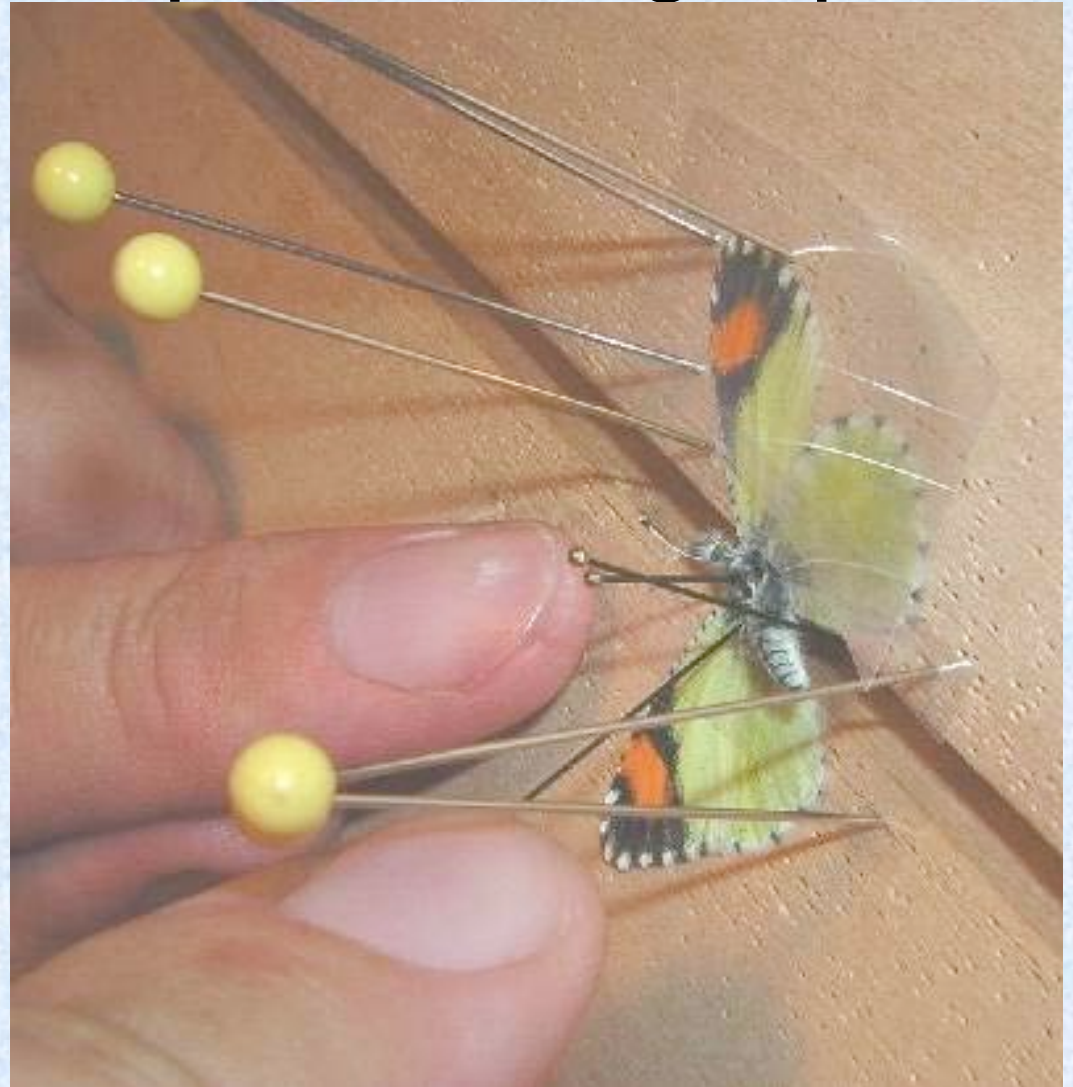
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4. Place clear strips over wings to aid in positioning



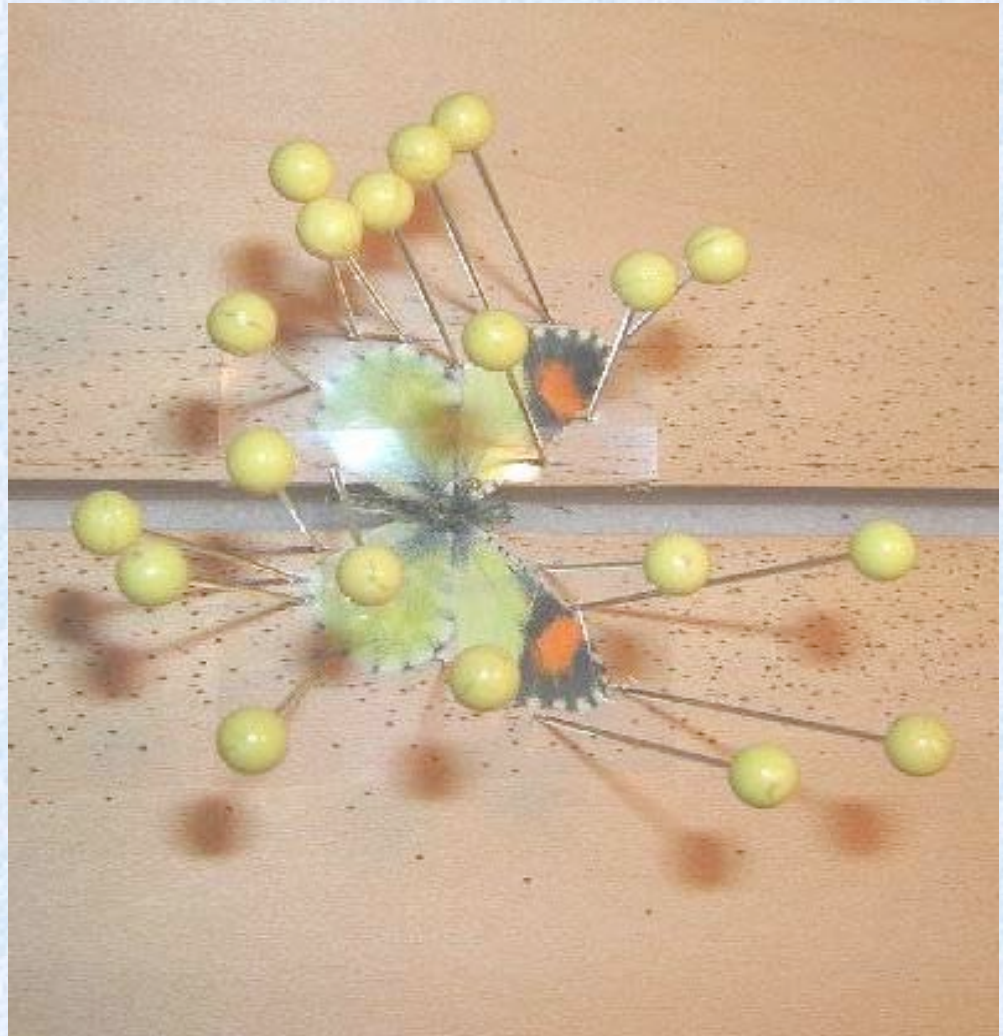
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4. Place clear strips over wings to aid in positioning
5. Use pins to position and hold wings in place



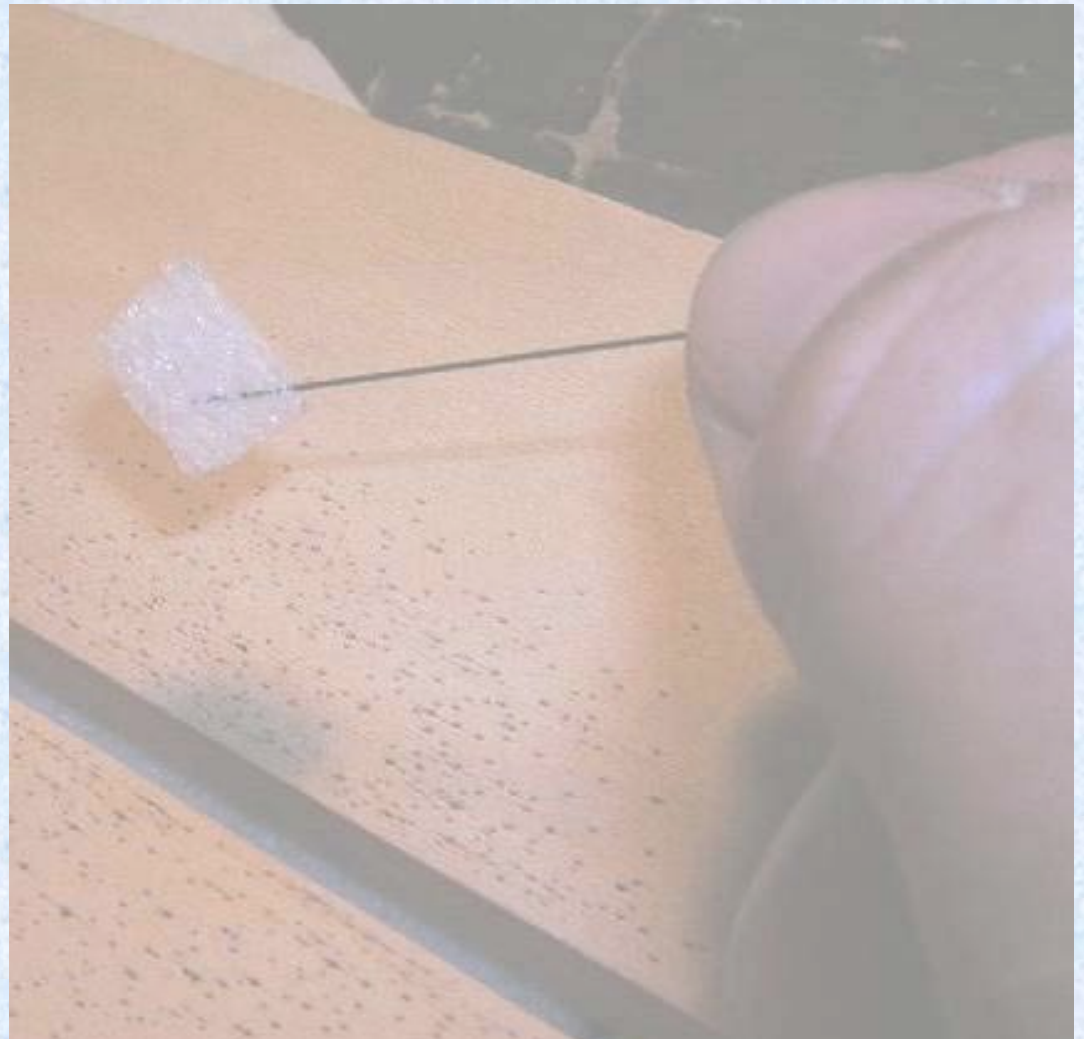
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4. Place clear strips over wings to aid in positioning
5. Use pins to position and hold wings in place
6. Use as many pins as necessary to secure wings in desired position



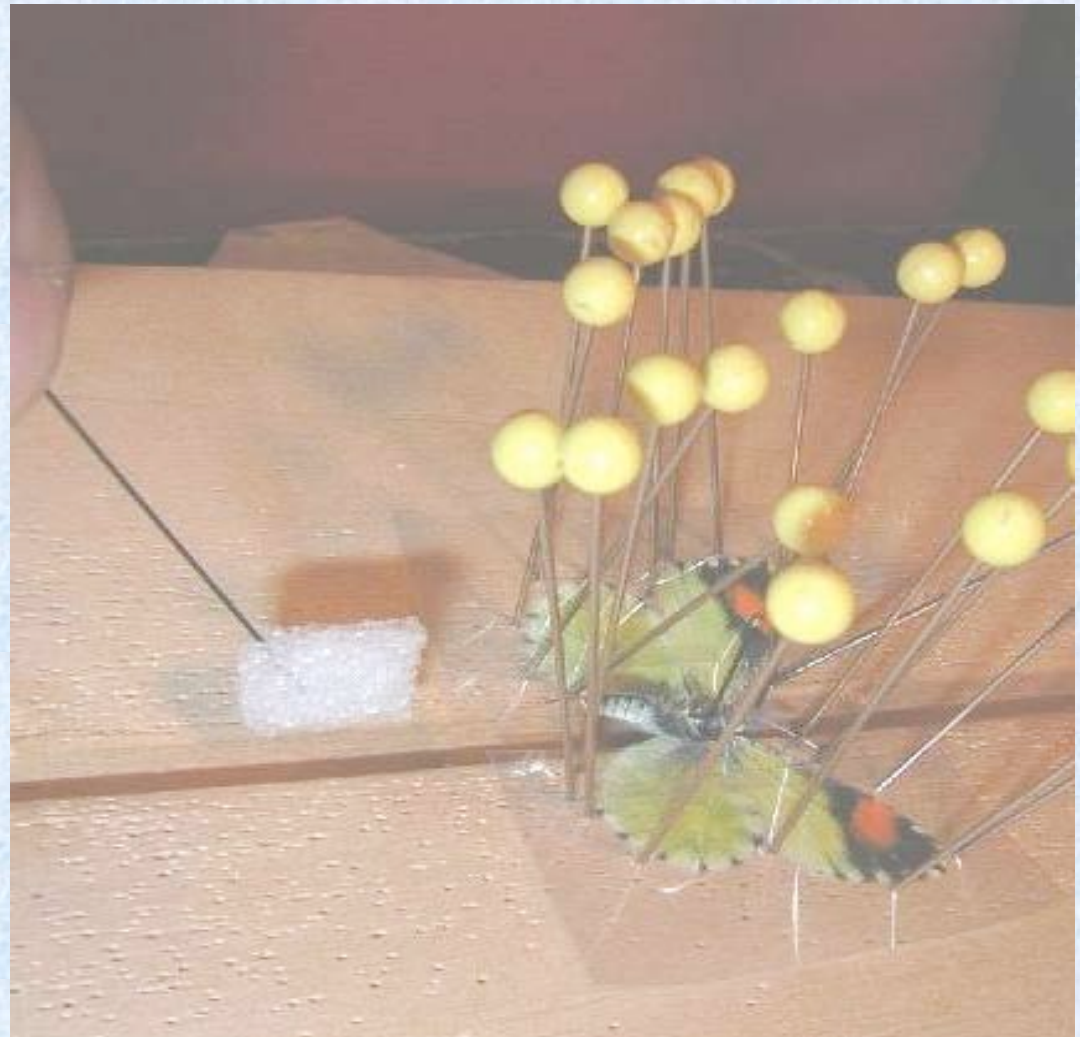
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7. Todd places this device under the abdomen to keep it level with the thorax.



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7. Todd places this device under the abdomen to keep it level with the thorax.
8. Here Todd is putting it into place.

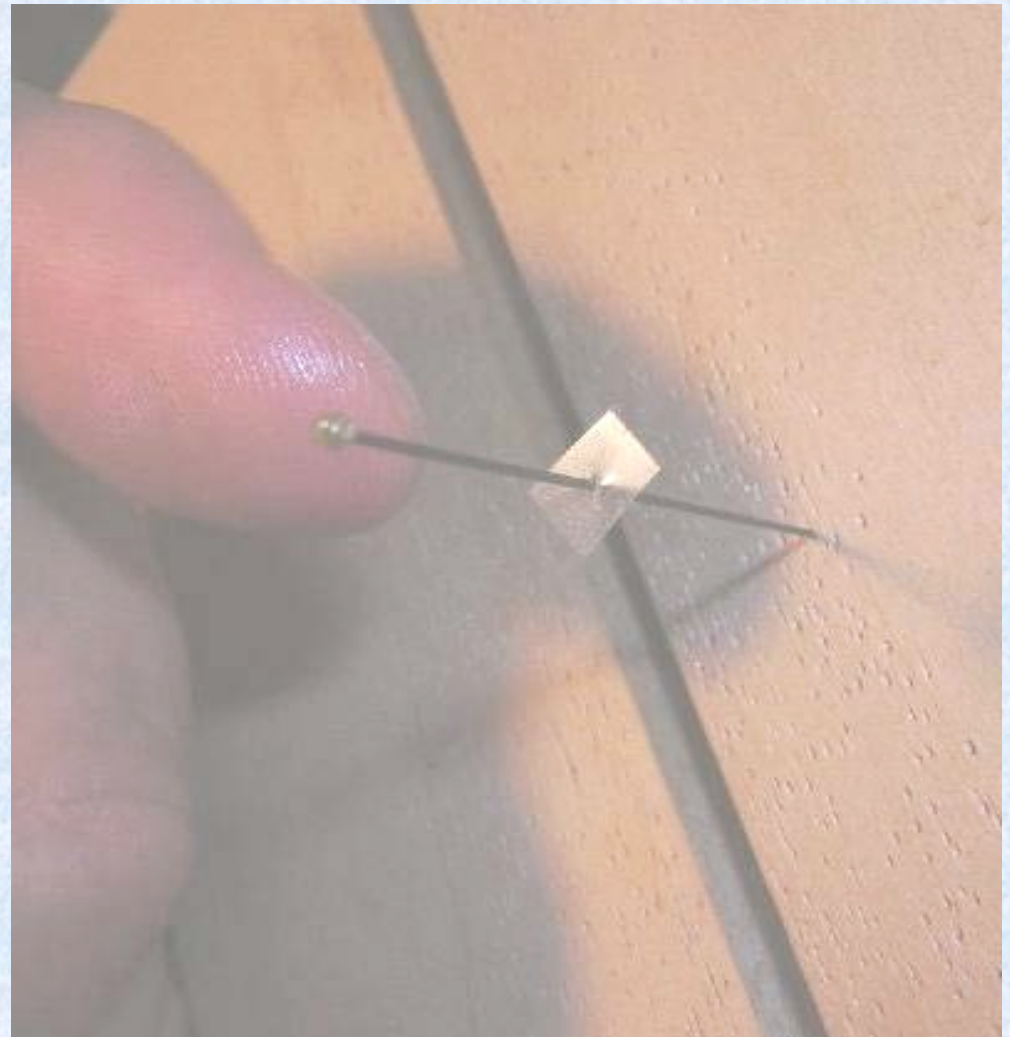


Todd Stout is demonstrating this method with a pima orangetip

7. Todd places this device under the abdomen to keep it level with the thorax.

8. Here Todd is putting it into place.

9. Todd uses this device to position the head and antennae properly.



Todd Stout is demonstrating this method with a pima orangetip

10. Todd places the data label with the specimen.



Todd Stout is demonstrating this method with a pima orangetip

10. Todd places the data label with the specimen.

11. The specimen is now ready to dry.



Magnetic grooved board

This method is similar to the previous method. The major difference being the use of a metal spread board and magnets in place of pins to hold the wings in place until the specimen is dry.

Materials needed:

1. Grooved METAL spreading board



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Materials needed:

1. Grooved METAL spreading board
2. Magnets



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2. Magnets
3. Pins



Magnetic grooved board

This method is similar to the previous method. The major difference being the use of a metal spread board and magnets in place of pins to hold the wings in place until the specimen is dry.

Materials needed:

1. Grooved METAL spreading board
2. Magnets and pins
3. Paper strips
4. Still need a specimen



Jack Harry is demonstrating this method with a nitra form anise swallowtail

1. Jack places the insect pin through the thorax with tweezers.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

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2. Jack set specimen in groove of metallic board and prepares to place strip over wings.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

1. Jack places the insect pin through the thorax with tweezers.
2. Jack set specimen in groove of metallic board and prepares to place strip over wings.
3. Notice Jack uses one long continuous strip on each side for the wings. These continuous strip will be used for all specimens on the board.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

4. Now the specimen's wings are under the strip and ready for positioning.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

4. Now the specimen's wings are under the strip and ready for positioning.
5. Jack now uses magnets in place of pins to hold the wings in the desired position. He uses the grid lines in the metal to ensure a proper spread.



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4. Now the specimen's wings are under the strip and ready for positioning.
5. Jack now uses magnets in place of pins to hold the wings in the desired position. He uses the grid lines in the metal to ensure a proper spread.
6. Jack utilizes an insect pin to manipulate the wings into the desired position.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

7. He positions the forewings first. Placing magnets to maintain their position.



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8. Jack then places the hind wings in the desired position.



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8. Jack then places the hind wings in the desired position.
9. He now uses insect pins to place and hold the antennae in place.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

10. Now Jack uses insect pins to support the abdomen and prevent it from falling down into the groove.



Jack Harry is demonstrating this method with a nitra form anise swallowtail

10. Now Jack uses insect pins to support the abdomen and prevent it from falling down into the groove.

11. Now the specimen is set and ready to dry.



Vernon's upside down non-groove board method

This method breaks away from the traditional teachings somewhat.

It is designed to take full advantage of the pronounced ventral side of the specimen.

It optimizes space allotted on the spreading surface allowing you to spread many specimens at one time.

This method was taught to me by Dr. Richard Howard, Director Natural History Museum Amarillo College. He was taught by his grandfather.

Materials needed

- Styrofoam block



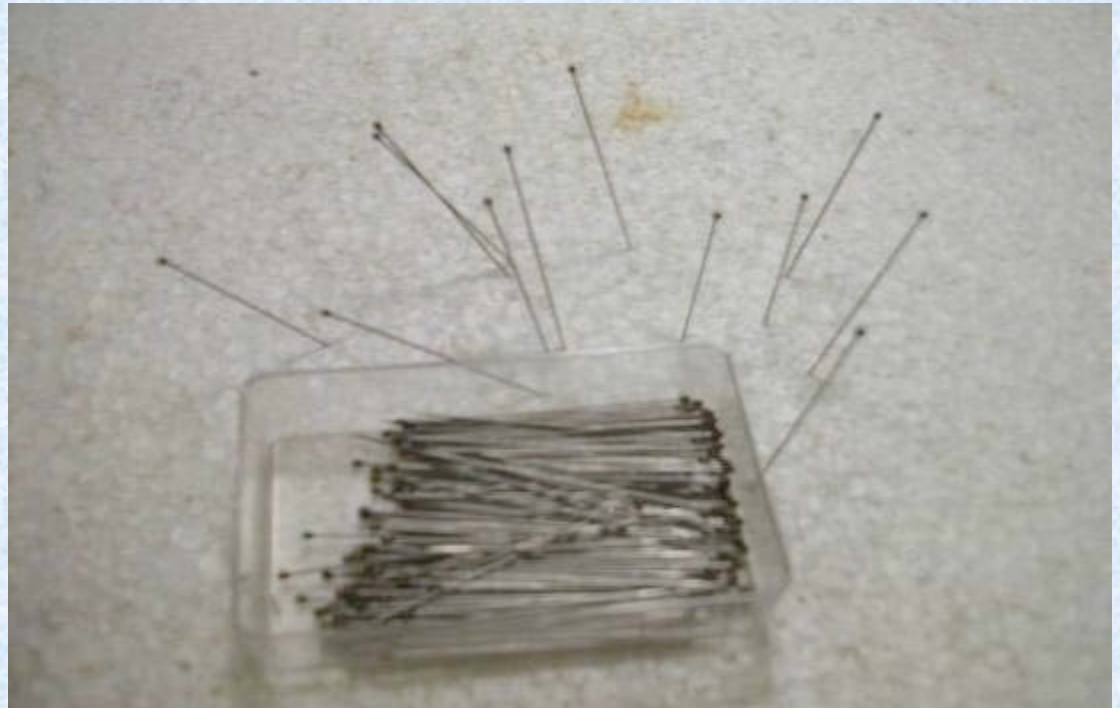
Materials needed

- Styrofoam block
(I use the back of this board)



Materials needed

- Styrofoam block
- Insect pins



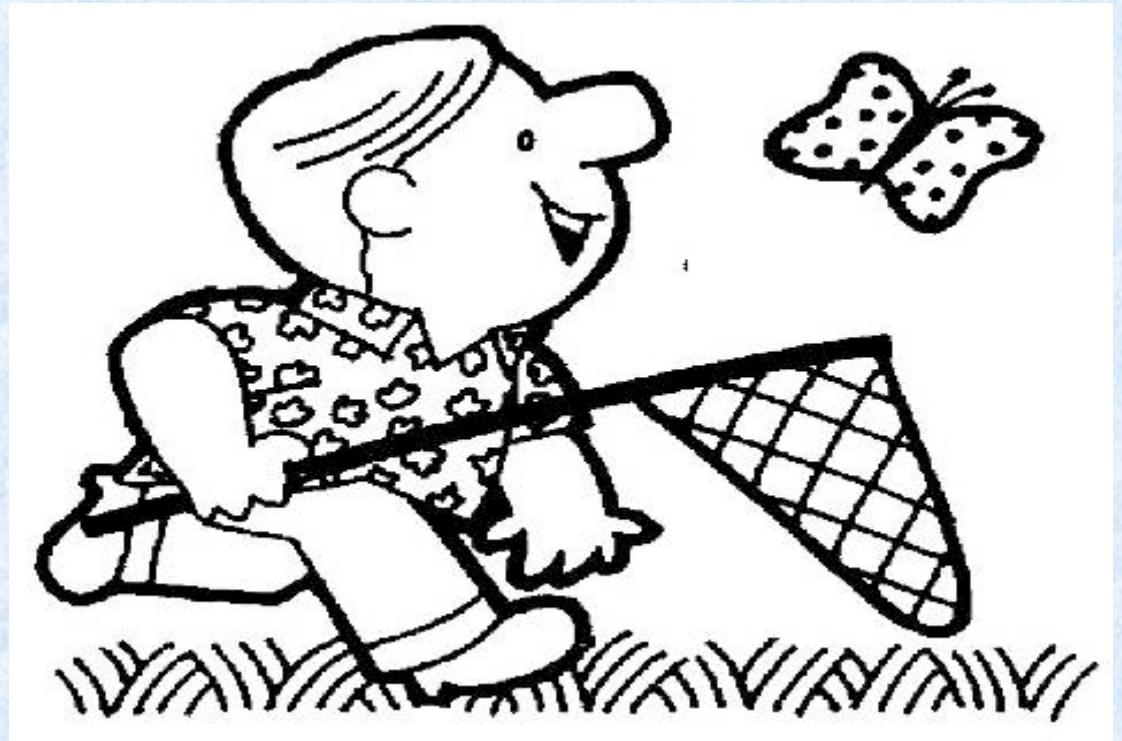
Materials needed

- Styrofoam block
- Insect pins
- Paper strips



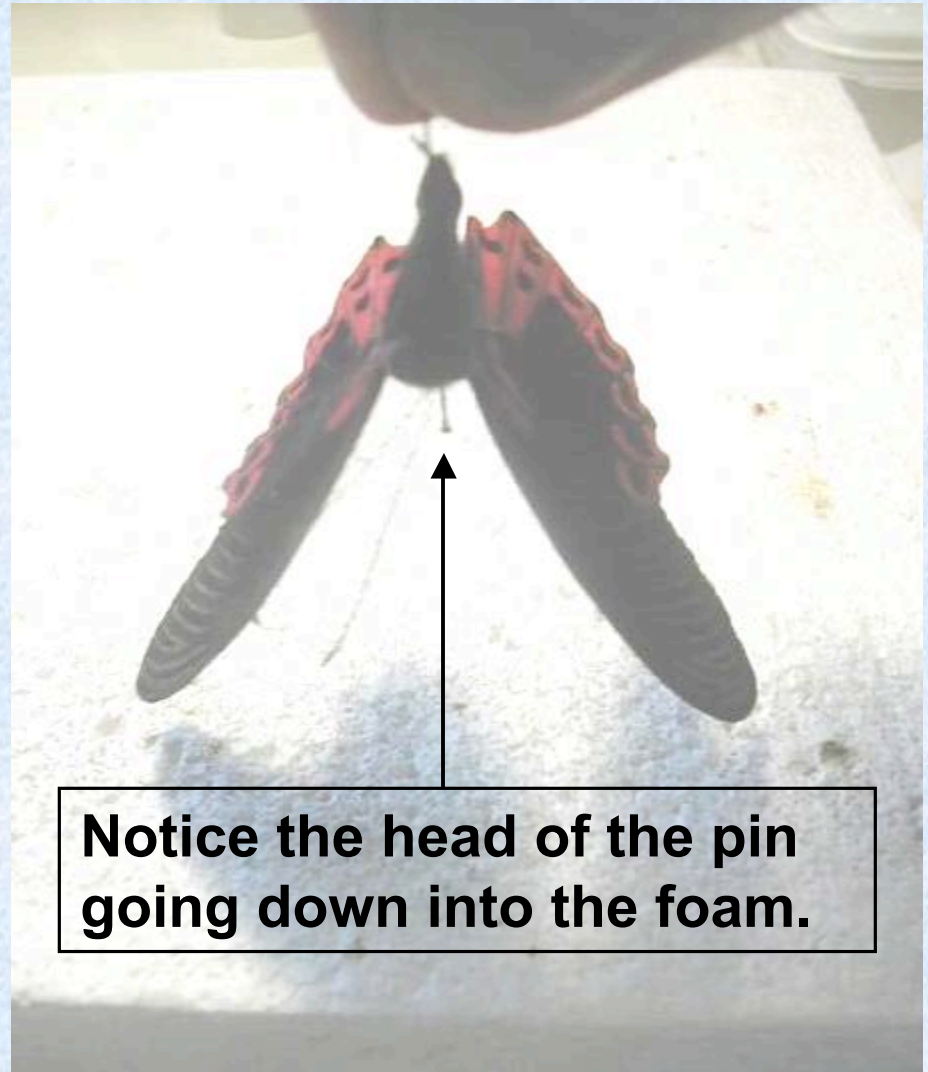
Materials needed

- Styrofoam block
- Insect pins
- Paper strips
- And yes...
the specimen



Vernon Evans is demonstrating this method with a scarlet mormon

1. I place the pin into the specimen the same as all other methods. This specimen will be a dorsal mounted specimen



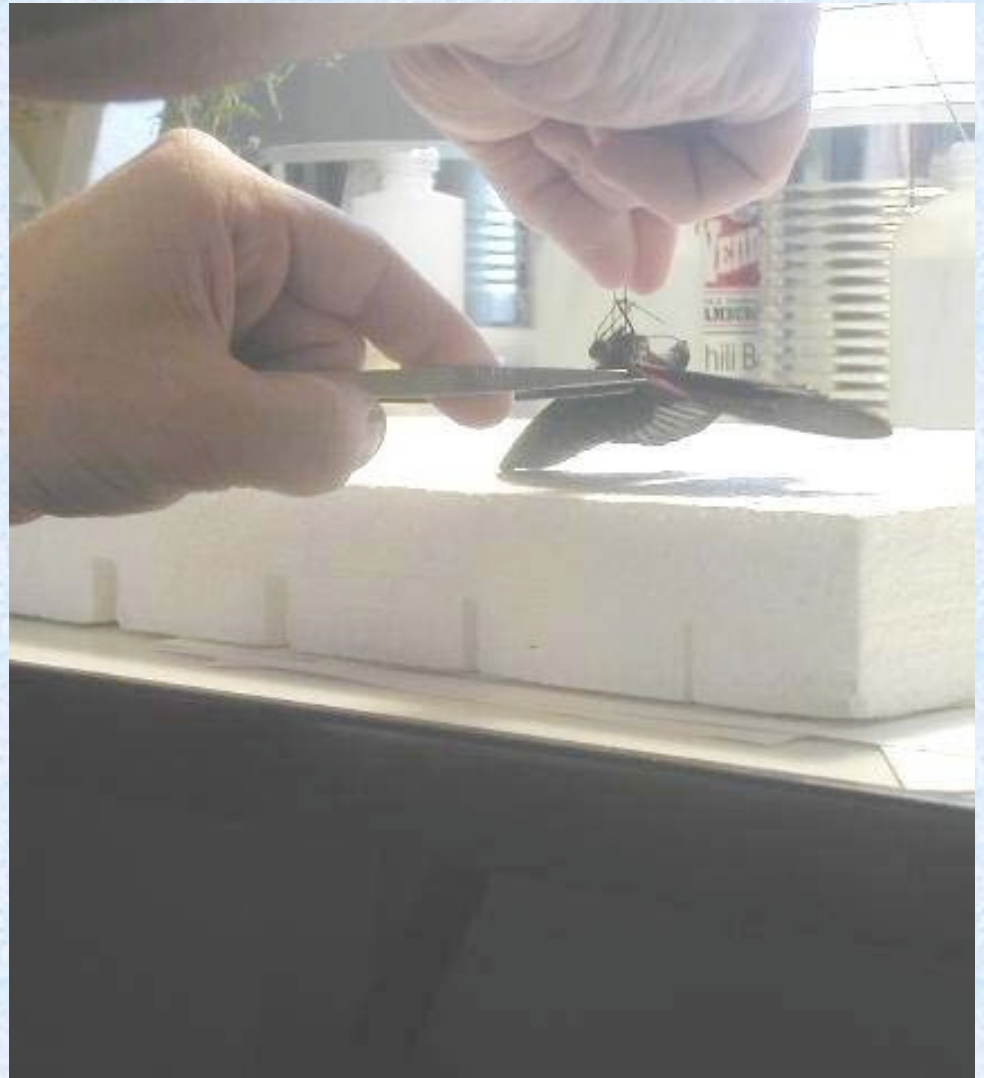
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1. I place the pin into the specimen the same as all other methods. This specimen will be a dorsal mounted specimen
2. I now prepare the specimen to be placed VENTRAL SIDE UP on the flat spreading board.



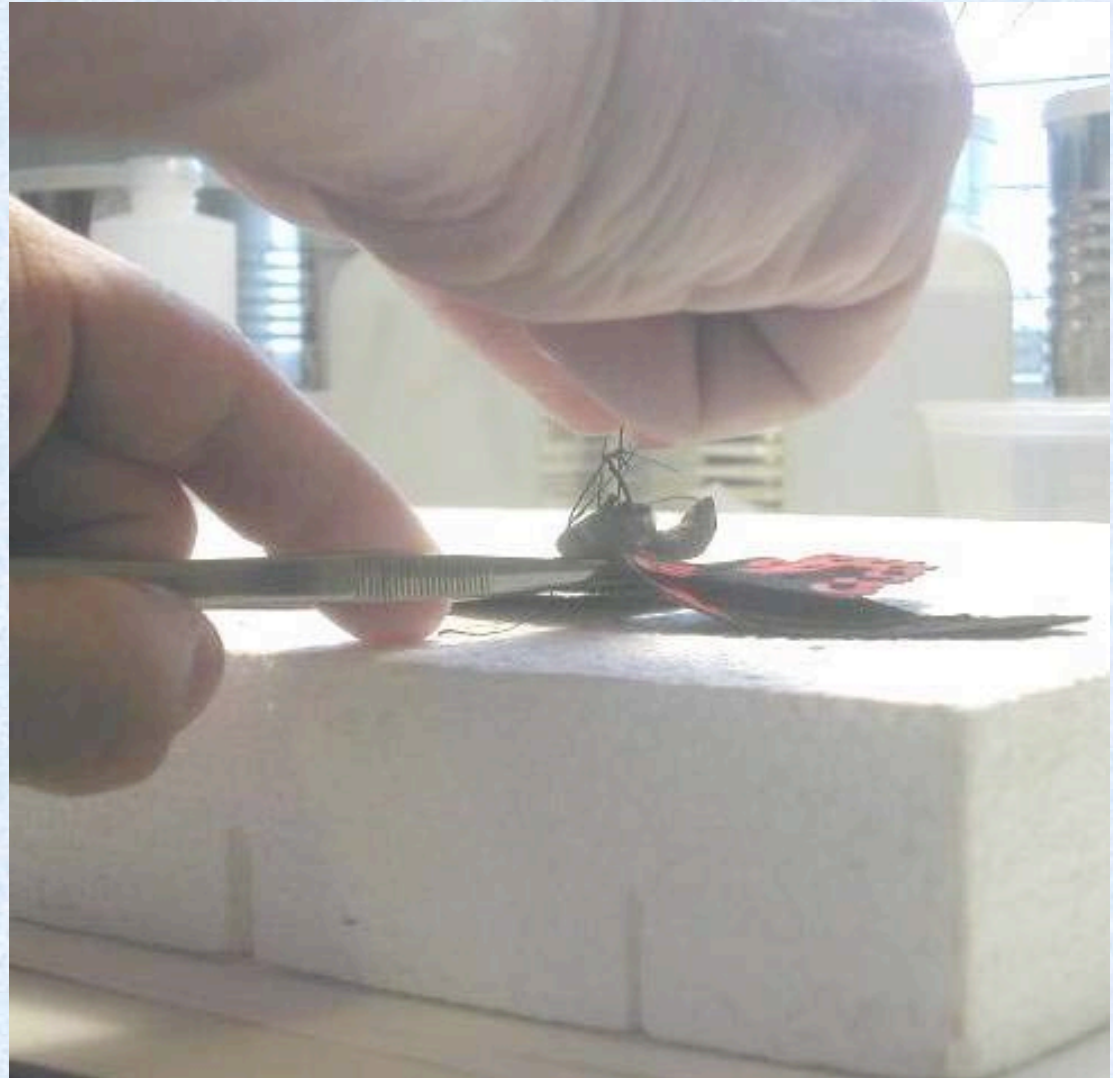
Vernon Evans is demonstrating this method with a scarlet mormon

1. I place the pin into the specimen the same as all other methods. This specimen will be a dorsal mounted specimen
2. I now prepare the specimen to be placed VENTRAL SIDE UP on the flat spreading board.
3. Using forceps, I open the wings up to allow the specimen to lay flat on the board.



Vernon Evans is demonstrating this method with a scarlet mormon

4. The HEAD of the insect pin is pressed into the foam board.



Vernon Evans is demonstrating this method with a scarlet mormon

4. The HEAD of the insect pin is pressed into the foam board.
5. A second temporary pin is used to prevent the specimen's body from turning on the board while being prepared. It is placed into the thorax of the specimen.



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4. The HEAD of the insect pin is pressed into the foam board.
5. A second temporary pin is used to prevent the specimen's body from turning on the board while being prepared. It is placed into the thorax of the specimen.
6. Now specimen is secure and clear paper is placed over the wing to start positioning it in place.



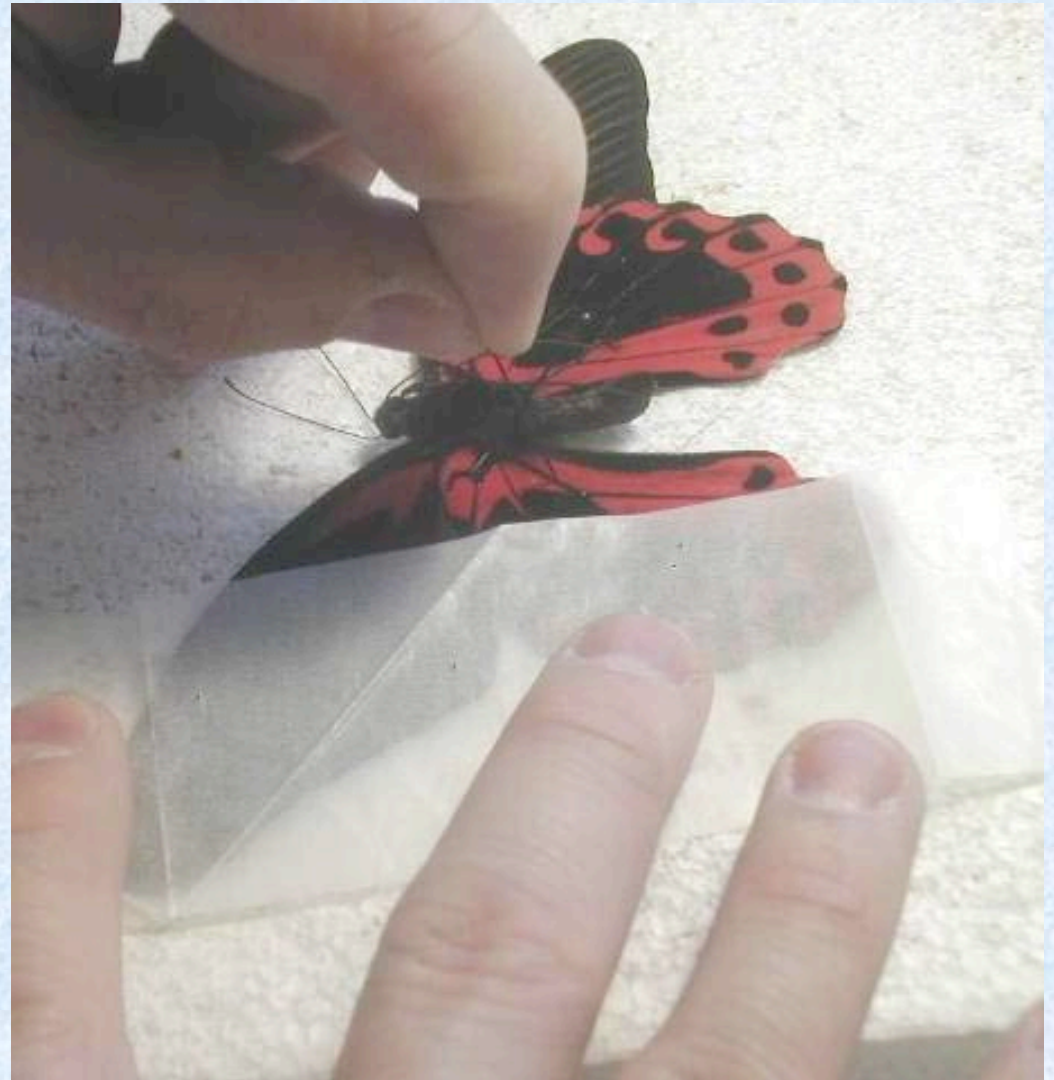
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7. As with other methods an insect pin is used to position the wings.
With the VENTRAL side up it is much easier to position wings without tearing them as the veins provide a raised surface.



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8. Both fore and hind wings are positioned while utilizing my fingers to hold their desired position.



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With the VENTRAL side up it is much easier to position wings without tearing them as the veins provide a raised surface.
8. Both fore and hind wings are positioned while utilizing my fingers to hold their desired position.
9. Once the wing is positioned, I use insect pins to hold it in place.



Vernon Evans is demonstrating this method with a scarlet mormon

10. Once one wing is in the desired position. You can move onto the next side.



Vernon Evans is demonstrating this method with a scarlet mormon

10. Once one wing is in the desired position. You can move onto the next side.
11. Here I have both wings positioned and I am ready to move onto the abdomen.



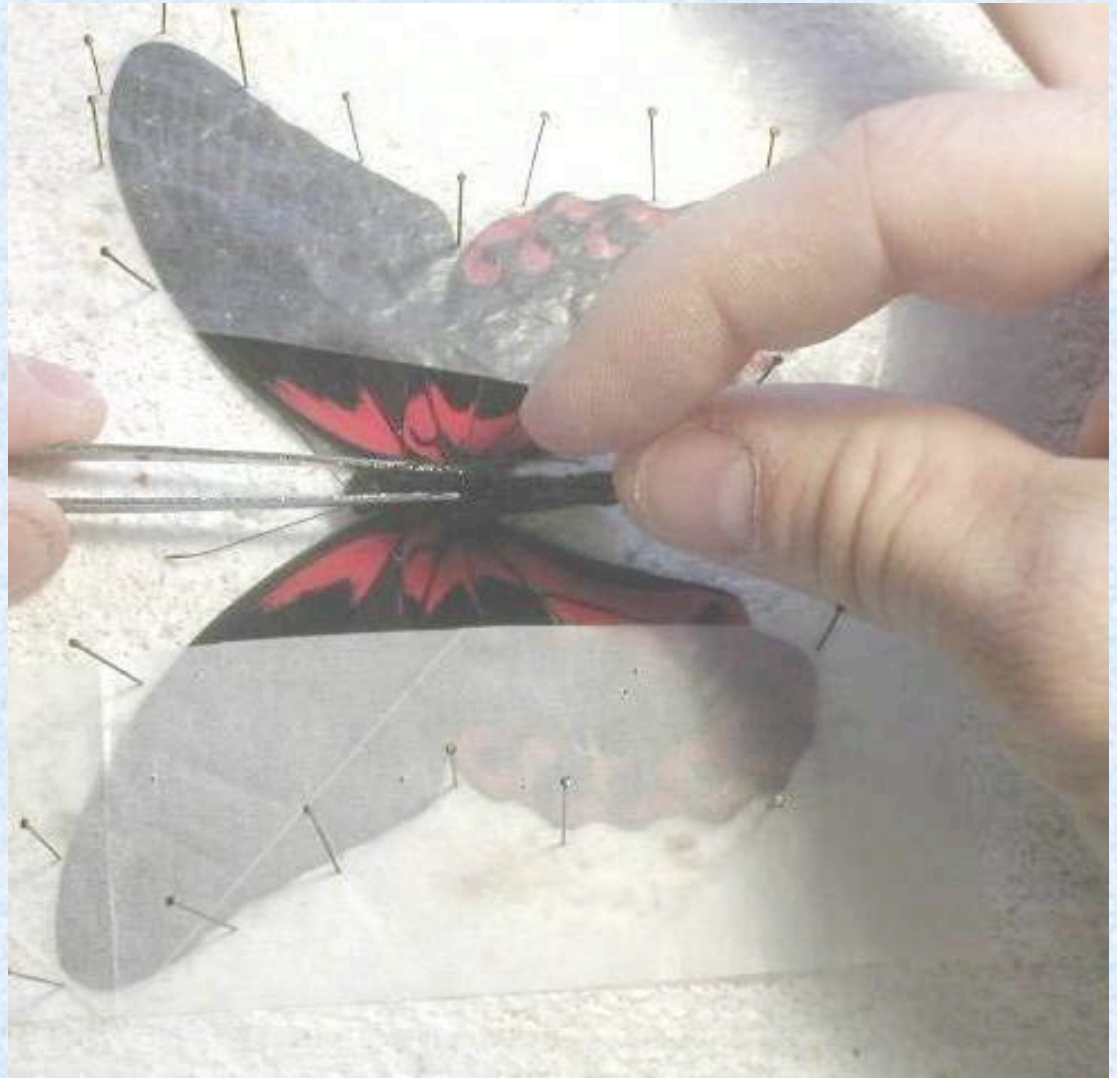
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12. **VERY IMPORTANT!!!**
Now you must remove the temporary pin.



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11. Here I have both wings positioned and I am ready to move onto the abdomen.
12. **VERY IMPORTANT!!!**
Now you must remove the temporary pin.
13. Do this by bracing the thorax with forceps then pulling the pin out by hand.



Vernon Evans is demonstrating this method with a scarlet mormon

14. I position and brace the abdomen next.



Vernon Evans is demonstrating this method with a scarlet mormon

14. I position and brace the abdomen next.
15. I also use a pin to straighten the head prior to aligning the antennae.



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14. I position and brace the abdomen next.
15. I also use a pin to straighten the head prior to aligning the antennae.
16. I then position the antennae. I use as many pins as necessary to get them straight.



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14. I position and brace the abdomen next.
15. I also use a pin to straighten the head prior to aligning the antennae.
16. I then position the antennae. I use as many pins as necessary to get them straight.
17. Now the specimen is set and ready to dry.



To mount a specimen ventral side up you place the pin tip into the foam.

Note the position of the head of the pin. It is out of the foam not in it.



Advantages

More specimens one each board.

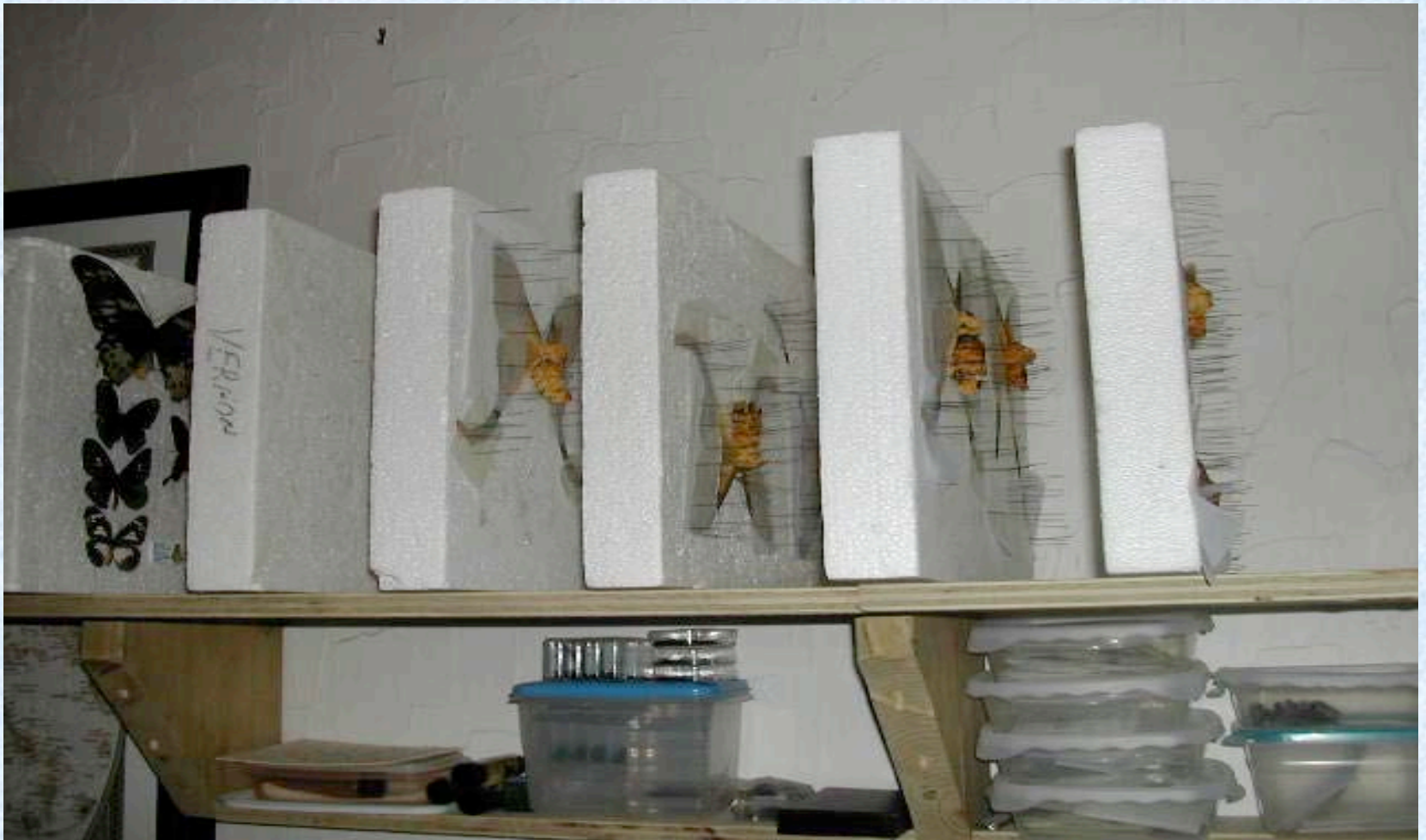


Advantages

More specimens one each board.



Another advantage



Easily spread large specimens.

Thank you for your interest

Please email with any questions or input to:

phencer911@msn.com

This presentation was presented to the
Utah Lepidopterists' Society 9 April 2005

Please visit our website at

www.utahlepsociety.org