PROJECT 4-14 BEETLES AS POLLINATORS

PROBLEM

Some insects like bees usually collect pollen or nectar from only one species on a particular collecting trip, or even over a period of several days. Consequently, they are very good pollinators as they go from flower to flower of the same species. Other insects like beetles have the reputation of being less selective and of travelling to flowers of different species; they are thus less efficient as pollinators. You might like to investigate just what range of flowers a particular beetle visits and consequently the range of pollen it carries.

INFORMATION

1. You can watch beetles carefully to see which plants they visit in sequence but this has limitations as it is fairly easy to lose the insect as it goes from plant to plant.

2. Another way is to capture beetles and get all the pollen off them and examine it to see how many different types there are. Hold beetle with clean forceps over a slide coated with Vaseline and vigorously brush the insect all over with a clean mascara brush. Keep slides well covered before and after use or you will get contamination of aerial pollen. See Project 4-12, 4-13 for information on pollen staining and scoring.

3. You will need a reference collection of slides of pollen of plants in flower at the time you make your observations.

4. You might attempt to identify your plants and beetles but for the difficult ones naming them ABC etc and submitting voucher specimens is adequate.

DESIGN OF EXPERIMENT

1. How are you going to keep a watch on the beetle as well as recording the plants it visits in sequence?

2. How are you going to catch your beetle without showering it completely with the pollen of the flower it happens to be on?

3. How will you clean your brush between beetles?

4. What are the floral adaptations for beetle pollination and thus on which flowers are you most likely to find beetles?

5. The abundance of flowering plants of a particular species migh
   How will you include this variable in your experiment?

REFERENCES

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