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VIRGINIA COOPERATIVE EXTENSION SERVICE

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FLIES COMMONLY FOUND INDOORS

At times, people tend to accept indoor flies as an inevitable fact of life. It is natural to become somewhat frustrated by the flies that occur in the environments we live and work in -- they show up again and again, and seem to pop up out of nowhere, everywhere! The problem can be all the more perplexing in the fall months, a time when insects are not "supposed" to be active. Not only can flies be annoying and disturbing indoors, but some are significant to public health and hygiene as potential transmitters of disease organisms.

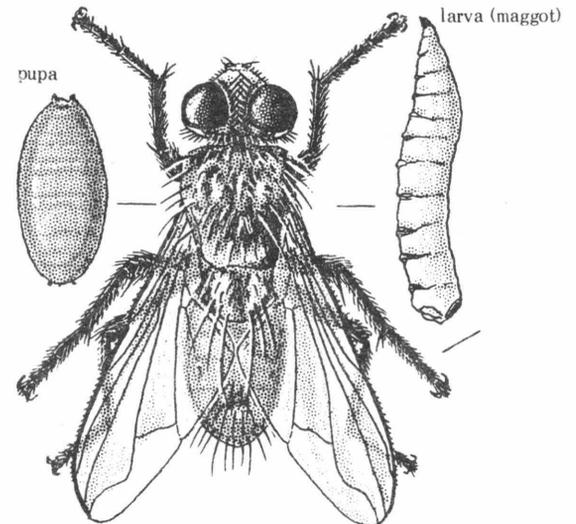
All flies have four distinct stages in their life cycle: egg, larva, pupa and adult. The breeding potential of many flies is phenomenal. Under ideal conditions of warmth, moisture, and food, the life cycle of some flies can be completed within 8 days. Small amounts of material can yield surprising numbers of flies in a short time.

Of the many kinds of flies that can be encountered indoors at one time or another, only about 15 regularly occur indoors in Virginia. These flies can be placed into five groups, based on similarity of life habits. The first group includes flies that will freely enter homes, and that will readily pass their entire cycle indoors. This group includes the house fly, vinegar flies, some humpbacked flies, fungus gnats, and window flies.

The common house fly, is remarkably versatile in its breeding habits: the larvae live in all sorts of rubbish, decaying vegetable matter and garbage, meat carcasses and animal droppings. House flies invariably dominate the fly population in barns and poultry houses. Adults feed on any human and animal excrement, and garbage. "Fly spots" result from the habit adult flies have of regurgitating to aid digestion, and of excreting at random. House flies are



INSECT NOTES



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strongly attracted to red and orange surfaces, and exhibit an "herd impulse": groups of flies in one place will attract others from a distance. These factors probably explain why the old-fashioned sticky flycatchers are so effective. Adult house flies will avoid sunlight, bright or metallic surfaces, and are most active during the cooler times of day. They can easily fly 2 miles or more from their places of emergence. Paradoxically, house flies can occur upwind of a major breeding source, because they have the tendency to fly into gentle breezes, and will congregate at any sheltered spot.

Vinegar flies, are also known as fruit flies. They breed in fermenting vegetable matter. Adults are attracted to ripe and rotting fruit and kitchen waste. A single ripe fruit or improperly cleaned milk carton can cause a problem. Humpbacked flies are small, the size of vinegar flies, and are well described by their common name. They also feed in decaying organic matter. Fungus gnats are delicate dark flies about 1/16 - 1/8" long that breed primarily in soil of potted plants. They do not damage the plants. Window flies are small (1/4"), stout and black. The adult flies are seldom noticed except at windows in the early springtime, where they die and are found scattered on window sills. The larvae of this fly are of interest because they feed as predators on the larvae of fleas, clothes moths, flour moths, and carpet beetles.

The second group includes those flies which do not normally breed indoors, but freely enter from outdoor breeding sites. Included here would be the metallic greenbottle and bluebottle flies, which are somewhat larger than houseflies, and flesh flies, which closely resemble house flies. Meat scraps in garbage cans, garbage dumps, dog and cat (but not livestock and poultry) droppings, and dead birds and rodents are especially attractive material. The lesser house fly, more slender but generally similar to the common house fly, is abundant around latrine pits and other places where sanitation is not good. They are rarely attracted to man and his food.

Members of a third group are those that seek sheltered places in the fall, for overwintering; man's environment may or may not be specifically attractive to them. Cluster flies, face flies, and some mosquitoes belong in this group. Cluster flies and face flies may enter basements, attics, and storage rooms through every available small opening. Enough of them may gather to form large clumps of flies. Such invasions of dwellings occur most commonly in rural and suburban areas. These flies are inactive during cold weather, but are easily aroused during a warm spell or if the building is warm. Then they emerge from their shelter and may be a nuisance by beating against windows. The house fly may also overwinter as an adult in sheltered places, or in any other stage as long as the temperature stays above freezing. Barns and poultry houses that remain around 50°F or warmer in the winter will continue to produce house flies in large numbers, even though the life cycle is slowed.

The fourth group includes flies which are accidentally brought indoors by people, such as with plants taken inside for the winter, with stored garden vegetables, or with firewood. Included in this group would be a variety of gnats and generally smaller flies, as well as other insects.

In the fifth group are flies that are trapped in buildings after randomly flying inside. Typical sources for such infestation would be from swarms of various gnats that normally form out-of-doors, or from unusually abundant accumulations of flies around favorable food sources or breeding sites near residential districts.

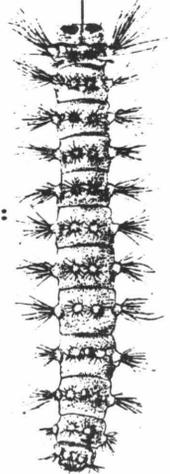
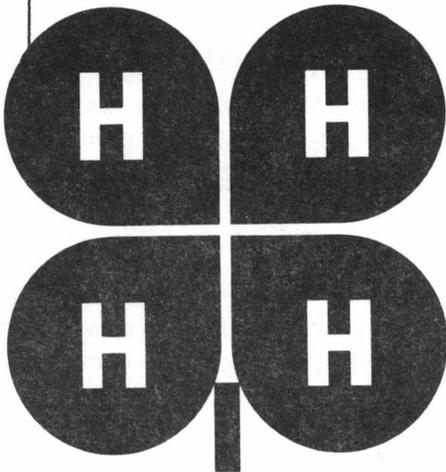
WELCOME TO 4-H ENTOMOLOGY

The fall is a good time to think about organizing 4-H Entomology Clubs. School or community clubs can be organized and start projects before winter. To encourage you to think about 4-H Entomology Clubs, I have listed some of the project books and slide sets available from the Distribution Center or my office.

GYPSY MOTH 4-H PROGRAM

The components of the 4-H Gypsy Moth Program are printed, in storage in the warehouse, and ready for use. The Program consists of:

- 50 color slides on the biology, habits, distribution, and control of the gypsy moth;
- slide-synchronized tape to accompany the slide set;
- 16 page Leader's Guide, Exploring the Curious World of the Gypsy Moth, Pub. 444-025;
- 6 page 4-H Project Book, Exploring the Curious World of the Gypsy Moth, Pub. 444-026.



These items can be used separately, for example, just the slide set and tape, or together for an "in-school" or community club activity. The slide set and tape would be appropriate for any age group. However, the Leader's Guide and Project Book are aimed at older or advanced 4-H'ers.

The Leader's Guide and Project Books can be ordered from the Extension warehouse. The slide sets and tapes can be ordered from William Robinson, Entomology Department, 215 Price Hall, Virginia Tech, Blacksburg, VA 24061. Please order only what you need. At this time, the 4-H Gypsy Moth Program is most appropriate for eastern and northeastern Virginia counties.

ANT FARMS

I have found a source for ant farms and butterfly kits for 4-H school and home clubs. The ant farms come in two sizes and include sand, food, instructions, and coupon for delivery of ants. The cost is less than \$20.00. The butterfly kits are probably most appropriate for in-school clubs, groups of 10 to 30. The kits provide everything a 4-H'er needs to raise his/her own painted-lady butterfly, and include Student Guide books and Teacher's Manual. The cost is approximately \$50.00. There is also available a smaller, individual butterfly-rearing kit that includes 5 larvae, culture medium, cage, water and food vial, and instructions. These may be appropriate for home clubs with about 10 members.

These two insect rearing kits would provide an excellent opportunity for 4-H'ers to have some "hands on" experience with insects, to learn something about insect biology and habits, and to enjoy 4-H Entomology. If you are interested in more information about these kits, please contact Bill Robinson.

GUIDES, RESOURCE BOOKS, RECORD BOOKS, SLIDES

4-H Club Leader's Guide (444-734) -- This publication outlines 10 club meetings, and suggests activities.

Exploring The Insect World (444-905) -- This book will help older 4-H'ers learn how to rear insects.

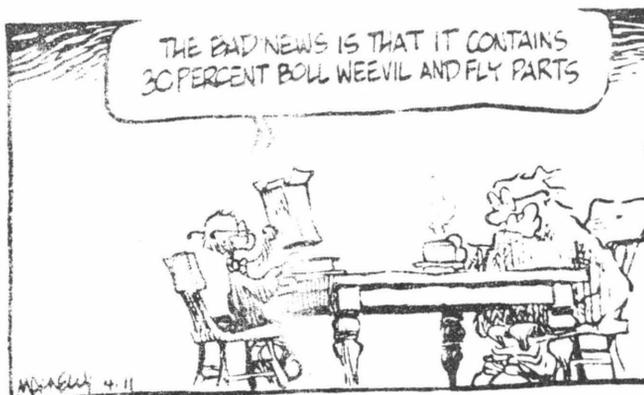
Unit I, Resource Book (444-408) -- This is aimed at the beginner.

Unit I, Project Book (444-409)

Unit II, Resource Book/Project Book (444-444) -- This is aimed at the advanced 4-H'er.

Exploring The Curious World of Insects - A set of about 80 slides, a tape, and a script. Excellent for a beginning group.

SHOE



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