Field Key to Larvae in Peanuts

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This key is designed to serve as a guide to identification of the more typical larvae of the common insect species found in Oklahoma peanut fields during the mid- and late-season. A 10 to 15 power hand lens will be most helpful in using this key. The identifying characters used are based upon those found on full-grown or nearly full-grown larvae and may not necessarily occur on newly hatched larvae. If the larva in question does not fit the proper description furnished, recheck the specimen with the key. If it continues to key out improperly or is not one of the species listed, and proper identification is desired, place the larva in a small bottle containing 70% alcohol and mail to: Department of Entomology and Plant Pathology, Oklahoma State University, Stillwater, Oklahoma 74078. Please do not send specimens for identification unless they are causing or suspected of causing damage to the crop. Please include information as to the type and amount of damage noted as well as the date and community where the larva was collected. This information will assist in getting a more accurate and rapid reply to your questions.

Some insects found in peanut fields cannot be identified with this key. This would include adult insects, arthropods other than insects, and such insects as corn leaf aphids and chinch bugs, which do not have a larval stage. Be sure you have insect larvae before attempting to use this key.

Occasional early season pests, such as cutworms, have not been included in the key as they are not normally serious in Oklahoma. If found, they should run to the last couplet in the chart, "species not included in the key." If they are causing serious damage, please send in specimens for identification.

This key should not be used for larvae occurring in crops other than peanuts. Other keys are available for other crops and can be obtained from the local county Extension office.

Survey Methods

Insect counts in peanuts are taken on a per plant or plant part basis depending on the feeding habits of the insect involved. Counts should be taken from a representative cross section of the field, the number depending on the size. At least 25-50 plants should be checked and the number of insects reported as the number per 100 plants or terminals.

The rednecked peanutworm is found in the terminal or on the small unfolded leaves. The corn earworm is often found in the same place as the young larva, but will move to larger leaves as it matures. Most other larvae feed on the larger leaves of the plant.

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The lesser cornstalk borer feeds underground on the roots, pegs, or developing nuts. It prefers loose, sandy soil and can be quite serious in this type of area. It usually is found in a tube of silk covered with sand grains from 1-3 inches below the soil surface. It can be found by digging in the soil around the base of the plants.

Descriptions of Larvae

Rednecked Peanutworm (*Stegasta bosqueella*)

These larvae are easily distinguished by the wine-red band on the first two segments behind the head. The rest of the body is greenish or yellowish-white. They feed in or on the buds, or within the folds of unopened leaflets where they scar the leaflet surface or eat holes through it. They measure up to 1/3 inch in length when fully grown, and may have four generations per year.

Lesser Cornstalk Borer (*Elasmopalpus lignosellus*)

These larvae are found from one to three inches below the surface of the ground, usually in silken tubes. They feed on roots, pegs, pods, and stems and may be the most serious pest in outbreak years. They are bluish-green in color with brownish lines and mottlings. There is a narrow white line down the back and a dark brown shield on the first segment. They measure up to 1/2 inch in length when fully grown.

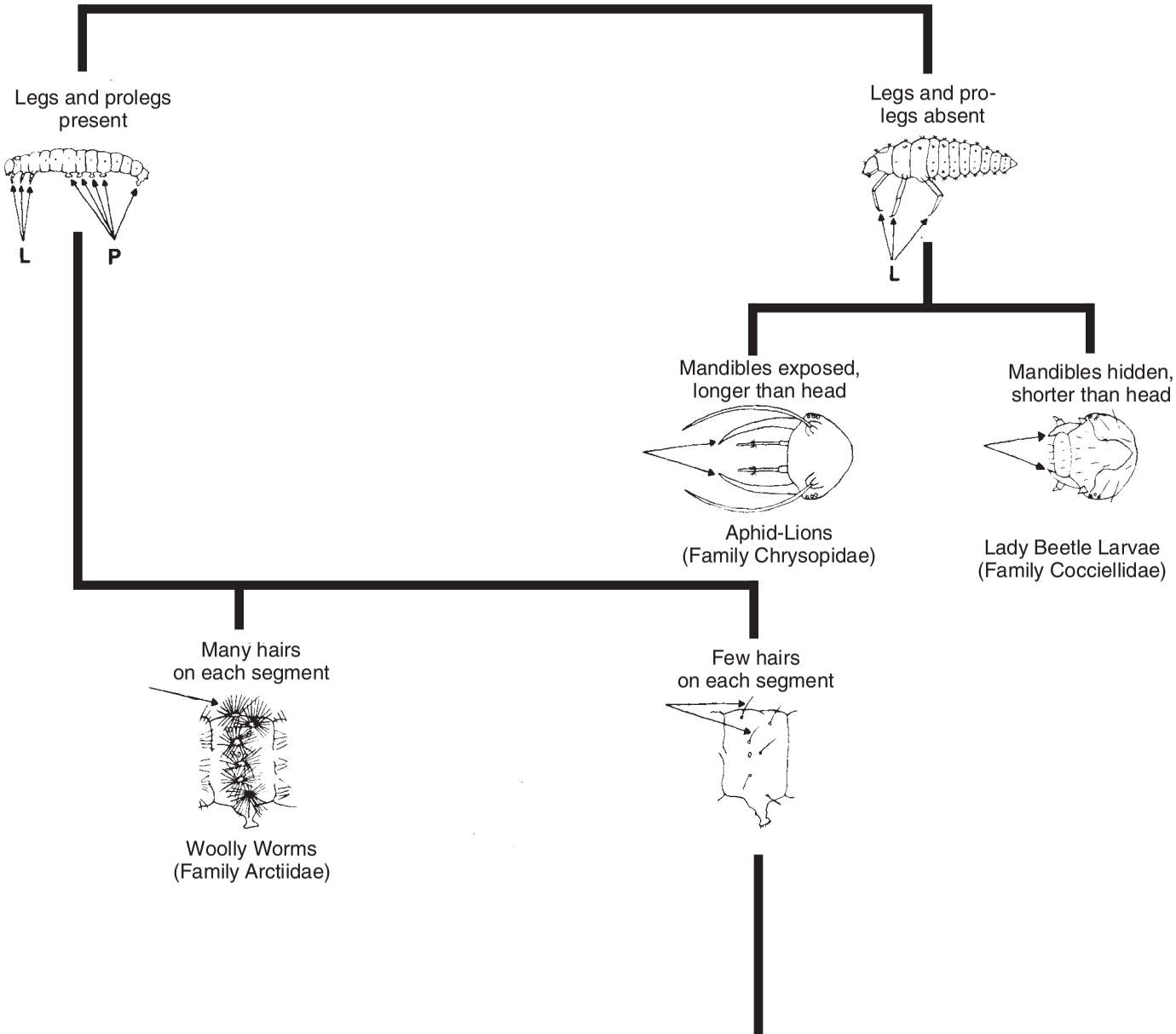
Corn Earworm (*Heliothis zea*)

The main distinguishing characteristic of this species is the distinct, short, sharp microspines, resembling whiskers, which are present between the longer hairs on the back. This gives the larvae an "unshaven" appearance when viewed with a 10X-15X hand lens. (Do not confuse the pebbled or granular skin of other larvae with the microspines.) The body color varies greatly from light to dark green, pink, or brownish-yellow. When fully grown, the larvae measures up to 1 1/2 inches in length. This destructive pest causes damage by feeding on the foliage, often in the growing terminals.

Fall Armyworm (*Spodoptera frugipedra*)

These larvae usually have a distinct, broad, white inverted "Y" present on the front of the head (not to be confused with a narrow inverted "V" found on a few other species). The body varies from light tan to green to dark brown or nearly black in color with three widely separated narrow yellowish-white

A Field Key to Some Common Larvae Found in Peanuts in Oklahoma



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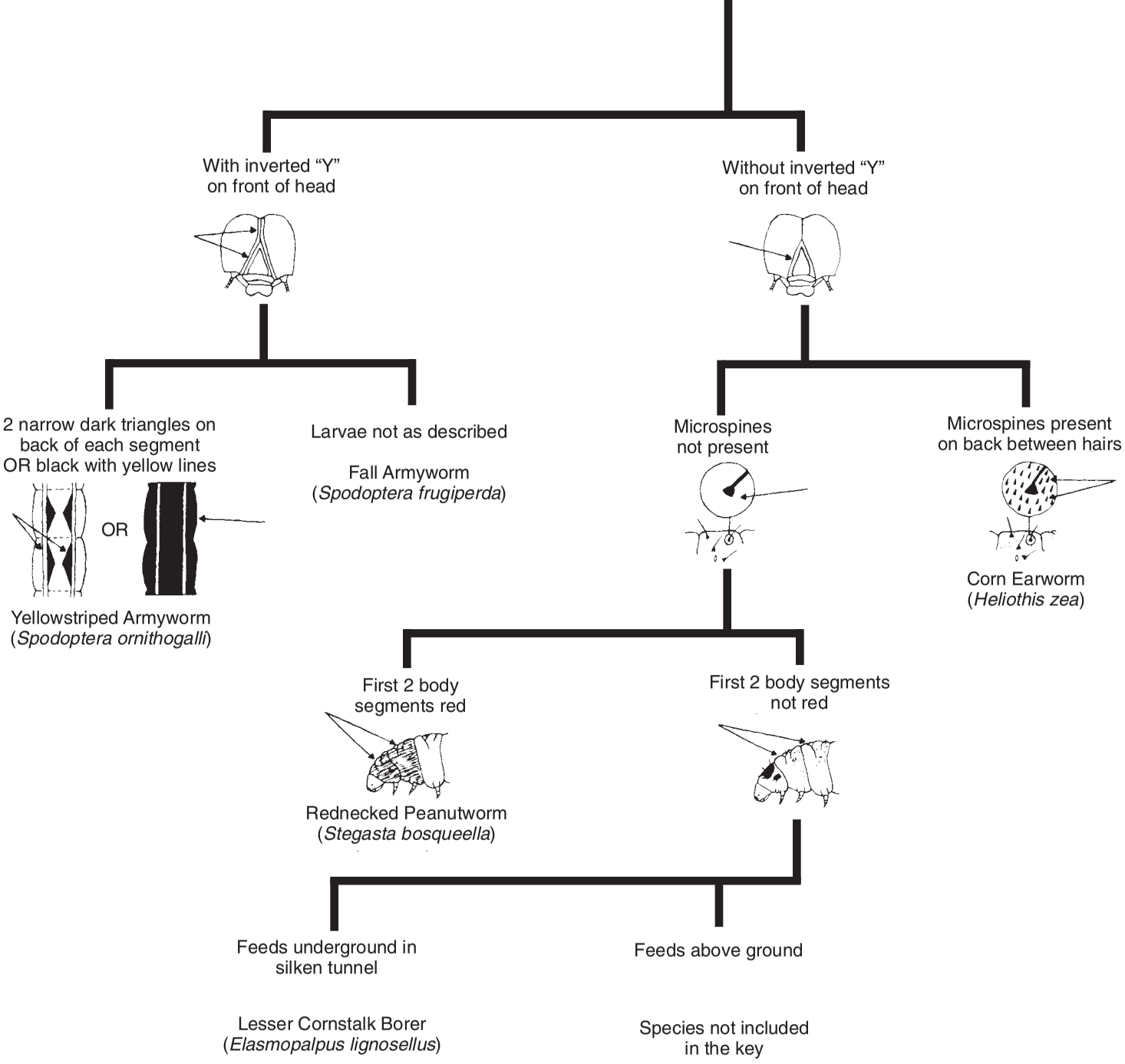

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Prepared by Don C. Arnold, Department of Entomology and Plant Pathology, Oklahoma State University

stripes down the back. On each side are three more broad longitudinal lines side by side; the top, brown; the middle, reddish; and the bottom, yellow with reddish mottlings. These larvae measure up to 1 1/3 inches in length when fully grown. They are primarily foliage feeders.

Yellow-striped Armyworm (*Spodoptera ornithogalli*)

These larvae vary in color from pale gray to jet black, but all will have two yellow stripes down the back. The gray individuals have two narrow dark triangles on the back of each segment, but these cannot be distinguished in the darker forms. The head is mostly brown. These larvae measure up to 1 1/2 inches in length when fully grown. They are primarily foliage feeders.

Woolly Worms (Family Arctiidae)

This may be one of several members of this family. The most common one in the state is the salt-marsh caterpillar (Estigmene acrea), which is covered with long black, brown, or yellowish hairs. The larvae of this species may become almost 2 inches in length when fully grown. The pests in this family are primarily foliage feeders. If found causing serious damage, send in specimens for identification.

Lady Beetle Larvae (Family Coccinellidae)

The body color is generally dark with bright yellow, orange, or red markings. The body is covered with numerous spines. In a few species, the body is covered with a waxy secretion and resembles mealybugs, but a check of the mouthparts will clear up the confusion. (Mealybugs have piercing-sucking mouthparts, while lady beetle larvae have biting mouthparts.) The group is highly beneficial, with both the larvae and adults feeding on aphids, spider mites, eggs, and young of many pests. The convergent lady beetle (Hippodamia convergens) is a common species.

Aphid-Lions (Family Chrysopidae)

These small, active, light brown larvae measure up to 1/2 inch in length when fully grown. Both the larvae (aphid-lions) and adults (lacewing flies) are beneficial, since they feed upon aphids, insect eggs, and small larvae. (Be sure that the specimen suspected of being in this group has biting mouthparts. There are several other groups, such as true bugs, Order Hemiptera, which are similar in body shape, but different from them by having piercing-sucking mouthparts.)

Use Safety Precautions in Control Practices

Due to the nature of this fact sheet and the rapid changes accompanying the use of chemicals, no control recommendations have been included in this publication. However, production practices adopted within the past two decades have made chemicals essential for efficient food, feed, and fiber production. Chemical controls are available for the pests included in this publication and will likely be used when economic levels of infestation develop. Because of this, each individual should be aware of the safety precautions necessary when using insecticides.

Improper use or failure to follow safety precautions when using insecticides may cause injury to man or animals. Pesticides should be used only when needed and they should be handled with care.

Use insecticides exactly as recommended—do not increase the dosage as this may cause plant damage and residue problems.

Insecticides should be kept in their original container, tightly closed, correctly labeled, and in a dry place.

Always store insecticides where they cannot contaminate food, feed, or water.

Never leave a pesticide where children, poultry, animals, or irresponsible persons will have access to them.

When handling inseciticides, wear clean, dry clothing. Use protective clothing or protective equipment when the label specifies their use.

Adapted from original material prepared by Newt Flora and Don Arnold.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0704