



I d e n t i f y i n g
a t e r p i l l a r
in Wheat

Gerald E. Wilde, H. Leroy Brooks, and Kermit O. Bell

I N T R O D U C T I O N



Caterpillars (the larvae or immature stages of moths and butterflies) are among the more important pests of field crops. Proper identification is necessary for good management of these insects. This factsheet is designed to help you identify the common caterpillars collected on wheat.

The identifying characters used are found on full-grown or nearly full-grown caterpillars and may not occur on newly hatched or young caterpillars. Also, to make the factsheet easier to use, some of the less common soil-inhabiting cutworms are omitted. For their identification, you should refer to other publications (Rings and Musick 1976; Capinera 1986). Loopers can be identified to species using Eichlin and Cunningham (1969).

Caterpillars can be separated from the immatures or larvae of other groups such as beetles by their prolegs (with hooks) on abdominal segments 3 to 6 and 10, but the prolegs may be absent on abdominal segments 3 and 4 (see Fig. 1). The only larvae closely resembling them are those of some sawflies, which usually have prolegs on all abdominal segments, but no hooks are present on the underside of the prolegs.

To carry out the sequence of steps in identification, begin at the first illustrations for the crop from which the caterpillar was collected and decide which alternative fits the specimen best. You need to magnify some characteristics 10-20X with a hand lens or other means. Each choice is illustrated by one or more drawings of the characteristics described. Definitions of terms used are given to help you use the descriptions, and the labeled drawing of a caterpillar in Figure 1 will help you become familiar with a specimen.

When you reach a point where you identify a caterpillar, go to the photograph for that species and its description. If the picture and description fit the caterpillar you are looking at, the identification is probably correct. If the picture and description do not fit the caterpillar, you may have misidentified the specimen or it may be a species not included in this factsheet. The characteristics used in this factsheet apply to both live and preserved caterpillars, but body color characteristics given in the description do not apply to alcohol-preserved specimens.

PRESERVATION OF SPECIMENS

You can preserve specimens collected in the field for future identification in two ways. The best way is to put live caterpillars into boiling water for 3 minutes. Then let them cool and put them into 70% ethyl alcohol or rubbing alcohol. Another less desirable method is to put live caterpillars directly into 70% ethyl alcohol or rubbing alcohol. This results in discoloration and makes identification more difficult.

SUMMARY

This factsheet should allow you to identify caterpillars collected from wheat. If you are unable to do so or think you have a species not included in the factsheet, ask your local or state research and extension personnel for assistance.

REFERENCES

- Capinera, J.L. 1986. Field key for identification of caterpillars found on field and vegetable crops in Colorado. Bull. 535A, Coop. Ext. Serv., Colorado State Univ., Fort Collins, 13 pp.
- Eichlin, T.D. and H.B. Cunningham. 1969. Characters for identification of some common plusiine caterpillars of the southeastern United States. Ann. Ent. Soc. Amer. 62: 507-510.
- Rings, R.W. and G.J. Musick. 1976. A pictorial field key to the armyworms and cutworms attacking corn. Res. Circ. 221, Ohio Agr. Res. and Dev. Center, Wooster, 36 pp.

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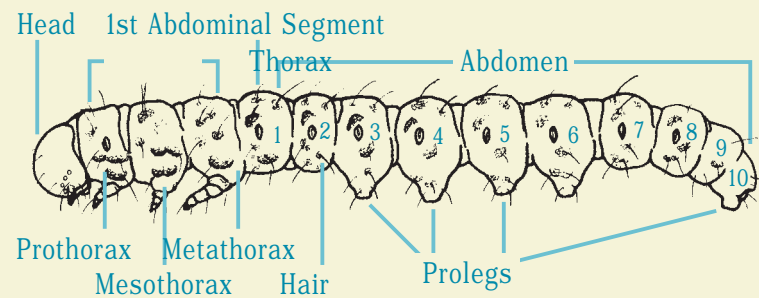
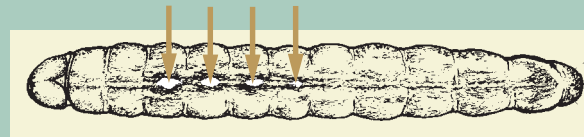


Fig. 1. Side view of caterpillar showing structures used in factsheet.

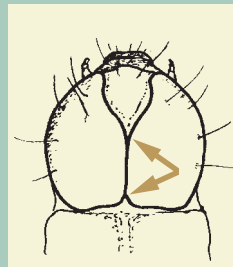


4 or more distinct whitish or yellowish spots on center of back.
Variegated Cutworm
 (Photo 5.)

top view

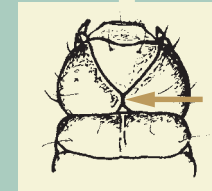


No spots on center of back.

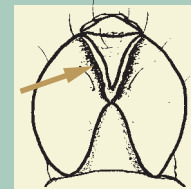


V-shaped sutures on top of head widely separated.

top view



V-shaped sutures on top of head meet or almost meet.



Sutures on head bordered by brown bars; no other markings on top of head.
Pale Western Cutworm
 (Photo 4.)

top view



Sutures on head bordered by brown bars; freckle-like markings also present.
Army Cutworm
 (Photo 1.)



Top of abdominal segment 8 with 4 distinct spots.
Fall Armyworm
 (Photo 3.)

top view



Top of abdominal segment 8 with no distinct spots.

DEFINITIONS

Abdomen—Portion of the insect behind the true leg-bearing segments. Usually 9 or 10 abdominal segments are apparent on caterpillars.

Breathing pore—Structure through which caterpillar breathes. Located on prothorax and segments 1-8 of abdomen.

Larva—Immature growing form quite different in appearance than adults of the same species.

Mesothorax—Second segment behind the head. It has a pair of true legs.

Metathorax—Third segment behind the head. It has a pair of true legs.

Microspines—Numerous tiny spines or thorns on the skins of some larvae. Visible ONLY with magnification, best at 20X or more.

Proleg—A fleshy leg-like projection found on the underside of some abdominal segments of caterpillars.

Prothorax—The first body segment behind the head. It bears the first pair of true legs and a breathing pore on each side.

Reticulation—Pattern of narrow lines looking like threads of a net.

Segment—A portion of an insect separated from adjacent, similar parts by an indentation. The head usually appears as one segment, the next three segments make up the thorax, and the last several segments constitute the abdomen.

Suture—A dividing line or crease separating parts of an insect's surface.

Thorax—The parts of an insect just behind its head and consisting of three leg-bearing segments.

DESCRIPTIONS OF COMMON CATERPILLARS ON WHEAT

Army cutworm—Body gray to brown usually with a distinguishable, broad, brownish band running the length of the back. Head distinctly freckled. Mature length 1 1/2 inches.

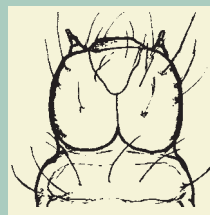
Armyworm—Body generally greenish to greenish-brown with light stripes on sides and back; each proleg with a brownish or dark band on outer side. Head with reticulation. Mature length 1 1/2 inches.

Fall armyworm—Body colors usually shades of brown, but color variations may be found ranging from greens to nearly black; body with 4 distinct spots on top of the 8th abdominal segment. Head with distinct reticulation. Mature length 1 1/2 inches.

Pale western cutworm—Body cream to grayish cream with semitransparent skin. Head light brown with sutures bordered by brown bars. Mature length 1 1/4 inches.

Variegated cutworm—Body grayish-brown with yellowish to white spots down center of back. Head brown. Mature length 1 1/2 inches.

Wheathead armyworm—Body with broad greenish or brownish stripes along sides; body tapering to the rear. Head light brown. Mature length 1 inch.



Top of head with no reticulation.
Wheathead Armyworm



Top of head with reticulation.
Armyworm
(Photo 2.)

top view



1. Army Cutworm
Euxoa auxiliaris (Grote)



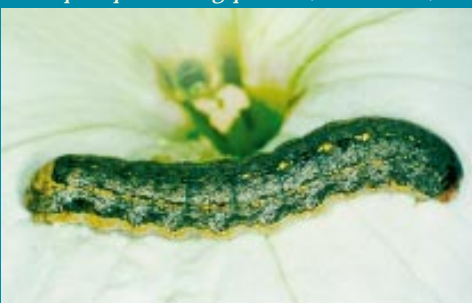
2. Armyworm
Pseudaletia unipuncta (Haworth)



3. Fall Armyworm
Spodoptera frugiperda (J.E. Smith)



4. Pale Western Cutworm
Agrotis orthogonia (Morrison)



5. Variegated Cutworm
Peridroma saucia (Hubner)



6. Wheathead Armyworm
Faronta diffusa (Walker)



Gerald E. Wilde, H. Leroy Brooks, and Kermit O. Bell are research entomologist and extension entomologist, Department of Entomology, K.S.U. and survey entomologist, Kansas Department of Agriculture, Topeka, respectively.

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S—122

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