

# BIOLOGY I LAB 3 DICOTYMYUS KEY

- PURPOSE: (1) To allow the student to become familiar with the concept of a dicotymus ke  
(2) To provide a basis for understanding and using the insect key in Borrer & DeLong.

- MATERIALS: (1) Something to write with -- pencil, pen or a razor blade and feather.  
(2) Something to write on -- paper, wood, back of your hand, top of a bald mans head, etc.  
(3) Whatever brain cells you may have that function properly.

PROCEDURE: A dicotymus key is used to identify unknowns by comparing them with knowns. For example: if you have an insect in your collection and you do not know what it is, you can use a key to find out. The insects are grouped into families according to the structures they have in common. The key is a systemation comparison of these structures.

To make a key, one characteristic at a time is studied. For example, does the insect have wings, or not? If it does, then all other characteristics of winged insects are considered one at a time before returning to the non-winged insects. To help you understand this look at the figures below:



A key can be made for these figures as follows:

1. A. Figures with straight edges -----go to 2  
B. Figures without straight edges -----go to 7
2. A. Figures with 3 sides -----Triangle  
B. Figures with more than 3 sides -----go to 3
3. A. Figures with 4 sides -----go to 4  
B. Figures with >4 sides -----go to 5
4. A. All sides equal in length -----Square  
B. Opposite sides equal in length -----Rectangle
5. A. Figure with 6 sides -----Hexagon  
B. Figure with >6 sides -----go to 6
6. A. Figure with 8 sides -----Octagon  
B. Figure with >8 sides -----Star
7. A. All points equal distance from single focus -----Circle  
B. All points not equal distance from single focus -----Elipse

Note the form used in this key and make your own key for these animals:

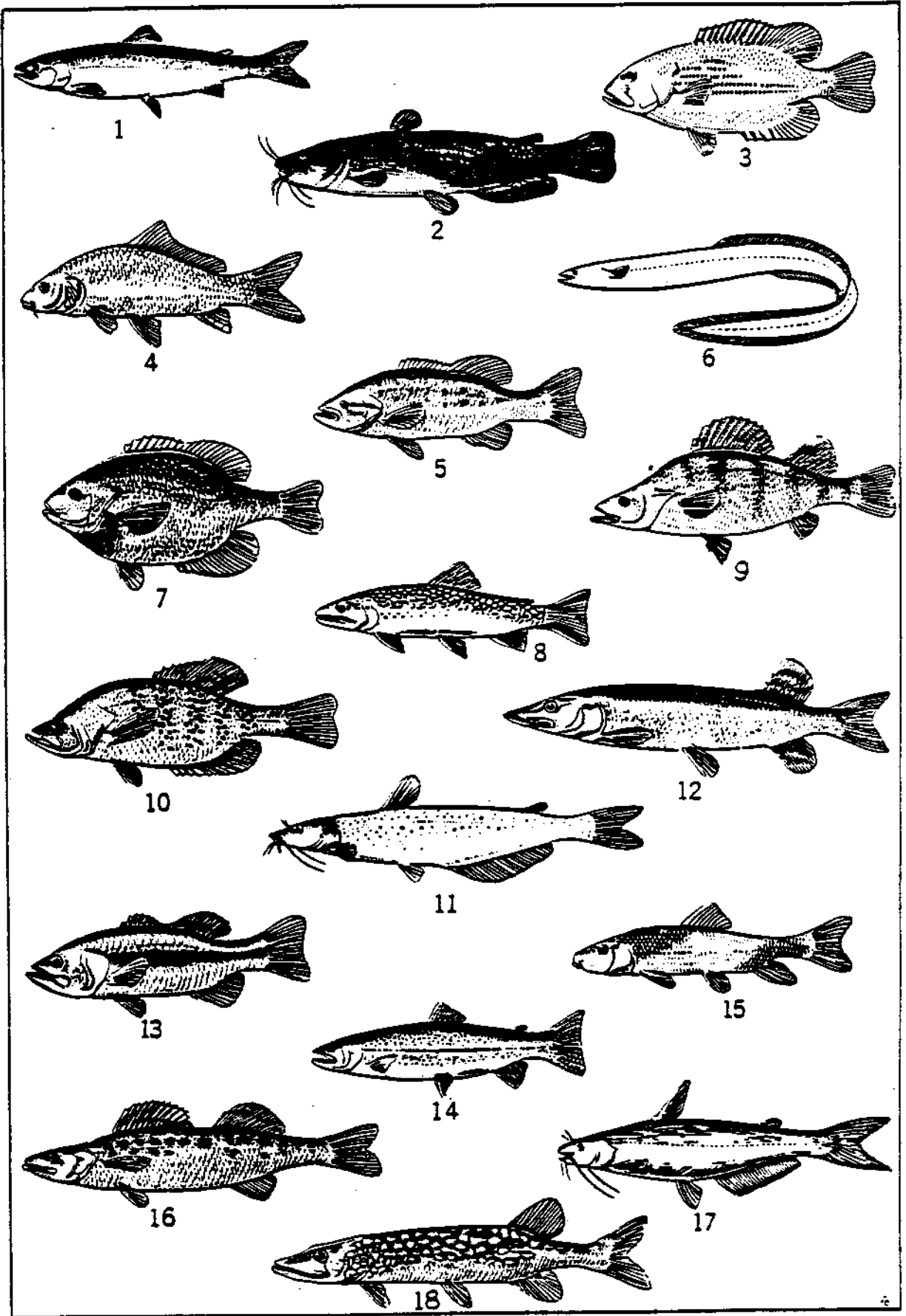
COW REDWOOD PIG CAT IVY BEETLE BUTTERFLY BIRD BAT



Figure 45-2

## CLASSIFICATION KEY TO CERTAIN FISH

1a. Body noticeably covered with scales .....	2
1b. Scales not covering body or too small to be seen .....	12
2a. Dorsal fin single .....	3
2b. Dorsal fins two or more, joined or separated .....	6
3a. Body more than four times as long as broad (top to bottom); front edge of dorsal fin far back on body; mouth large, hinge back of eye .....	4
3b. Body less than four times as long as broad; front edge of dorsal fin about midway between head and tail; mouth not large, hinge in front of eye .....	5
4a. Dark lines forming netted design on body; fins not spotted .....	<i>Pickerei</i>
4b. Body covered with yellow spots; fins spotted .....	<i>Northern pike</i>
5a. Mouth turned downward; barbels absent; dorsal fin not elongated .....	<i>White sucker</i>
5b. Mouth not turned downward; barbels present; dorsal fin elongated .....	<i>Carp</i>
6a. Two dorsal fins separated, the anterior spiny and the posterior soft .....	7
6b. Two dorsal fins united, forming an anterior spiny portion and a posterior soft portion .....	3
7a. Top of head concave, forming a hump in front of dorsal fin; dark vertical bars on body .....	<i>Yellow perch</i>
7b. Top of head not concave, body sloping to dorsal fin and not forming a hump; dark blotches on body .....	<i>Walleye pike</i>
8a. Body more than three times as long as broad .....	9
8b. Body less than three times as long as broad .....	10
9a. Hinge of jaws behind the eye; notch between spiny and soft dorsal fin deep and nearly separating into two fins .....	<i>Large-mouth black bass</i>
9b. Hinge of jaws below the eye; notch between spiny and soft dorsal fin not nearly separating into two fins .....	<i>Small-mouth black bass</i>
10a. Mouth large, hinge below or behind eye .....	11
10b. Mouth small, hinge in front of eye .....	<i>Bluegill</i>
11a. Five to seven spines in dorsal fin; dark spots forming broad vertical bars on sides .....	<i>White crappie</i>
11b. Ten or more spines in dorsal fin; sides flecked with dark spots .....	<i>Rock bass (Redeye)</i>
12a. Body much elongated and snakelike; dorsal, caudal, and anal fins continuous .....	<i>Eel</i>
12b. Body not elongated and snakelike; dorsal, caudal, and anal fins separate; adipose fin present .....	13
13a. Barbels growing from lips and top of head; head large and broad .....	14
13b. Barbels lacking; head not large and broad .....	16
14a. Caudal fin deeply forked; head tapering .....	15
14b. Caudal fin rounded or slightly indented but not forked; head blunt .....	<i>Bullhead catfish</i>
15a. Dorsal fin rounded at top; body silvery, speckled with black markings .....	<i>Channel catfish</i>
15b. Dorsal fin long and pointed at top; body bluish-gray without speckles .....	<i>Blue catfish</i>
16a. Caudal fin deeply forked; back not mottled and with few spots .....	<i>Atlantic salmon</i>
16b. Caudal fin square or slightly indented; back mottled or spotted .....	17
17a. Back and caudal fin spotted; broad horizontal band along sides .....	<i>Rainbow trout</i>
17b. Back mottled with dark lines; caudal fin not spotted; fins edged with white .....	<i>Brook trout</i>



Native fish