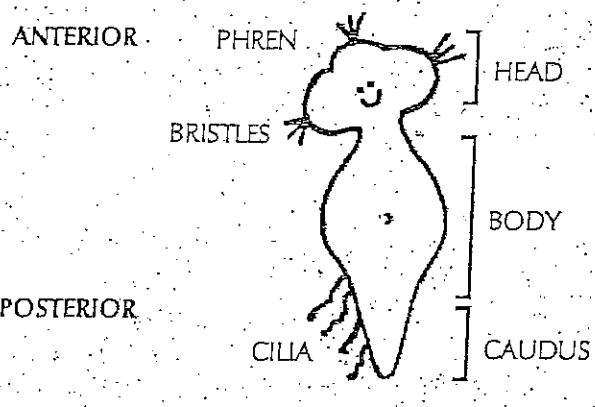
LAB-AIDS® #51 INTRODUCTION AND USE OF DICHOTOMOUS KEYS
Student Worksheet and Guide

Classification or Taxonomic keys are used by scientists and naturalists to identify living organisms in the wild and in the laboratory. Keys are developed by using similarities and differences in the characteristics (physical, behavioral, and more recently biochemical) of specimens under study. These variations (either-or choices) are used to develop dichotomous keys. The complexity of the dichotomous key is determined by the number of specimens to be identified. Several formats can be used to make keys. The two formats used in this lab activity are generally used for larger samples. The first key, indicated by (A) at the top of the card demonstrates an indented format. The second key indicated by (B) is the non-indented format.

In this lab activity you will:

1. First observe the physical characteristics of the eight (8) specimens in your sample (illustrated specimen cards provided by your teacher). Refer to Figure 1 to familiarize yourself with specific terms describing this "species".

FIGURE 1

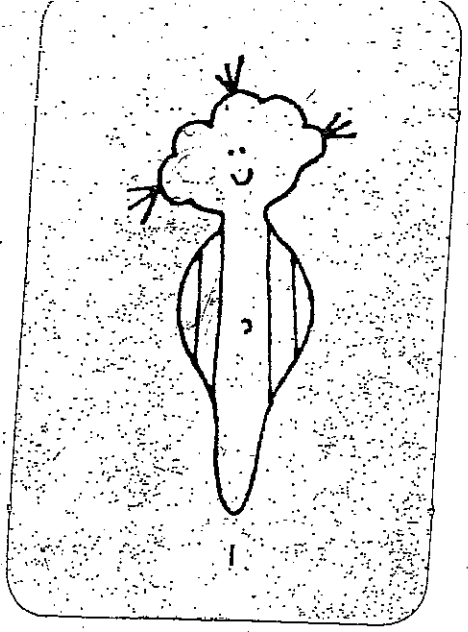


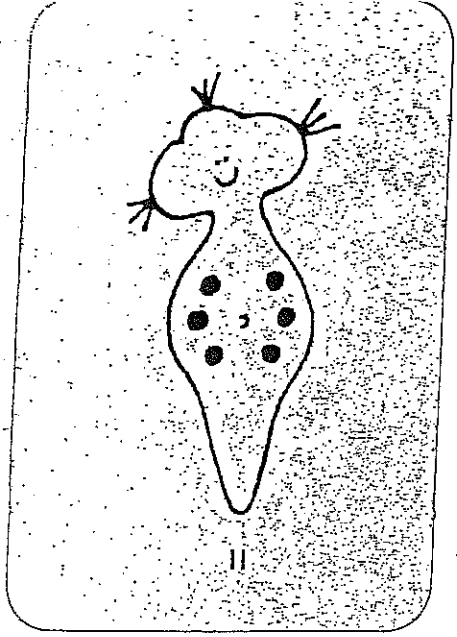
2. Using the illustrated specimen cards provided, record the letters of the DICHOTOMOUS KEY OF QUOZES-INDENTED VERSION (A) as they are read while following the key characteristics of each specimen. For example "Specimen IX" A,B,DD,EE.... and so on until the key reveals the scientific name and variety. Record letters used and scientific name in areas indicated in the chart below.

DICHOTOMOUS KEY OF QUOZES-INDENTED VERSION (A)

Specimen Number	Letters used	Scientific Name
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

When you have completed the chart above, use the specimen cards with the DICHOTOMOUS KEY OF QUOZES-NON-INDENTED VERSION (B). Record numbers in the chart below as they are read and indicate scientific name and variety.


I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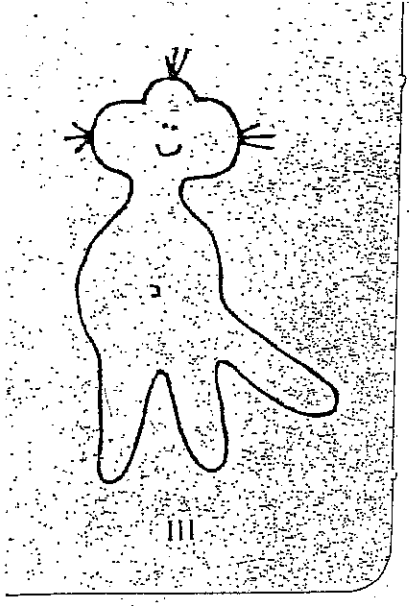
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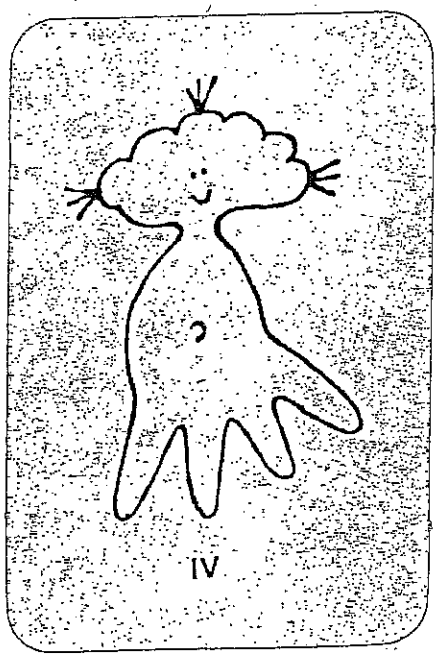
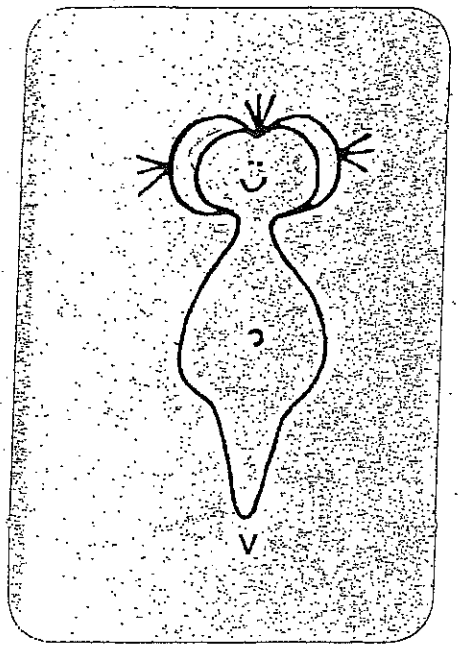

IV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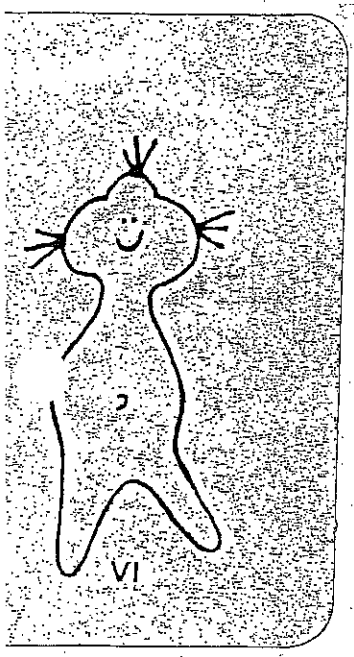
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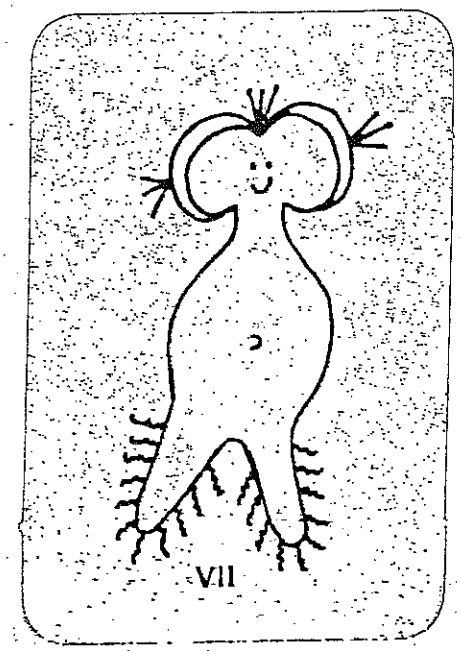
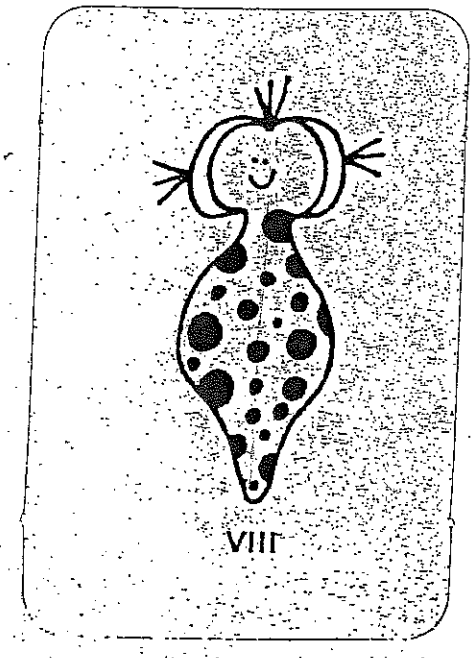

VII


VIII

LAB-AIDS® #51 INTRODUCTION AND USE OF DICHOTOMOUS KEYS
DICHOTOMOUS KEY OF QUOZES-NON-INDENTED VERSION (B)

1. If specimen has phrened head, go to 2
   If specimen has split head go to 19
2. If specimen has one phren, go to 3
   If specimen has more than one phren, go to 5
3. If specimen has single caudus, go to 4
   If specimen has more than single caudus, go to 12
4. If specimen has a single phren, go to 5
   If specimen has multiple phrens ..... *Multiphren plainus*
5. If specimen has no body pattern, go to 14
   If specimen has body pattern, go to 6
6. If specimen has lineated pattern, go to 7
   If specimen has spotted pattern ..... *Sylvestris spoticus*
7. If specimen has a single phren, go to 9
   If specimen has more than one phren, go to 8
8. If specimen has symmetrical body pattern ..... *Multiphren lineus var. symmetricus*
   If specimen has asymmetrical body pattern ..... *Multiphren lineus var. irregularis*
9. If specimen has single caudus, go to 10
   If specimen has more than one caudus, go to 12
10. If specimen has no body pattern ..... *Simpletonus plainus*
    If specimen has body pattern, go to 11
11. If specimen has lineated pattern ..... *Sylvestris lineus*
    If specimen has a wavy pattern ..... *Sylvestris wavus*
12. If specimen has 2 caudii, go to 13
    If specimen has more than 2 caudii, go to 14
13. If specimen has cilia present on caudii ..... *Sylvesti dipodcilia*
    If specimen has no cilia present on caudii ..... *Sylvesti nondipodcilia*
14. If specimen has only 3 caudii, go to 15
    If specimen has more than 3 caudii, go to 16
15. If specimen has cilia present on 3 caudii ..... *Sylvesti multipodhairus*
    If specimen has no cilia present on caudii ..... *Sylvesti multipodus*
16. If specimen has a single phren, go to 17
    If specimen has 2-6 phrens ..... *Multiphren lostus*
17. If specimen has body pattern, go to 18
    If specimen has no body pattern ..... *Dianus multicaudus*
18. If specimen has a wavy pattern ..... *Plenticaudii undulata*
    If specimen has spotted pattern ..... *Plenticaudii blotcho*
19. If specimen has single caudus, go to 20
    If specimen has more than one caudus, go to 23
20. If specimen has body pattern, go to 21
    If specimen has no body pattern ..... *Schizolobus ordinaris*
21. If specimen has symmetrical pattern ..... *Schizolobus dandi var. eveness*
    If specimen has asymmetrical pattern, go to 22
22. If specimen has a body pattern of spots ..... *Schizolobus dandi spoticus*
    If specimen has a body pattern of lines ..... *Schizolobus dandi lineus*
23. If specimen has cilia present on caudii ..... *Schizolobus hairilimbi*
    If specimen has no cilia present on caudii ..... *Schizolobus projbaldi*

DICHOTOMOUS KEY OF QUOZES-INDENTED VERSION (B)

Specimen Number	Numbers Used	Scientific name
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

SUMMARY QUESTIONS

1. What are the physical characteristics that all specimens have in common? _____

2. Which key was easiest to read and follow? _____ Why? _____

3. What are the advantages of using a classification key when identifying organisms? _____

4. What characteristics of these specimens were most useful for keying them? _____

5. Do you think it would be easier to identify actual specimens, rather than these illustrated specimens, by using a dichotomous key? _____ Explain your answer _____

6. What are the limitations of keys and taxonomic systems? _____

7. Draw below what you think the following specimens would look like based on information found in the key.

Sylvesti multipodhairus	*Sylvesti dipodcilia*

ich specimens are included in the Non-indented version of the dichotomous keys, but not in the Indented version? _____

udent's Name _____ Date _____