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CHARTS AND PICTURES AS AIDS IN TEACHING STUDENTS TO USE IDENTIFICATION KEYS

H. E. JACQUES

To do any task well, aims and purposes need to be clearly defined. The application of Biology, like many other subjects, is two-fold; professional and cultural. The majority of the students pursuing biological studies in our schools will never make a direct application of this knowledge in a professional way. On the other hand, cultural ideas secured from the field prove just as valuable to the professional biologist as to those who are interested only in broadening their experiences. Cultural interests for all, plus technical excellence for the minority who plan to make definite use of biology in their life work, would then seem to be a wise aim for instructors in biology.

Some knowledge of the living things that are in the world and of their orderly relationship is basic to all other biological interests. The person who recognizes many of the plants and animals which he sees is not only in position to get a lot of satisfaction from this knowledge, but will also be a more intelligent worker in any specialized field where biology is involved. Out-of-door relationship to indoor teaching with frequent emphasis on classification, together with careful observation of habits and ecological associations, should be included in beginning courses in biology.

The best way to learn about plants and animals is to live with them. The making of herbariums and other collections of plants and animals may seem "old fashioned," but such schemes when wisely directed by good teaching get highly favorable results.

For classification studies, beginners need keys that are easily understood. Ample illustrations and explanations of terms likely to be misunderstood add much to the value of keys.

The securing of sufficient material with which to work sometimes makes a difficult problem for the teacher. It is at this point that we get to our subject. In the dead of winter, we have been starting or continuing key identification of plants from charts, and have found the results gratifying. An entire class, each member supplied with a key, may work together on the determination of the family and species of the plant pictured. It offers unusual opportunities to clear up hazy points.

When it is desired to make the students individually responsible, they are required to indicate by numbers and letters the steps taken in going through the key. Their papers may then be checked in the class for mistakes, or may be turned in for grading. Pictures may often be found in bulletins and other publications that show sufficient detail to permit key determination. Such pictures may be passed out in class or laboratory for purely individual assignments.

Carefully selected pictures of insects have been used in this same way. A series of cards, each bearing an enlarged drawing of an important insect, has been prepared for this work. The drawings are true to life and show the necessary distinguishing characters plainly. No magnification is needed, which offers an advantage where microscopes are limited.

In winter months, if specimens should be scarce, these pictures offer abundant material with which to work and give the student an ability to recognize the families of insects at sight when he gets into the field. The use of the card teaches the student where to look and what to look for in classifying the smaller specimens.

The plan, of course, is applicable to any group of living things where it is desired to teach students to use keys for identifications. The use of charts, pictures, and cards in this way should be only temporary with actual specimens being substituted from time to time or altogether when these aids have accomplished their purpose. The aim of the whole matter is to be able to recognize plants and animals at sight. The best way to learn to know and to love living things is to get out into their habitat and live with them.

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