

tains, streams and panoramic shots of forest, rather than of individual tree species.

The author, who has a B.S. and M.S. in education, emphasizes the point of view of a naturalist and a conservationist rather than an ecologist. For example, the author used phrases such as, "beauty of the forest is an important natural resource" and "the sturdy oak . . . awaits spring and a time to start new growth."

Abiotic factors that affect forest trees and associated plants are mentioned. For instance, we are informed that mosses live in conditions of high humidity and that the timberlines of the great mountain ranges are caused by a combination of factors, including temperature, wind and moisture. However, the accompanying monolog is not very specific about the forests or the ecology of the individual tree species within them.

We are told that forests are an important part of our economy, but not how they are important. There are frequent references to forest-dwelling animals, but they are not pictured. As with most filmstrips, the pace is extremely rapid—an average of one frame every 11 seconds! This, and the script, reduce the utility of this program as a teaching tool through discussion, unless the visual part of the program is used separately from the audio part. This program would, however, make a good introduction to a study of ecology in a general high school biology class. It is also good for people who have not seen the variety of plants and diversity of habitats within the United States.

There is no teacher's guide to accompany the filmstrip.

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**Discovering insects.** 1985. MTI Teleprograms Inc., Northbrook, IL. 8 13-min videos. Purchase: \$205.

The beautiful, fascinating and unusual world of insects is illustrated in this series utilizing excellent photography to cover taxonomy, development, immature forms, caterpillars and winter signs, as well as in-depth accounts of diversified groups such as butterflies, beetles and solitary wasps.

Each episode wastes no time in covering the selected topic for discussion with many titled frames to identify unusual terms and taxonomic orders. The series is recommended for intermediate and junior high students but could also interest any group in-

cluding high school and general adult audiences.

The only problem with the entire series is the first program concerning Orders of insects. Seventeen Orders are not mentioned or illustrated even though these groups include such common insects as earwigs, fleas, lice and aquatic insects that are most interesting to fly-tying fishermen. Also, bird sounds in the background of this episode are distracting.

Each video comes with a discussion guide which lists the objectives of the individual episode, a synopsis of the program, and pre- and post-screening questions.

The frequent use of the most common species found in the United States, the detailed explanations and illustrations of insect life cycles and unique properties of their relationship among themselves and with mankind makes this series a valuable 104-minute glimpse in the world of insects.

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**Microbiology: classifying microorganisms.** 1984. Coronet Films, Deerfield, IL. 16mm or video. 16 min. Purchase \$245.

"Outstanding," "unsurpassed," "excellent" and "superlative" were used to describe the first film of this series when it was released last year (*ABT*, May 1985). As a sequel to "Imaging a Hidden World, The Light Microscope," this production deserves these same plaudits. This second film maintains the integrity with which the series began: superlative color photography; stimulating music and narration; elements of mystery, excitement, violence (a must for maintaining the interest of teenagers); and, or course, it is highly educational.

It can be used in the classroom either directly following learning to use the light microscope, or it can be held until the study of the Kingdom Protista. Students will recall the first film when told that this is a sequel (my students remembered the film well even though one year had elapsed since they saw it) and they will be enthusiastic to see it.

The film begins at a good starting place for a biology class: discussing the difference between prokaryotic and eukaryotic cells. It eliminates the prokaryotic from the film by saying that they must be studied using careful isolation and culturing techniques. Single-celled eukaryotes, on

the other hand, are illustratively shown being studied easily in a drop of pond water.

The film's element of mystery begins with the first drop of water and continues throughout. Many of the students complained that the sound didn't match the picture. In fact, the narration was quite often in advance of the corresponding picture. To the reviewer, this lent an aura of suspense and anticipation for the coming scene and was a positive factor rather than negative.

Excitement, and some violence, arrived with Didiniums devouring Paramecium—and again later, when the intestines were pulled from a living termite and ruptured (the students loved this) to reveal the mutualistic relationship with an intestinal flagellate.

The lessons (innovative methods of using the light microscope) from the first film of the series might have been continued into this film by mentioning a few of the microscopy techniques used in its making. Regardless of what might have been done, Bruce J. Russell (writer and photographer) has put together 16 minutes of unsurpassed educational entertainment.

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## BIOLOGY EDUCATION

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Candidates must have a Ph.D. or equiv. degree in a biological science, as well as training and experience in science education. The successful candidate will be expected to engage in research in science education and may teach biology courses in his/her area of expertise.

Please submit transcripts, vita, three letters of recommendation and a statement of professional interests and/or research plans to: Search Committee, Biology Dept., Box 1651, Southern Illinois University at Edwardsville, Edwardsville, IL 62026. Closing date for receipt of applications is December 1, 1986 or until position is filled.

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