

AV Reviews

Rachel Hays
Department Editor

An inkling of beetles. 1985. Cabisco Video, Carolina Biological Supply Co., Burlington, NC. Color/video. 12 min. Purchase \$119.95.

This excellent introduction to entomology utilizes the life cycle of the tiger beetle and a few other more familiar coleoptera to introduce insects. Various sequences include the usual things such as anatomy, defense mechanisms, feeding behavior, habitats, locomotion and reproduction. From the very beginning, good music and background sequences maintain attention-getting sounds. Several slow motion sequences such as "wing beats" and "toad tongue attacks" on insects add to the drama. With only a few examples, the producers masterfully display some of the great diversities that exist among the members of this order.

As an introduction to a unit on insects, I strongly recommend this video for use with upper elementary-middle school students.

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The many worlds of nature (series). The bird's year: variety and change. 1984. MTI Teleprograms Inc., Northbrook, IL. Video or 16 mm. 12 min. each. Purchase \$205 each video or 16 mm. Rental \$50 each.

The program illustrates the activities common to most bird species during the year: migration; setting up territories; nesting; raising young; and flocking. It begins with changes that occur in American Robins as spring approaches and continues with examples of Red-winged Blackbirds, Song Sparrows and Common Flickers. The film contrasts the colonial nesting habits of Grackles with the more solitary nesting of Robins, Chickadees, Wrens and Flickers, showing the relative roles of males and females in nest building, incubating and feeding of the young. Other habits such as the late nesting season of the American Goldfinch, production of multiple broods in the Mockingbird and occurrence of mixed-species flocks in winter are shown.

The film has broad appeal. Any audience from grade school through adult will appreciate the live-action shots of the dozen or so common birds familiar to most of us in the eastern states. The commentary is aimed at the grade school to junior high school level.

The first-rate camera work reveals a host of bird activities at close range, most of which are not specifically explained by the narration. The combination of the almost continuous action of the visual medium with the simultaneous but often nonspecific commentary would make the film a difficult one for note taking. The colors may appear washed out on a large monitor, and we recommend a small or high quality screen for better viewing of the colorful plumages. In spite of this criticism, the tape is excellent and highly recommended for anyone interested in birds. The strategy we recommend for a more mature audience is to turn the sound down and narrate it yourself.

The high quality visual presentation is maintained in this second tape, although in this one the narration is at times misleading or even incorrect. The development of an understanding of nesting habits of birds follows an evolutionary pathway, at least that is the stated (and commendable) intent. It begins with a shot of a snake in a bird's nest to reflect the reptilian heritage of birds and their egg-laying ancestry, and shows examples of, first, ground nesters like Ruffed Grouse, Song Sparrows, and Ovenbirds, said to be more primitive. Secondly, we see cavity nesters such as Belted Kingfishers, Bank Swallows and Sparrow Hawks (American Kestrel would be the correct name) and are told that these are "a step up in evolution of nest building." As the film develops we see "more advanced birds" such as bluebirds that add material to the cavity nest, then chickadees, and ultimately Ospreys that build nests in branches to "make them safer from predators." The main problem with this scenario is that birds nesting on the ground are not always more primitive (e.g. Song Sparrows and Ovenbirds) than tree-nesters (Ospreys). This confusion between primitive vs. advanced nesting habits and primitive vs. advanced lineages of birds is rampant throughout the film.

There are also minor objectionable comments such as the introductory reference regarding the "long-standing misunderstanding about the bird's nest being their home" which we doubt that any naturalist or obser-

vant young child has seriously believed since Aristotle's time. Fortunately, no one will be able to listen too closely to the narrative, with all the excellent visual stimulation. Just be certain to follow up with more detailed clarification of evolutionary processes. And, as you plan the follow-up comments avoid using the film's discussion guide for suggested post-screening activities, which includes having students place the birds they have seen in evolutionary order based on their nesting habits and the order in which the species appear in the film. This is, unless you wish the students to believe erroneously that Ospreys evolved from Ovenbirds.

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Brave new babies? 1982. BBC-Pennsylvania State University, Audio-Visual Services, University Park, PA. 48 min video, rental \$21.50. Purchase \$298 for 3/4", \$198 for 1/2".

Genetic engineering has taken giant steps. New methods of gene mapping, a wide variety of cloning techniques and novel embryo manipulations, ranging from human *in vitro* fertilization to the production of chimeras by blastomere fusion, are at hand. Biology teachers who wish to have their students give serious attention to the moral and societal implications of these developments and those about to come upon the scene would probably welcome a good audio-visual presentation linking these implications to the actual biology. Unfortunately, this program does not do this effectively.

Although there are some moments where interesting photography shows

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parts of the biological manipulations whose implications are being discussed, the majority of the tape is minilectures by Jonathan Glover of New College, Oxford, England, interviews between Mr. Glover and a few biologists involved in the work, and sequences during which the opinions of two insufferably cute little boys—one with quite indistinct speech—are elicited. This is only the slightest attempt to explain the biology behind the manipulations, and the teacher who wishes to use the tape would be well advised to teach the rationale of the procedures first.

It is not easy to single out the most disturbing feature of the tape. Is it Mr. Glover's disregard of the cautions stated by the scientists in the tape as to the limits of and long delays in the application of the techniques considered? Is it the questionable biology, such as the unequivocal statement that mice have been cloned, when, unfortunately, the work by Illmensee and Hoppe is in dispute (see also McGrath & Solter, *Science* 226: 1317-1319, 1984), or that *Homo sapiens* and some rodents are the only vertebrates who destroy members of their own species? It is the hard statements easily mistaken by students as fact which occur in a bit of fiction set in the future, e.g. that a person, about to be developed from a zygote in the freezer, can be given her grandfather's red hair by making three genes homozygous? Or is it, near the end, a section in which Mr. Glover seems to indicate that, in his view, war can only be abolished by genetically changing the supposedly inherited tendency of our species toward intraspecific aggression?

The tape does have some strong features. There is a clear differentiation between positive and negative uses of genetic engineering with an appropriate warning that the distinction may blur in practice. The technical difficulties of genetic manipulations in human beings, particularly with respect to intellectual abilities and character traits, are well brought out by one of the biologists, Dr. Chris Graham. And the distinction between interspecific hybrids and chimeras is well made in one of the most visually interesting sequences.

Most of the language, accents and examples are obviously and thoroughly British. I would judge the vocabulary suitable to the twelfth grade or above.

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Book Reviews

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ECOLOGY

THE BACKGROUND OF ECOLOGY: CONCEPT AND THEORY

by Robert P. McIntosh. 1985. Cambridge University Press (32 East 57th Street, New York, NY 10022). 383 p. \$39.50 hardback.

This book is a well-documented historical review of many aspects of the study of ecology. The author concisely and thoroughly addresses many areas involved in the development and progression of the study of ecology. The book addresses broad conceptual aspects of topics relating to ecology; however, it does not address scientific details or any scientific aspect of the topics. The focal point of the text is a panoramic approach to ecology focusing on the historical development process. In this overview, the author demonstrates many contrasts and comparisons that have occurred throughout the years and have influenced ecological theories and trends.

The book is a good reference source for the undergraduate and beyond. The author has excelled in his accumulation of bibliographical references. The well-written book serves as a concise and effective reference for the historical aspects of ecology, offering a collection of many references without going into detail on any aspect. As an historical reference, the book does an effective job, but it is not a book for seeking scientific knowledge on ecology and it is not a textbook for pre-college students.

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GLOBAL ECOLOGY

edited by Charles H. Southwick. 1985. Sinauer Associates, Inc. (Sunderland, MA). 323 p. \$14.95 softback.

This collection of essays, lectures

and addresses on the various facets of ecology on a worldwide scale would be an asset for any reference portion of the high school biology or environmental science class. Divergent views are presented, in some instances, that should challenge serious students to do further research on their own. Viewpoints of the various writers are carefully documented and cover areas of concern from world health to desertification and acid rain.

Although some of the chapters on human population growth and economics seem not to fit in at first, we have to be aware of the tremendous impact and environmental pressure placed on our world as a result of this increase in population. We are no longer "isolated" countries, each involved in feeding only our specific country. We are now world backyard neighbors, whose natural resources must be carefully used in order to obtain the fullest potential. The charts in the book are most valuable and could be utilized by classroom instructors to enforce their lectures. There are a few typographical errors but this does not detract from the usefulness of the book.

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