

and *Xenopus* that comprise no more than 0.2% of the species in the class. Therefore, generalizations about "the frog" derived from these studies are not likely to characterize other amphibians accurately, nor can the characteristics they identify be taken as representing an evolutionary link between "the fish" and "the rat." Feder details a number of common misconceptions that result from an incomplete understanding of the diversity of lifestyles and habits of amphibians.

Although most of the contributors to this volume utilize a comparative approach in their own research by studying members of other classes along with amphibians, some chapters lack the benefits of such a viewpoint. Avian endocrinology, under the leadership of John Wingfield, has moved out of the laboratory into the field, and one of the resulting findings is that the hormonal profile of an animal in the laboratory often bears little resemblance to that of a member of the same population in the wild. Comparisons of reptilian endocrinology in the field and laboratory by Paul Licht have yielded similar results. The chapter on endocrinology in this volume not only fails to specify whether a particular finding was obtained in the laboratory or in the field but does not discuss the possibility that future laboratory research

should be complemented by field studies.

In the last few years considerable attention has been focused on the worldwide decline or extinction of amphibian populations, a problem the scope of which only became evident while the book was in preparation and that receives little attention in it. The environment of amphibians includes more than just heat, gases, water, and ions, and amphibians are now confronted with as yet unidentified environmental changes involving pH, heavy metals, pesticides, ultraviolet radiation, pathogens, or toxins that have recently exceeded their tolerance levels. Environmental physiologists need to join in efforts to identify the causes of amphibian extinctions and to try to reverse the trend. Additionally, new areas of study not represented in this book, such as immune function, need to be explored. Though some physiological ecologists may hesitate to become engaged in what appears to be "applied" research, the message is clear: the directions for future research detailed in this book may become impossible to pursue because few amphibians will be available for study.

Cynthia Carey

Department of Evolutionary, Population, and Organismal Biology,
University of Colorado,
Boulder, CO 80309

Books Received

Acoustic Resonance Scattering. Herbert Uberall, Ed. Gordon and Breach, Philadelphia, 1992. xviii, 341 pp., illus. \$78; to institutions, \$130. From a symposium, Washington, DC, May 1989.

Acquired Immune Deficiency Syndrome. David B. Weiner, Ed. Karger, New York, 1992. iv, 76 pp., illus. \$33.75. Reprinted from *Pathobiology*, vol. 60, no. 4 (1992).

Beastly Behaviors. What Makes Whales Whistle, Cranes Dance, Pandas Turn Somersaults, and Crocodiles Roar. A Watcher's Guide to How Animals Act and Why. Janine M. Benyus. Addison-Wesley, Reading, MA, 1992. x, 366 pp., illus. \$29.95.

Cardiology. The Evolution of the Science and the Art. Richard J. Bing. Harwood, Philadelphia, 1992. xxii, 319 pp., illus. Paper, \$16.

Dancing. The Pleasure, Power, and Art of Movement. Gerald Jonas. Abrams, New York, 1992. 256 pp., illus. \$45.

The Eagle's Quest. A Physicist's Search for Truth in the Heart of the Shamanic World. Fred Alan Wolf. Simon and Schuster, New York, 1992. 319 pp. Paper, \$12. Reprint, 1991 ed.

The Foundations of Metaphysics in Science. Errol E. Harris. Humanities, Atlantic Highlands, NJ, 1993. 524 pp. Paper, \$19.95. Humanities Paperback Library. Reprint, 1965 ed.

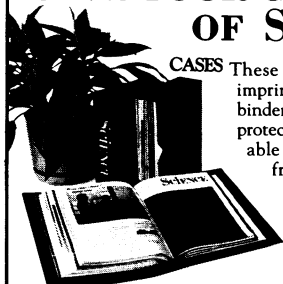
The General Pattern of the Scientific Method (SM-14). Norman W. Edmund. Published by the author, 407 NE 3rd Ave., Ft. Lauderdale, FL, 1992. ii, 50 pp., illus. \$14.95; paper, \$3.

High Energy Astronomy. P. J. Willcox. Carlton, New York, 1992. xii, 275 pp., illus. \$17.95. Reprint, 1990 ed.

Insect Pathology. Yoshinori Tanada and Harry K. Kaya. Academic Press, San Diego, CA, 1993. xii, 666 pp., illus. \$129.

Kinetic Theory and Irreversible Thermodynamics. Byung Chan Eu. Wiley, New York, 1992. xx, 732 pp., illus. \$95.

SAVE YOUR COPIES OF SCIENCE



CASES These custom-made, imprinted cases and binders are ideal for protecting your valuable Science copies from damage.

Each binder or case holds one volume of Science, or 13 weekly issues

— order four binders

BINDER or cases to hold a complete year of issues. Constructed from reinforced board and covered with durable, leather-like red material and stamped in gold, the cases are V-notched for easy access; binders have a special spring mechanism to hold individual rods which easily snap in.

Cases	1 - \$7.95	2 - \$14.95	4 - \$27.95
Binders	1 - \$9.95	2 - \$18.95	4 - \$35.95

SCIENCE

Jesse Jones Industries, Dept. SCE
499 East Erie Ave., Philadelphia, PA 19134

Enclosed is \$_____ for _____ Cases;
_____ Binders. Add \$1 per case/binder for postage & handling. Outside USA \$2.50 per case/binder (US funds only). PA residents add 7% sales tax.

Print Name _____

Address _____

No P.O. Box Numbers Please

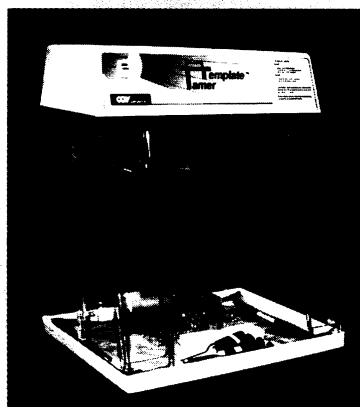
City _____

State/Zip _____

CHARGE ORDERS (Minimum \$15): Am Ex, Visa, MC, DC accepted. Send card name, #, Exp. date.

CALL TOLL FREE 7 days, 24 hours 1-800-825-6690

— SATISFACTION GUARANTEED —



Template Tamer

- ✓ Controls PCR Contamination
- ✓ 32P Irradiation Protection
- ✓ Cycle Sequencing Set Up

1 2 3 4 5 6



Inactivation of Target DNA by UV Irradiation

10ng of a 1.5 kb fragment was exposed to UV irradiation for 0, 10, 20 and 30 minutes (lanes 5, 1, 2, 3), then amplified for 30 cycles. Lane 4 shows primer in absence of other reaction components. Lane 6 is lambda DNA cleaved with Hind III.

DNA sequences often contaminate reagents, primers, equipment, tubes and tips commonly used for PCR reactions, resulting in needless lost time and expense.

With Template Tamer, 30 minutes or less of UV irradiation can prevent unwanted PCR amplification. The combination of unique reflectors and powerful overhead UV lights introduces pyrimidine dimers and other photodamage into contaminating target sequences, thus eliminating falsely primed products.

The completely enclosed work area provides a clean, isolated environment for setting up reactions and for uninterrupted irradiation.

When preparing CYCLE SEQUENCING REACTIONS, the thick front panel acts as an effective protective shield for handling 32P labeled components.

PCR is covered by patents issued to Cetus Corporation



CORPORATION

14500 COY Dr., Grass Lake, MI 49240
(313) 475-2200 FAX (313) 475-1846

Circle No. 30 on Readers' Service Card