LETTERS


EDITORIAL

A Biological Survey of the United States: M. Kosztarab

ARTICLES

Dynamics of Molecular Motion at Single-Crystal Surfaces: J. C. Tully and M. J. Cardillo

A Replication Cycle for Viroids and Other Small Infectious RNA's: A. D. Branch and H. D. Robertson

Infinite Resources: The Ultimate Strategy: H. E. Goeller and A. Zucker

NEWS AND COMMENT

America Dominates in Biotechnology

EDB Contamination Kindles Federal Action

Florida Flip-Flops on EDB

Briefing: University of California Sees Budget Turnaround; Bamboo Loss Endangers Giant Pandas in China; New Entry Among Patrons of Medical Research

Lab Animal Welfare Issue Gathers Momentum

RESEARCH NEWS

Globin Gene Studies Create a Puzzle

Sea-Floor Spreading Is Not So Variable

First Look Inside Adenoviruses

A Renewed Interest in Immobilized Enzymes
How Do You Immobilize an Enzyme? .................................................. 475
Forecasting of Severe Storms Improved ........................................... 477

ASSOCIATION AFFAIRS 1983 Annual Report of the Executive Officer: W. D. Carey .............................. 478

BOOKREVIEWS Chicago Lawyers, reviewed by R. D. Schwartz; A Feeling for the Organism, J. R. Laughnan; Great Geological Controversies, R. H. Dott, Jr.; Eddies in Marine Science, W. J. Schmitz, Jr.; Books Received ........................................ 481

REPORTS Lignin Signature of Aquatic Humic Substances: J. R. Ertel, J. I. Hedges, E. M. Perdue .................................................... 485
Human Proto-Oncogene Nucleotide Sequences Corresponding to the Transforming Region of Simian Sarcoma Virus: S. F. Josephs et al. ................. 487
Selenium Deficiency in Cattle Associated with Heinz Bodies and Anemia: J. G. Morris et al. .......................................................... 491
Inheritance of Functional Foreign Genes in Plants: R. B. Horsch et al. .......... 496
Dependence of Thymus Development on Derivatives of the Neural Crest: D. E. Bockman and M. L. Kirby ................................................. 498
The Edge Cell, a Possible Intraspinal Mechanoreceptor: S. Grillner, T. Williams, P.-A. Lagerbäck ...................................................... 500
Kainic Acid Induces Sprouting of Retinal Neurons: L. Peichl and J. Bolz .......... 503
Technical Comments: All Variegated Plants Are Not Chimeras: M. Marceltrojano and R. N. Stewart; R. E. Norris, R. H. Smith, K. C. Vaughn ......................... 505

COVER Neurons (A-type horizontal cells) in a cat retina showing morphological changes after treatment with the neurotoxin kainic acid. A toxin concentration gradient results in a sharp boundary separating a region of normal horizontal cell density from a region of total cell loss (top). The surviving cells, exposed to a sublethal kainic acid concentration, have contracted processes and therefore reduced overlap. In addition, they grow new processes into inadequate retinal layers. The field is 800 by 600 micrometers. See page 503. [Leo Peichl and Jürgen Bolz, Max-Planck-Institut für Hirnforschung, Frankfurt, West Germany]