



About Our Cover

These King Penguins (*Aptenodytes patagonicus*) were photographed at the Salisbury Plain on the northwest end of South Georgia Island, the largest land mass in the South Atlantic (3528 km²), located just beyond the continent of Antarctica and east of the Falkland Islands. One of the most interesting aspects of Arctic and Antarctic natural history is the balance between number of species and number of individuals. In the tropics, one finds hundreds of species and fewer individuals of each. However, this relationship changes as one moves to the planet's extreme north or south. The King Penguin is the second largest of these flightless birds, exceeded only by the Emperor Penguin. Adult King Penguins are 95 cm tall and weigh about 12 kg. They eat fish and small amounts of squid and crustaceans. They lay one egg every other year, which hatches after about 54 days of incubation by the male. Once the egg hatches, the female initially returns to the sea for about one month to feed while the male takes care of the youngster, but soon the chick is fed by both parents. At this time it joins a crèche of other hatchlings for warmth and protection. This digital image was recorded with a Nikon D300 camera using an 18–200 mm zoom lens set for 60 mm at f9 1/200th second at ISO 320 with VR image stabilizing technology. The photographer is William F. McComas, the Parks Family Professor of Science Education at the University of Arkansas (mccomas@uark.edu) and our new *ABT* editor.

Contents

Feature Article

- Using a Cyclical Diagram to Visualize the Events of the Ovulatory Menstrual Cycle**
Teaching menstrual cycle with a holistic diagram
Ivan Shun Ho, Navneet K. Parmar 12

Articles

- Preparing Future Biology Faculty: An Advanced Professional Development Program for Graduate Students**
How do we best prepare future biology professors?
Stephanie A. Lockwood, Amanda J. Miller, Meghan M. Cromie 17

- The Jealousy of Scientific Men**
Priority by publication date makes science a competitive field
Joseph A. Walsh 23



- A New Species of Science Education: Harnessing the Power of Interactive Technology to Teach Laboratory Science**
Use a mobile interactive television unit to implement the lab component of genetics class
Christopher Reddy 28



Research on Learning

- Life Science Literacy of an Undergraduate Population**
Exploring the current state of scientific literacy of undergraduates enrolled in a freshman-level biology course
Stephanie R. Medina, Evan Ortlieb, Sandra Metoyer 34

- An Economical Approach to Teaching Cadaver Anatomy: A 10-Year Retrospective**
Why you don't have to spend a fortune to teach anatomy
Jeff S. Simpson 42
Available online at <http://www.nabt.org/websites/institution/index.php?p=730>

Inquiry & Investigation

- Students Dig Deep in the Mystery Soil Lab: A Playful, Inquiry-Based Soil Laboratory Project**
Make soil interesting and exciting
Rachel K. Thiet 47

How To Do It

- “Chromoseratops meiosus”: A Simple, Two-Phase Exercise to Represent the Connection between Meiosis & Increased Genetic Diversity**
Make abstract ideas – crossing-over, random alignment of chromosomes, and random fertilization – more concrete
Dorit Eliyahu 53

Departments

- From the Editor** • Letter from the Editor • William F McComas 4
Letter to the Editor • “What Is Life?” Revisited • William D. Stansfield 5
Editorial • Thank You, *ABT* Reviewers • William Leonard, Kathleen Westrich 8
Neurobiology of Learning • “Just Go To Sleep!” Sleep & Learning • Jenny L. Williamson, Helen T. Buckland, Susanna L. Cunningham 57
Book Reviews • Elizabeth Cowles, Department Editor 61
Classroom Media Reviews • Roberta Batorsky, Department Editor 65