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RoyalAlbertaMuseum.ca

INSIDE THE MUSEUM



Only a fraction of the work conducted by Museum staff may be seen in the public galleries. Take a look at many of the interesting things that happen behind the scenes at your Museum!

Our Newest Acquisition

The Royal Alberta Museum recently acquired a fairly substantial and valuable collection of butterflies. The Roman Scholdra butterfly collection was donated to the Museum by Dr. Joanne Scholdra after the untimely death of her husband, Roman. Roman was an avid amateur butterfly collector who spent more than 30 years collecting butterflies and other insects in southern Alberta, Saskatchewan and British Columbia. The collection represents more than 3,000 specimens and is particularly valuable because each specimen has been carefully mounted, precisely documented, and protected from ultraviolet radiation and Dermestid Beetles.

From a scientific standpoint, this collection has the potential to be extremely valuable. For example, Roman may have unknowingly collected a wealth of population data for some of Alberta's rare and threatened species during his more than 30 years of collecting, and the dataset may even reveal declines in some of the more common species. Such information would be invaluable to conservation efforts aimed at protecting Alberta's butterfly diversity. Intensive study of this collection will take place over the next several months.

Mammalogy Research

Dr. David Gummer, Curator of Mammalogy, received a \$50,000 grant from the federal Interdepartmental Recovery Fund for a project involving habitat restoration and monitoring for Ord's Kangaroo Rats. David is one of the team leads for this project, administered by Canadian Forces Base Suffield, and includes collaborators from the Geological Survey of Canada, University of Calgary and Alberta Sustainable Resource Development.



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David is also working with University of Calgary researchers on a joint research project called "Population and habitat requirements of black-tailed prairie dogs to support re-introductions of black-footed ferrets in Canada". This project is supported by a \$24,560 grant from the Endangered Species Recovery Fund, administered by World Wildlife Fund Canada.

NEW ORNITHOLOGY PUBLICATION

In a paper published in the July issue of *Comparative Biochemistry and Physiology, Part B* (Volume 147, pages 402-411), Dr. Jocelyn Hudon, Curator of Ornithology at the Royal Alberta Museum, uncovers a novel biochemical pathway used by birds to produce red plumages. The study was done in collaboration with colleagues in the U.S. (now Brazil) and Italy.

The finding is based on the description of the carotenoid pigments found in a rare colour variant of a small songbird endemic to the Atlantic Forest of Brazil, the Pin-tailed Manakin, and those found in the feathers of normally pigmented males. The red pigment found in this species (rhodoxanthin) is known otherwise from only two South American red-cotingas, several fruit-doves of south-east Asia, and the Western Tanager, a bird species native to Alberta.

In all these instances, it had been assumed that the unusual carotenoid was obtained by the birds directly in their diets, with the pigment being much more widely distributed in plants than animals. The new results suggest that such diverse and unrelated birds manufacture the red pigment from common yellow pigments present in birds' diets.

Interestingly, a more common pathway of production of red carotenoids used, for example, by flamingos and the Northern Cardinal to colour their plumage, is found in relatives of the rhodoxanthin-bearing birds, raising the issue as to why the latter need a novel biochemical pathway to produce plumage colours already found in relatives.