

**CU MUSEUM
ANNUAL REPORT
FISCAL 2002**

Mission Statement: The University of Colorado Museum promotes excellence in research in the natural sciences and anthropology, provides academic training for graduate students in the Museum and Field Studies Graduate program, and provides extra-classroom educational opportunities to CU students, faculty and the general public through educational programming.

Priorities:

The Museum's priorities are: to support and encourage excellence in scholarly research in natural history; to provide an archive of natural history objects for the world-wide community of scholarship; to provide excellent graduate training in museum and field studies, and to provide broad access to our institutional resources to the citizens of Colorado.

Accomplishments:

Dr. Thomas Ranker served as interim director during Dr. Linda Cordell's sabbatical. The Museum moved approximately 3 million objects into the newly renovated Bruce Curtis Building. The Bruce Curtis Building was dedicated and opened to the public on April 5th, 2002 at the inauguration of the Museum's Centennial Exhibition and Centennial Celebration. At the same time, the Museum announced the establishment of the Hugo G. Rodeck Director's Endowment as the first museum-wide endowment in the Museum's history. Ms. Tara Hess was hired as the Museum's first database/web manager and informatics professional. Dr. James Dixon joined the Museum faculty as Curator of Museum and Field Studies. Dr. Dixon was awarded tenure in the Department of Anthropology. Dr. Stephen Lekson, Curator of Anthropology, was promoted to the rank of Associate Professor, with tenure in the Department of Anthropology. Ten graduate students and two certificate students were admitted into the Museum and Field Studies Program. Nine students were awarded M.S. degrees and one student was awarded a certificate in Museum and Field Studies.

CU Museum Faculty and Staff

Linda S. Cordell, Director
Thomas A. Ranker, Interim Director

Faculty

M. Deane Bowers, Curator Entomology, Prof., EPO Biology
Chin, Karen, Curator Paleontology, Asst. Prof., Geological Sciences
deQueiroz, Alan, Curator Vertebrate Zool, Asst. Prof., Natural History
E. James Dixon, Curator of Museum and Field Studies, Assoc. Prof., Anthropology
Robert Guralnick, Curator Invertebrate Zool, Asst. Prof., EPO Biology
J. A. Harris, Curator Emeritus Paleontology
Smith, Dena, Curator of Invertebrate Paleontology, Asst. Prof., Geological Sciences
Thomas Ranker, Curator Botany, Assoc. Prof., EPO Biology
Robinson, Peter, Curator Geol, Prof., Natural History
Weber, William, Curator Botany, Prof. Emeritus
Wu, Shi-Kuei, Curator Emeritus, Invertebrate Zoolgy

Collections Management Staff

Confer, Deborah, Collections Mgr, Anthropology
W. Eugene Hall, Collection Manager, Invertebrate Zoology
Tim Hogan, Collections Mgr, Botany
Rosanne Humphrey, Collections Mgr Zool
Nan Lederer, Collections Mgr, Botany
Paul Murphey, Collections Mgr, Vertebrate Paleo/Geol
Scott, Virginia, Collection Mgr, Entomology

Staff

David A. Bloom, , Assistant Director
Tiffany Brissette, Assistant to Director
John Corcoran, Security Desk
Charles Counter, Exhibits Coordinator
Kathy Freeman, Graduate Program Coordinator, M&FS Program
Jim S. H. Hakala, Education Coordinator
Karen Hebbel, Assistant to Director
Tara Hess, Informatics Coordinator
Carol Kliger, Building Coordinator
Bill Moats, Exhibits Tech
Susan Reinke, Administration
Lori Stott, Public Programs Coordinator

Museum Advisory Board 2001-2002

Steve Clarke	Jacqueline Sandblom
Leslie Durgin	Joslyn Schoemer
Carol Heepke	Nancy Sievers
Danielle Okin	Mark Sparn
Glenn Porzak	Jack Stoakes
Janet Robertson	Zita Weinshienk
Brenda Romero	Letitia Williams
Joe Romig	Ruth Wright

PAID STAFF

Classification	Type	Headcount	Calc FTE	Expenditure	%
<i>Academic--</i>					
	Tenure/Tenure-Track	10	9.5	578,279	
	Instructors	1	0.5	8,400	
	Graduate Assistants	14	7.8	157,316	
	Other				
	Subtotal	25	17.8	743,994	0.50
<i>Research--</i>					
	Research Faculty	4	2.6	34,525	
	GRA	4	2.6	27,291	
		8	5.2	61,816	0.04
<i>Professional Exempt--</i>		10	9.4	376,958	0.25
<i>Classified Staff--</i>		11	7.3	284,310	0.19
<i>Student Hourly--</i>		11	1.5	30,766	0.02
Totals		73	46.4	1,497,844	1.00

10/1/01

**FISCAL 2002
MUSEUM VISITORS**

Visitors to Collections:

Univ of Colorado
Non-CU Colorado residents
K-12
US, non-Colorado
Non-US
Total visitors

Visitors to the Collections							Total	
Anthro	Botany	Ento	Paleo	Zool	Total	Public	Museum	%
246	93	na	27	118	484	1,381	2,350	11%
81	138	73	17	34	343	9,218	9,903	47%
-	-	-	-	-	-	6,952	6,952	33%
36	18	1	1	7	63	1,825	1,951	9%
-	1	-	-	-	1	na	1	0%
363	250	74	45	159	891	19,376	21,158	100%
243	134	70	136	203	786		786	
na	na	4,868	na	na	4,868	na	4,868	

Info requests-phone, written
Website

Comments:

Visits to the collections were down in those sections involved in relocation from Hunter Science to the renovated Curtis Building, referred to as the Museum Collections Building, MCOL, effecting Entomology, Paleobiology, Zoology, and some Botany collections.

Due to variations in data collection, some categories of visitors have been derived from average rates for the collections overall. *Paleobiology data is for calendar year 2001.

PUBLIC TOURS, PROGRAMS, AND TEACHER WORKSHOPS

**Public Admissions By
Category**

Jul01-Dec01
Jan02-Jun02

			Staffed Tours		Non-Staffed		Other	Total
CU	Non CU	K-12	Tours	#Attend	Tours	#Attend		
552	4,065	1,204	51	1,169	19	368	920	8,278
829	5,153	1,123	58	1,941	43	1,150	905	11,101
1,381	9,218	2,327	109	3,110	62	1,518	1,825	19,379

Percent of Total
Non-CU Combined Total:

7%	48%	12%	16%	8%	9%	100%
				91%		

Public Programs

Jul01-Dec01
Jan02-Jun02

Programs	Attendance
14	1,740
13	1,192
27	2,932

Education Workshops

Jul01-Dec01
Jan02-Jun02

Teacher Workshops	Attendance
9	667
6	463
15	1,130

FISCAL 2002 PUBLIC ADMISSIONS AND PROGRAM DATA

Public Admissions Totals	Head Count	Average	Estimated Actual
Jul01-Dec01	7,420	7,358	8,278
Jan02-Jun02	10,093	10,196	11,101
Fiscal 2002	17,513	17,554	19,379

FISCAL 2002 COLLECTIONS VISITORS

Visitors to Collections:

Univ of Colorado
Non-CU Colorado residents
US, non-Colorado
Non-US
Total visitors

Info requests-phone, email, letter
Website

Anthropology	Botany	Entomology	Paleobiology*	Zoology	CU Museum	%
246	93	na	27	118	484	54%
81	138	73	17	34	343	38%
36	18	1	1	7	63	7%
-	1	-	-	-	1	0%
363	250	74	45	159	891	100%
243	134	70	136	203	786	
		4,868			4,868	

Comments:

Visits to the collections were down in those sections involved in relocation from Hunter Science to the renovated Curtis Building, referred to as the Museum Collections Building, MCOL.

Due to variations in data collection, some categories of visitors have been derived from average rates for the collections overall.

*Paleobiology data is for calendar year 2001.

MUSEUM COLLECTIONS USAGE

Loans (#loans)	Anthropology	Botany	Entomology	Paleobiology*	Zoology	CU Museum
To CU faculty/students	8	7	3	4	5	27
To other institutions	10	27	7	22	24	90
Total loans	18	34	10	26	29	117
Specimens (#specimens)						
To CU faculty/students	487	27	5,950	na	3,110	9,574
To other institutions	64	1,008	737	na	1,116	2,925
Total specimens	551	1,035	6,687	na	4,226	12,499
Exchange						
# of exchanges sent		5		3		8
# of exchanges received		15				15
# of specimens sent		1,762				1,762
# of specimens received		2,603				2,603
Collection Growth						
Accessions(#specimens;or localities)	171	3,155	200	126	1,309	4,961
Gifts (# of specimens)	140	304	14,009		-	14,453
Deaccessions (# of specimens)	40	-	-		-	40
Specimen Database Entry (# records)	425	9,545	9,942	2,499	10,350	32,761
% of Target					73%	

SPONSORED RESEARCH

Awards

Principal Investigator	Museum Title	Granting Agency	Short title	\$Award (New)	FY02 (Cont)
Steve Lekson	Curator	NPS	Archeol. Inventory of Natural Bridges		19,000
Steve Lekson	Curator	NPS	Chaco: Synthesis of Change		221,843
Jim Dixon	Curator	CHS	Museum Plan Development:Lamb Spring	100,000	
Richard Wilshusen	Acting Cur.	BLM	Improvement of Anasazi Heritage Ctr.		12,000
Deborah Confer	Collection Mgr	BOR	Curation Standardization for BOR		35,000
Deborah Confer	Collection Mgr	BOR	Curation of Museum Coll.(supplemental)		6,000
Steve Lekson	Curator	GCAH	Visting Scholar	750	750
Thomas Ranker	Curator	NSF	J.Ott Geiger: Dissertation: Dryopteridaceae		9,991
Thomas Ranker	Curator	NSF	J.Ramp: Disrt'n: Vernal Pool Asteraceae		9,814
Thomas Ranker	Curator	GS-CRCW	Molecular Sys., Grammitidaceae	585	585
Dena Smith	Curator	CU-FA	Junior Faculty Development Award	12,000	
Robert Guralnick	Curator	CDNOR	Invertebrate Database: Mollusks	7,000	
Robert Guralnick	Curator	NSF	MaPSTedi: Bioinformatics; DMNH, DBG	617,000	
Robert Guralnick	Curator	CU-FA	Junior Faculty Development Award	5,000	
Total New Grants and Awards:		7		742,335	
Current Grant/Award Funds Total:					314,983

Proposals Submitted

Principal Investigator	Submitted Through:	Source	Short title	Amount	Status
Thomas Ranker, Curator w/ Guralnick, Bloom, Counter, Hakala	Museum	NSF	Biodiversity Science Education Project	2,034,150	Declined 11/02
James Dixon, Curator, Thomas Manley	INSTAAR	NSF	Archeology of Alaska Glaciers and Snowfields	296,610	Funded 8/14/02
Thomas Ranker, Curator and Jenn Ott Geiger	Museum	NSF	Origin of the Hawaiian Pteridohyte Flora	416,950	Declined 11/02
Thomas Ranker, Curator and Jenn Ott Geiger	EPOB	AAAS	International Collaboration in New Zealand	7,396	No Action
Thomas Ranker, Curator and Jenn Ott Geiger	EPOB	AAAS	International Collaboration in New Zealand	7,396	Declined 8/02
Paola Villa, Assoc.Cur.	Museum	NSF	Archeology of Klasies River Main Site	249,291	Declined 5/02
Total Proposals Fiscal 2002		5		3,011,793	

**CU MUSEUM FACULTY RESEARCH,
TEACHING AND SERVICE**

Number of:

Scholarly Publications

Publications Referencing Collection

Academic Courses Taught

Public Lectures/Classes/Invited/Professional
Seminars/Educational & Research Field Trips

Students Advised/Mentored

Professional Conferences Attended

Staffed Gallery or CollectionsTours

Media, News

Anthro	Botany	Ento	Faleo	Zool	Public	Museum
13	8	7	1	13	1	43
na	12	0	0	0	0	12
2	1	3	3	5	3	17
11	2	13	16	9	27	78
						0
5	7	13	6	9	11	51
5	5	11	3	6	9	39
			5		109	114
			5		5	10

na~not available

CU Museum

Fiscal 2002

Expenditures by Source of Funds

General Fund (State appropriated)	1,716,134
Auxiliary Fund	37,081
Plant Fund	(1,939)
Restricted Fund	
Contracts and Grants	195,520
Gifts and Endowments	66,723
Total Expenditures by Source of Funds	2,013,519

Expenditures by Cost Category

Faculty	
Regular	586,679
All Other	(0)
PRA/RA	34,525
Student Faculty	184,607
Professional Exempt Staff	376,958
Classified Staff	284,310
Hourly	30,766
Benefits	6,051
Subtotal Personnel	1,503,895
General Operating	393,904
Tuition Remission and Scholarships	46,158
F&A (ICR)	33,861
Fixed Assets	96,209
Net Transfers	(60,507)
Subtotal Operating Support	509,624
Total Expenditures by Cost Category	2,013,519

Capital Expenditure: Bruce Curtis Building (MCOL) Renovation (2000-2002)

Gifts and Pledges	3,968,235
State of Colorado Match	2,044,243
Total Project	6,012,478

CU Foundation Museum Endowments and Current Funds

Endowment Principal	
Student Scholarships and Fellowships	502,824
Research	54,871
Other Restricted	633,617
New: Hugo Rodeck Director's Discretionary	37,600
Total Endowment Principal	1,228,912
Development, Membership, and New Gifts	17,300
Endowment Earnings	99,295
CU Foundation Balances	116,595

Museum and Field Studies Graduate Program

Museum and Field Studies offers graduate training leading to the MS degree in Museology, particularly for academic disciplines conducting "field" research. Masters degrees in museum studies are the necessary professional certification for museum careers in collections management, education, public programs, and administration. Museum and Field Studies is cross-disciplinary: students are trained in Museology and in their chosen academic specialty (zoology, paleontology, anthropology, etc.). The Program also provides quality and competitive graduate training to students pursuing advanced degrees in other academic disciplines through its certificate program. Twenty-three students were enrolled in the Program for the fiscal period June 30, 2001- July 1, 2002, 21 graduate students and 2 certificate students.

Staff: E. James Dixon, Ph.D., Curator (75%, 9 mos).
Ms. Kathleen Freeman, Coordinator (50%, 12 mos).
Mr. David Cain, Graduate Assistant (50%, 12 mos).

Admissions: The Program received 36 applications from all regions of the US and one foreign country. Ten graduate students and two certificate students were admitted to the Program for academic year 2002-2003. The cognate disciplines of the incoming class include: Anthropology (3), Education (4), Zoology (2), Exhibits (1), and History (2).

Graduations: During the past fiscal year nine students were awarded M.S. degrees and one student received a Professional Certificate in Museum Studies. One graduated in the fall 2001, 7 in spring 2002, 2 in the summer 2002, and the one Professional Certificate was awarded in the spring 2002.

Theses and Projects, Academic Year 2001-02:

David Cain, *An Analysis of Three American Indian Archeofaunal Assemblages from the Cañada Alamosa, New Mexico.*

Dolly Crawford, *Evaluation of Character Displacement in Two Shrew Species Using Geometric Morphometrics and GIS and Patterns of Morphometric Variation in the genus Nasua Using Geometric Morphometrics.*

Wendy Cunningham, *Family Guide for the Discovery Corner*

Celia Curtis, *Revealing Our Routes: Women of Boulder County.*

Mary Damm, *Controls of Alpine Vascular Plant Species Diversity.*

Sue Fonda, *Exhibit Planning Workbook for Collage Children's Museum, Boulder, CO*

Julie Marino, *The Role of Art Classes in a Natural History Museum.*

Jaime Petersen, *On-line Orientation to the CU Museum.*

Jennifer Rose, *Remedial and Summative Evaluation of the Denver Art Museum Audio Tour.*

Heidi Schutz, *Shape, Morphology, and Function in Mustelid Locomotion.*

Melissa Stoltz, *The Collections of Anna O. Shepard: A Collection Strategy and User's Guide.*

Courses Taught:

Fall 2001

		<u>Instructor(s)</u>
MUSM 4011/5011	Intro to Museum Studies	Lekson/Dixon
MUSM 5041	Museum Administration	Stott
MUSM 5051	Collections Management	Bowers
MUSM 5900	(Geo) Independent Study	Smith
MUSM 5916	Entomology Practicum	Smith/Bowers
MUSM 5917	Educ. Practicum	Hakala

Spring 2002

		<u>Instructor</u>
MUSM 5030	Museum Education	Hakala
MUSM 5900	Independent Study	Hakala
MUSM 6110	Conservation	Southward
MUSM 5912	Anthropology Practicum	Confer
MUSM 5914	Geology Practicum	Robinson
MUSM 5917	Education Practicum	Hakala

Maymester 2002 Courses

		<u>Instructors</u>
MUSM 4011/5011	Intro to Museum Studies	Hakala

New course development:

MUSU 5494. *Field Research: Basic Methods and New Technologies*, developed by Dr. Paul Murphey. This summer course offers a wide variety of field methods in disciplines specific to natural history museums, with field exercises in zoology, archeology, paleontology, geology, botany and entomology. Emphasis is placed on the collection and analysis of spatial and geographic data.

MUSM 5061. *Introduction to Scientific Illustration*, developed by Dr. Dena Smith. Introduction to scientific illustration is intended for students with little art background. The course focuses on accurate rendering of scientific subjects for publication and public display. The course begins with basic drawing skills and sharpening of visual perception. Students progress to be able to produce realistic renderings of subjects. Students will be exposed to a variety of black and white and color techniques and the standards for presenting illustrations for a variety of audiences. The course concludes with computer illustration tools and techniques. This class will be offered for the first time in the Fall 2002.

Collie Fund: Guidelines were developed for the Collie Fund during the 2001-02 academic year defining the purpose, use, qualifications, application procedures, funding levels, and deadlines for Collie Fund applications. Four students applied for and received

awards from the Museum's Collie Fund. Celia Curtis to attend AAM meeting in Dallas where she participated in the Marketplace of Ideas where she submitted her final master's project. She also assisted her advisor, Jim Hakala with his presentation on the WIN-WIN (Wonders in Nature, Wonders in Neighborhoods) Program at the Conference. Heidi Quist received support to attend AAM meeting in Dallas for the purpose of advancing her academic and professional development by attending sessions and professional networking. Joe Daniel to assist in the completion of his research project including biology and investigating the role of microorganisms in fossilization of bone using as scanning electron microscope (SEM). Sue Fonda to provide with means in completing her "What Goes Inside Outside" project at Collage Children's Museum. Her research included obtaining information about the programs and exhibits to determine their feasibility for Collage's future long-range plans.

Program Promotion: CU's office of University Communications Marketing provided expertise, personnel, and \$2,438 to implement a one time only, one-year, marketing program for the M&FS graduate program. The Marketing Office defined a target audience of 1990-1995 alumni with undergraduate degrees in Anthropology, Geology, EPO Biology, Fine Arts, and History. The marketing program included two print ads in AVISO (the monthly newsletter of the American Association of Museums) coordinated with direct mailing to more than 4,000 individuals in the target group. In conjunction with the marketing program, M&FS staff updated its website, promotional literature, and assisted in the development and execution of the marketing effort.

The M&FS Graduate Program was also promoted through the University Museum's booth at the 2002 annual meeting of the American Association of Museums in Dallas, the distribution of promotional material at the 2001 annual meeting of the Geological Society of America in Boston, and the distribution of promotional material 2002 annual meeting of the Society for American Archaeology in Denver. The graduate program also received local and national television and print media recognition in conjunction with the summer field school excavation of a mammoth skull and tusk at the Lamb Spring Archaeological Preserve in Douglas County, Colorado.

Centennial Exhibit: The M&FS Program provided draft text, descriptive materials, and technical assistance for the CU Museum Centennial Exhibit.

Graduate Student Support: All M&FS graduate students received financial support during the 2001-2002 academic year. Ten first and second year students received funding as Graduate or Research Assistants (GAs and RAs). The remaining eleven received Enrollment Enhancement Fellowships (EEF) and/or University Fellowship Awards totaling \$31,952. In spring 2002 EEF funds were "rolled into" University Fellowship Awards, and the M&FS program applied for and received the maximum University Fellowship support available (\$38,653), an increase of \$6,701 over the previous year.

Alumni tracking: An ongoing effort during 2001-02 has been compilation of an address list and employment data for CU Museum and Field Studies Alumni. The purpose of this initiative is to maintain contact with former students, track alumni career development,

and create ties with alumni in order to facilitate professional opportunities for current M&FS students and help place graduates in professional positions.

American Association of Museums: Along with program coordinator, Kathy Freeman, six graduate students and one certificate student attended the annual meeting of the American Association of Museums held in Dallas, Texas in May. Ms. Freeman and six students staffed the CU Museum booth, promoting the Museum and its programs. All students attended sessions pertinent to their particular areas of specialization. In addition, Ms. Celia Curtis co-managed poster session entitled “Market Place of Ideas” (sponsored by AAM’s Committee on Education - EDCOM) and Ms. Jennifer Rose presented her M.S. project “*Remedial and Summative Evaluation of the Denver Art Museum Audio Tour*” at AAM’s “Market Place of Ideas”.

**The Public Section
at the University of Colorado Museum**

Section Mission:

The mission of the Public Section is to contribute to knowledge of nature and humanity by providing meaningful and memorable experiences that encourage discovery, exploration, and fun.

Goals of the Public Section:

- To provide universal access to the Museum's resources in collections, exhibitions, research, education, and public programs.
- To translate and communicate research from the Museum and the university to K-12 students and the general public.
- To provide outreach opportunities for CU faculty and staff.
- To encourage and facilitate scientific, literary, and cultural literacy and a joy for life-long learning.

Public Section Accomplishments:

- The Public Section completed the installation of the CU Museum Centennial Exhibition, the largest exhibit developed by the Museum in more than ten years.
- A 2.3 million dollar grant was submitted to the National Science Foundation for the Biodiversity Science Education Project and the Museum's Biology Hall Renovation.
- The Museum welcomed 600 visitors to the annual Halloween celebration, Museum in the Dark – a 60% increase over the previous year.
- Dr. Anna Roosevelt, Curator of Anthropology at The Field Museum and Professor of Anthropology at the University of Illinois at Chicago, kicked-off the Museum's year-long Centennial Lecture Series with a guest lecture in honor of the opening of the new museum collections building, the Bruce Curtis Building.
- Discover your Treasures, Discover your World, Spring 2002 Family Day, was a new and highly successful event which attracted 400 people – a 122% increase over the previous year.
- A first-ever professional membership campaign was carried out in the spring of 2002 which resulted in a 12% increase in Museum membership.
- As Chair of the American Association of Museum's Task Force on Best Practices in Museum Education, James Hakala and the AAM's Standing Professional Committee on Education published, *Excellence in Practice: Museum Education standards and Principles*.

Public Section Personnel

Staff:

David Bloom, Assistant Director
Sallee Bruhwiler, Building Security
John Corcoran, Building Security
Charles Counter, Exhibits Coordinator
James Hakala, Education Coordinator
Catherine Jacks, Building Security
Carol Kliger, Building Coordinator
William Moats, Exhibits Technician
Hope Steffens-Nett, Building Security
Lori Stott, Public Programs and Membership Coordinator

Chris Adams, Exhibits Work-study
Noah Bates, Exhibits Work-study
Krista Blanckaert, Public Programs Work-study
Celia Curtis, Education Graduate Assistant
Michael Day, Security Work-study
Carmen deJesus, Security Work-study
Carmen Evanson, Security Work-study
Ethan Ittner, Security Work-study
Jaime Petersen, Exhibits Graduate Assistant
Kathryn Quanbeck, Security Work-study
Heidi Quist, Public Programs Graduate Assistant
Will Roberts, Exhibits Graduate Assistant (Summer)

Volunteers:

Estimated hours worked by Public Section Volunteers: 3116 hrs / 1.50 FTE

Exhibits:

Kris King	Barbara Romig	Deane Bowers
Heidi Shultz	Melisa Stoltz	Will Roberts
Rich Wilshusen	Celia Curtis	Jaime Petersen
Carol Kliger	Lori Stott	Helen King
David Bloom	Chris Artem	

Museum Docents:

Alan Gingrich	Danielle Okin	Helen King	Mary Coleman
Alice Weiss	David Bloom	Jennifer Gaspers	Molly House
Amy Moe	David DeFord	Jerry Golden	Dulcie Harris
Breanne Goldman	Dolly Crawford	John Koshy	Emily King
Cathy Regan	Wendy Cunningham	Kris King	Celia Curtis

Rugs, Bugs & Bones Volunteers:

Dave Alquist	Judy Clark	Barbara Diehl
Kathy Donnel	Leslie Durgin	Judith Frazier
Randall Nishiyama	Danielle Okin	Miriam Paisner
Polly Parish	Jan Robertson	Jackie Sandblom
Nancy Sievers	Zita Weinschienk	Rita Yaroush.

Special Thanks For Service To The Public Section To:

Kris, Emily, and Helen King
Marty Ring
Morey Stinson
Friends of the Museum
Brian Bardwell, Field Art Services
Jeff Ferguson
Friends of the Museum

Public Section Activities and Attendance

Estimated Actual Public Admissions: 19,379 (based on head count)

Education:

Number of Tours: 172

K-12 Student attendance on tours: 4629

Tours Provided:

- The First Coloradoans
- Paleo-Detectives
- Highlights of the CU Museum
- Tours for Scouts
- Weaving of the Navajo
- Dinosaur Discoveries
- Colorado Wildlife Discoveries
- Perfectly Suited for Colorado
- Work in a Museum
- Stories in Stone
- Self-guided Tours

Discovery Kit Rentals: 32

School Districts Utilizing Discovery Kits:

Boulder Valley School District
Jefferson County Public Schools
Mesa County Valley School District
St. Vrain Valley School District

Discovery Kits Provided:

- The Bat Box
- The Bug Box
- Rocks From Space
- Owls in the Food Chain
- Navajo Weaving
- Dinosaurs
- Raptor Adaptations
- Excavations at Rock Creek
-

Workshops and On-Site Presentations:

Date	Program	Attendance
2001 Jul 7, 14, 21, 28	Saturday Summer Series programs	61
Jul 13	Dino Discoveries program, World of Wonders Children's Museum	54
Aug 6	Wonders in Nature Wonders in Neighborhoods Teacher Expo, Denver Zoo	96
Sept 5	CU Freshman Student Carnival	235
Sept 17	University Women's Club	87
Oct 14	Adventures in Natural History Family Day	75
Oct 17	Teachers Night at CU	32
Nov 3	Making the Most of Museums: Object-based Learning for Teachers teacher workshop	15
Nov 17	Students Dig the Past: Archaeology in the Classroom Teacher Workshop, co-sponsored by the American Schools for Oriental Research	12
2002 Apr 13	Making the Most of Museums: Object-based Learning for Teachers Teacher Workshop	13
Apr 28	Ask the Expert/Adventures in Natural History Family Day	380
Jun 9	What the Dang Heck is That Thing!?! , CU	5

	Museum Centennial Lecture Series	
Jun 18	How to Visit A Museum, Thornton Rotary Club	27
Jun 19	Highlights Tour, CU Institute Administrators	16

Exhibits:

Exhibit openings:

- Pole to Pole: The Arctic and Antarctic; Nov 1, 2001.
- Earl Morris Anthropology Hall Renovation; December 1, 2001.
- CU Museum Centennial; April 1, 2002.
- Imagining Nature: Photography by Abe Ordovery; February 15, 2002.

Exhibit closings:

- Stories in Stone, Pueblitos of Dinetah; September 30, 2001.
- Pole to Pole: The Arctic and Antarctic; March 1, 2002.
- Open Space for a New Millennium, Jack Ekin; February 8, 2002.

Membership: 210

Public Programs:

Number of Public Programs: 25

Date	Program	Presenter	Attendance
2001 July 17	Wildflower Walk	Mary Damm, MFS Student, Botany	28
Aug 3	Bug Safari	Steve Armstead, Ranger, Boulder Mountain Parks and Open Space	30
Sept 18	Ceremonial Feasting in Arenal Area/AIA	Payson Sheets, Professor of Anthropology, UCB	50
Oct 11	Colorado/Wyoming Junior Academy of Sciences		125
Oct 12	MCOL Open House		55
Oct 16	Excavations in Arkadia/AIA	E. Hector Williams, Professor, University of British Columbia	30
Oct 26	Museum in the Dark		600
Oct 30	Eleusinian Mysteries/AIA	Erhard Fredricksmeier, Professor of Writing and Rhetoric, UCB	23
Nov 1	Annual Rug Auction		150
Nov 10	Navajo Skies-planetarium show in	John Stocke, Professor of	170

	honor of Romigs	Astro/Planetary Science, UCB	
Nov 14	Virgin Territory-Antarctica	Dan Stone, Senior Hydrogeologist, Geomega, Inc.	175
Dec 4	Paintings Conservation and Restoration/AIA	Lisa Capano, Painting Conservator	24
Dec 4	Holiday Party		220
2002 Jan 22	Archaeology on Ice	E. James Dixon, Curator of Museum and Field Studies, Professor of Anthropology, UCB	120
Feb 5	King of Ugarit	Robert C. Bigelow, Denver Museum of Nature and Science	40
Feb 8	45 Years In and Out of Antarctica	John Behrend, Research Scientist, Institute of Arctic and Alpine Research	75
March 19	Bactrian and Indo-Greek Dynasties/AIA	William Spengler, South Asian Historian and Numismatist	25
April 5	MCOL Dedication Ceremony		300

(Public Programs continued)

Date	Program	Presenter	Attendance
April 5	Centennial Lecture Series (CLS)- Centennial Opening Gala Event	Anna Roosevelt, Curator of Anthropology, The Field Museum, Professor of Anthropology, University of Illinois at Chicago	145
April 16	Ancient Cities/AIA	Jonathan Kenoyer, Professor, University of Wisconsin, Madison	45
April 20	4 th Annual Fundraiser: Rugs, Bugs & Bones		130
May 1	CLS-Accidental Discovery, Earl Morris Basketmaker	Linda Cordell, Director of the CU Museum, Professor of Anthropology, UCB	60
May 15	Annual Tree Walk	Alan Nelson, Facilities Management, UCB	105
June 2	CLS: What the Dang Heck is That Thing?	Jim Hakala, Education Coordinator, CU Museum	4
June 13	Wildflower Walk	Tim Hogan, Botany Collection Manager, CU	38

		Museum	
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Museum Hall Rentals:

Rentals: 31 (including 16 co-sponsored events)

Community Collaborations and Partnerships:

Boulder County Parks and Open Space,
 Larry Colbenson and Cole Early
 National Wildlife Federation
 Alpha Phi Omega
 American Schools for Oriental Research,
 Carolyn Rivers
 Oriental Institute Museum (Chicago),
 Carole Krucoff
 Project W.O.L.F.
 Ben Leroux
 Boulder Public Library

Boulder Mountain Parks and Open Space
 Wild Bear Center for Nature Discovery
 Toh-Atin Gallery
 J.M. Cochran Enterprises, Inc.,
 Judith Cochran
 Birds of Prey Foundation
 Mr. Bones
 CU Heritage Center

FISCAL 2002 PUBLIC ADMISSIONS AND PROGRAM DATA

Public Admissions Totals	Head Count	Average	Estimated Actual
Jul01-Dec01	7,420	7,358	8,278
Jan02-Jun02	10,093	10,196	11,101
Fiscal 2002	17,513	17,554	19,379

Public Admissions By Category	CU	Non CU	K-12	Staffed Tours		Non-Staffed Tours		Other	Total Attendance
				Tours	#Attend	Tours	#Attend		
Jul01-Dec01	552	4,065	1,204	51	1,169	19	368	920	8,278
Jan02-Jun02	829	5,153	1,123	58	1,941	43	1,150	905	11,101
	1,381	9,218	2,327	109	3,110	62	1,518	1,825	19,379
Percent of Total Non-CU Combined Total:	7%	48%	12%		16%		8%	9%	100%
							83%		

Public Programs	Programs	Attendance
Jul01-Dec01	14	1,740
Jan02-Jun02	13	1,192
	27	2,932

Education Workshops	Teacher Workshops	Attendance
Jul01-Dec01	9	667
Jan02-Jun02	6	463
	15	1,130

Public Section Grant Report

Status: Received

Title: CU Museum Centennial Opening Celebration

Source: Graduate Committee on the Arts and Humanities

Amount: \$3000

PI: David Bloom, Lori Stott, (Jim Dixon)

Description: Interdisciplinary discussion for graduate students and speaking event for Centennial exhibition opening with Dr. Anna Roosevelt.

Status: Received

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: President's Fund for the Humanities

Amount: \$5000, Received \$2000 for Roosevelt

PI: David Bloom, Lori Stott, (Tom Ranker)

Description: Two educational programs to enhance the Centennial exhibition and one speaking engagement by Dr. Anna Roosevelt.

Status: Denied

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: The Community Foundation Serving Boulder County

Amount: \$3000

PI: David Bloom, Charles Counter

Description: Centennial Exhibition support; photographic and archival elements.

Status: Denied

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: El Pomar Foundation EPYCS Program

Amount: \$1500

PI: David Bloom, James Hakala

Description: For a Centennial Discovery Cart (Requests sent to EPYCS participant schools Denver North High School and Fairview High School.)

Status: Denied

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: El Pomar Foundation EPYCS Program

Amount: \$1000

PI: David Bloom, James Hakala

Description: For Two Centennial Family Days (Requests sent to EPYCS participant schools Denver East High School, Denver West High School, and Alexander Dawson School.)

Status: Denied

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: CU-Boulder Outreach Committee

Amount: \$4825

PI: David Bloom, James Hakala, (Tom Ranker)

Description: Educational programming for the Centennial Exhibition.

(Grants continued)

Status: Pending

Title: Biodiversity Science Education Project (BiSEP)

Source: National Science Foundation

Amount: \$2,034,150

PI: Thomas Ranker, David Bloom, Charles Counter, Robert Guralnick, James Hakala

Description: Renovation of the Biology Hall into a Hall of Biodiversity Science, including three built-in educational programs.

Status: Received

Title: Science After School Program

Source: CU-Boulder Outreach Committee

Amount: \$4200, Received \$3000

PI: David Bloom, James Hakala, (Tom Ranker)

Description: After school science program for minority elementary school girls.

Status: Submitted (Giving Program Suspended)

Title: CU Museum Centennial: A Window to the Past, A Door to the Future

Source: Boulder Daily Camera

Amount: Promotional support equivalent to approximately \$1500

PI: David Bloom, Lori Stott

Description: Media sponsorship for the Centennial Exhibition and related programs.

Status: Received

Title: Sand Island: Time Etched in Stone

Source: President's Fund for the Humanities

Amount: \$3500

PI: David Bloom, Charles Counter, (Steve Lekson)

Description: For the development and installation of the Sand Island traveling exhibition.

Public Section Professional Activities

University Courses and Lectures:

David Bloom:

- Museum Administration (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, Fall 2001.
- Introduction to Museum Studies (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2001.
- Introduction to Museum Studies (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2002.
- Making the Most of Museums: Object-based Learning for Teachers teacher workshop (Guest Lecturer), 2002.

Charles Counter:

- Introduction to Museum Studies (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2002.

James Hakala:

- Docent/Volunteer Educator Training (Instructor), University of Colorado Museum of Natural History, 2001.
- Introduction to Museum Studies (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2001.
- Museum Education (Instructor), Museum & Field Studies Graduate Program, University of Colorado, 2002.
- Introduction to Museum Studies (Instructor), Museum & Field Studies Graduate Program, University of Colorado, 2002.

Lori Stott:

- Museum Administration (Instructor), Museum & Field Studies Graduate Program, University of Colorado, Fall 2001.
- Introduction to Museum Studies (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2001.
- Museum Education (Guest Lecturer), Museum & Field Studies Graduate Program, University of Colorado, 2002.

Non-University Presentations:

James Hakala:

- Mountain-Plains Museum Association Annual Meeting. Mountain-Plains Museum Association, Tulsa, OK, 2001, Session Speaker: *Standards and Best Practices in Museum Education*.
- American Association of Museums Annual Meeting. American Association of Museums, Dallas, TX, 2002, Session Chair: *Teaching a Sense of Place: Multi-cultural School Services for Communities*.
- American Association of Museums Annual Meeting. American Association of Museums, Dallas, TX, 2002, Session Chair: *Read the Fine Print* publications session.
- American Association of Museums Annual Meeting. American Association of Museums, Dallas, TX, 2002, Co-Chair: *EdCom Marketplace of Ideas*.

Advisees:

Charles Counter:

Mike Larkin

Jill Dreves

Jamie Petersen

James Hakala:

Celia Curtis

Jen Rose

Sue Fonda

Julie Marino

Jaime Petersen

Cathy Regan

Wendy Cunningham

Lori Stott:

Heidi Quist

Workshops and Conferences Attended:

David Bloom:

- Docent Training, University of Colorado Museum, Fall, 2001.
- Denver Museum of Nature & Science – Building Community Partners, Spring 2002.

James Hakala:

- Theatre in Museums Workshop. Science Museum of Minnesota, St. Paul, MN, 2001 (24 hours, certificate awarded).
- Standing Professional Committee on Education Board of Directors Meeting, Washington DC, 2002.
- American Association of Museums Annual Meeting. American Association of Museums, Dallas, TX, 2002.
- Standing Professional Committee on Education Board of Directors Meeting, Dallas TX, 2002.
- Literacy-based Activities in Museums. Smithsonian Institution Office of Education and Museum Studies, Dallas TX, 2002.

William Moats:

- Technology Seminar, Department of Physics, University of Colorado.
- American Association of Museums Annual Meeting. American Association of Museums, Dallas, TX, 2002.

Honors and Awards:

David Bloom:

- Information Technology Service, University of Colorado, Tier II Advisory Board Member

James Hakala:

- Mountain-Plains Museum Association: Co-Chair, Education Committee
- Standing Professional Committee on Education: Executive Board member representing Mountain-Plains Museum Association
- American Association of Museums, Standing Professional Committee on Education, Chair, Task Force on Best Practices for Museum Education

Professional Memberships:

David Bloom:

American Association of Museums
American Association of Museums, Museum Management Committee
Association of College and University Museums and Galleries

Charles Counter:

American Association of Museums
International Council of Museums
Mountain and Plains Association of Museums
Colorado Wyoming Association of Museums
National Association for Interpretation
National Association for Museum Exhibition

James Hakala:

American Association of Museums
Standing Professional Committee on Education
Standing Professional Committee on Education, Chair: Nominations Committee; Member, Awards Committee; Member, Learning in Museums Seminar Program Committee
Standing Professional Committee on Museum Professional Training
Mountain-Plains Museum Association
Museum Education Roundtable

Lori Stott:

American Association of Museums

American Association of Museums, Membership Committee

American Association of Museums, Marketing and Public Relations Committee

Colorado Association of Nonprofit Organizations

Anthropology Section

Prepared by Stephen Lekson and Deborah Confer

Focus of Section

The Anthropology Section of the University of Colorado Museum houses and manages more than 1.5 million artifacts, objects, and images. The geographic foci of the collections are the North American Southwest and Plains. The Anthropology Section also maintains and preserves comparative archaeological and ethnological collections from other parts of the world.

Major Accomplishments

- In cooperation with the Department of Anthropology, conducted University of Colorado Archaeology Field School at field stations in Bluff, Utah and Cañada Alamosa, New Mexico
- Packed and moved more than 330 boxes of archaeological collections from storage in the Hunter Science building to the Henderson building, and established a processing lab and new storage room
- Linda Cordell received the Alfred Vincent Kidder Award from the American Anthropological Association, the highest award for Southwestern archaeology
- Worked with Exhibits to develop Anthropology Section portion of Centennial Exhibit
- Priscilla Ellwood published *Native American Ceramics of Eastern Colorado* as Number 21 of the Natural History Inventory of Colorado series of the University of Colorado Museum

Personnel

Stephen Lekson
Richard Wilshusen
James Dixon
Deborah Confer
Melissa Stoltz
Tristan Toland

Curator
Acting Curator
Associate Professor
Collection Manager
Graduate Assistant
Graduate Assistant

Student Staff:

David Cain
Jessie Friedman
Christie Kirsch
Karin Larkin
Erin O'Neill

Brad Caldwell
Robert Ivan
Chad Landsman
Curtis Nepstad-Thornberry

Personnel, cont.

Curator Adjoint, WOC:

James Dixon	O.W. Hampton
Ann Lane Hedlund	

Associate Curator, WOC:

Catherine Cameron	Herbert Covert
Dennis McGilvray	Dorothy Rohner

Museum Associate, WOC:

Priscilla Ellwood	Sandra Karhu
Jean Kendig	Diana Leonard
Jeannette Mobley-Tanaka	Ann E. Phillips
Tracey Sweeley	

Independent/practicum student:

Jessie Friedman	Michael Morello
Melissa Stoltz	Barbara Barnard

Volunteer:

Sorana Bucur	Sheila Goff
Christie Kirsch	

	Total Hours
Fiscal 2002 Personnel	
Paid faculty/staff	6,753
Hours worked, for course credit	75
Without Compensation Associates (WOCs)	314
Volunteers	167
	<hr/> 7,309

	2001 Jan- June	2001 July- Dec	Calendar 2001	2002 Jan- June	Fiscal 2002
COLLECTION USE					
Visitors to Collections					
Univ of Colorado	129	134	263	112	246
Non-CU Colorado residents	232	42	274	39	81
US, non-Colorado	14	11	25	25	36
Non-US	0	0	0	0	0
Total visitors	375	187	562	176	363
 Info requests-phone, email, letter	 139	 97	 236	 146	 243

	2001 Jan-June	2001 Jul -Dec	Calendar 2001	2002 Jan-Jun	Fiscal 2002
Loans					
To CU faculty/students (# loans)	1	5	6	3	8
To other institutions (# loans)	4	5	9	5	10
Total loans	5	10	15	8	18
To CU faculty/students (# specimens)	13	459	472	28	487
To other institutions (# specimens)	29	27	56	37	64
Total specimens	42	486	528	65	551
COLLECTION GROWTH					
Accessions (# of specimens)	27	25	52	146	171
Gifts (# of specimens)	27	0	27	140	140
Deaccessions (# of specimens)	2032	40	2072	0	40
Specimen Database Entry (# records)	1500	325	1825	100	425
TEACHING AND SERVICE (See narrative document)					
# Pubs. by Collection Personnel	3	8	11	6	14
# Academic courses taught	1	1	2	2	3
# Public lectures/classes/profess'l	7	7	14	12	19
# Students advised/mentored	7	2	9	7	9
# Professional conferences attended	3	2	5	3	5

Fiscal 2002 Museum-based Grants

Principal Investigator	Museum Title	Granting Agency	Short title	New Amount	Cont. Fiscal '02
Steve Lekson	Curator	NPS	Archeol. Inventory of Natural Bridges		19,000
Steve Lekson	Curator	NPS	Chaco: Synthesis of Change		221,843
Jim Dixon	Curator	CHS	Museum Plan Development:Lamb Spring	100,000	
Richard Wilshusen	Acting Curator	BLM	Improvement of Anasazi Heritage Ctr.		12,000
Deborah Confer	Collection Manager	BOR	Curation Standardization for BOR		35,000
Deborah Confer	Collection Manager	BOR	Curation of Museum Coll.(supplemental)		6,000
Steve Lekson	Curator	GCAH	Visting Scholar	750	750
Total New Grants and Awards:				100,750	
Current Grant/Award Funds Total:					294,593

Proposals

Principal Investigator	Submitted Through:	Source	Short title	Amount	Status
Jim Dixon, Curator	INSTAAR	NSF	Archeology of Alaska Glaciers and Snowfields	296,610	Funded 8/02

Section Activities

- Completed draft NAGPRA Inventory and Federal Register Announcement documents for almost all collections and submitted draft documents for the Eastern Colorado collections to the Department of the Interior.
- Completed three-year (1998-2001) cooperative agreement for curation of Bureau of Reclamation archaeological collection, employing a total of 7 students.
- Databased nearly 2000 ethnographic objects, completing data entry for the North American ethnographic collection.
- Contributed collection objects and curatorial expertise to exhibitions featured in the museum: the Earl H. Morris component of the Anthropology Gallery and the temporary exhibitions Stories in Stone, World Views of the Maya, and CU Museum Centennial.
- Contributed collection objects to prominent exhibitions at the Los Angeles County Museum of Art, Arizona Historical Society, and Carnegie Institution, Washington DC.
- Provided images from section photographic archives for various publications and programs, including three textbooks and three television programs.
- Awarded Joe Ben Wheat Fellowship to Wes Bernadini (2001) and Donna Glowacki (2002), both doctoral students at Arizona State University.
- Participated in Family Day, a public programs event in the Museum (Ask the Experts).

Teaching

Linda Cordell

Principal dissertation/thesis advisor to 5 grad students; member of committee for 7 others

Steve Lekson

Museum and Field Studies Program, University of Colorado, Boulder: administration, curriculum development of multi-disciplinary graduate program.

Introduction to Museum (MUSM 5011)

Museum Topics (MUSM 5021)

Practicum in Anthropology (MUSM 5912).

Department of Anthropology, University of Colorado, Boulder: Archaeological Field Research (ANTH 4350)

Seminar: Southwestern Archaeology (ANTH 7140)

Principal advisor to 12 grad students; member of committee for 7 others

James Dixon

Introduction to Museum (MUSM 5011)

Developed new course, Arctic Archeology, for Spring 2002.

Principal advisor to 3 grad students; member of committee for 3 others

Research

Linda Cordell (Museum Director): Agriculture and settlement strategies of ancestral Pueblo peoples of New Mexico during the 13th and 14th centuries.

Steve Lekson (Curator): Southwestern archaeology, with emphasis on the origins of government, regional patterning, and architecture.

James Dixon (Associate Professor): High Latitude/High Altitude Human Adaptations, Circumpolar and Paleoindian Archeology, Quaternary Science and Geoarcheology.

Publications

Cordell, Linda S., Stephen R. Durand, Ronald C. Antweiler and Howard E. Taylor. 2001. Toward Linking Maize Chemistry to Archaeological Agriculture Sites in the North American Southwest, Journal of Archaeological Science, 28, 501-513

Cordell, Linda S., W. James Judge. 2001 Perspectives on Chaco Society and Polity, pp. 1-12 in *Chaco Society and Polity: Papers from the 1999 Conference*, New Mexico Archeological Council, Special Publication No. 4, Albuquerque, New Mexico.

Cordell, Linda S., Beatriz Braniff C., Maria de la Luz Gutierrez, Elisa Villalpando C., and Marie-Areti Hers. 2001 La Gran Chichimeca, El Lugar de las Rocas Secas, Jaca Book SpA, Milan.

Cordell, Linda S. 2001. Finding the Natural Interface: Graduate and Public Education at one University Natural History Museum. *Curator* 43(2):113-124.

Cordell, Linda S., W. James Judge and June-el Piper, editors. 2002. *Chaco Society and Polity: Papers from the 1999 Conference*, New Mexico Archeological Council, Special Publication No. 4, Albuquerque, New Mexico.

Cordell, Linda S. "The End of the Anasazi as we Know Them: A Millennial Thought," submitted for publication in the proceedings of the 6th Occasional Anasazi Symposium volume edited by Paul Reed and Lori Stephens, Reed.

Cordell, Linda S. and Carla Van West, "Resilience, Relocation, and Continuity: Pueblo Response to Dramatic Environmental Change," submitted for publication in "I Fall to Pieces: Global Perspectives on the Collapse and Transformation of Complex Societies," edited by Jim Railey and Richard Reyecraft, Greenwood Press.

Cordell, Linda S. in press. Review of "Great House Communities Across the Chacoan Landscape," edited by John Kantner and Nancy Mahoney, University of Arizona Press, for American Antiquity.

Cordell, Linda S. in press. Review of "Warrior Shield and Star, Imagery and Ideology of Pueblo Warfare," by Polly Schaafsma, for the New Mexico Historical Review.

Cordell, Linda S. in press. Introduction and final editing of "Boundaries and Territories: Proceedings of the Southwest Symposium, Hermosillo, Sonora, Mexico, edited by Elisa Villalpando, Anthropological Papers of Arizona State University.

- Cordell, Linda S. in press. Review of "Women and Men in the Prehispanic Southwest, Labor, Power & Prestige, edited by Patricia L. Crown, School of American Research Press, 2000. for Cambridge Archaeological Journal.
- Dixon, E. James. 2002. Human Colonization of the Americas: Timing, Technology and Process. in *Beringian Paleoenvironments: Festschrift in Honor of David M. Hopkins*, S. E. Elias and J. Bringham-Grette guest eds. *Quaternary Science Reviews*, London 1-3:277-299.
- Dixon, E. James. in press. The Late Pleistocene - Early Holocene Prehistory of Eastern Beringia. *Handbook of North American Indians*, Vol. 3, Environment, Origins, and Population. Richard I. Ford (ed.), Smithsonian Institution.
- Dixon, E.J. and Manley, W.F. Archaeology of Alaskan Glaciers and Snowfields. Submitted to the Alaska Regional Office, NPS, Anchorage, Alaska.
- Dixon, E.J. in press. How and when did humans first come to North America? *Athena Review*, Quarterly Journal of Archaeology, History, and Exploration.
- Eckert, Susanne L. and Linda S. Cordell, "PIV Community Formation in the Albuquerque, Cochiti and Lower Rio Puerco Districts," chapter submitted for publication in a book on the PIV Pueblo World, edited by Andrew Duff and E. Charles Adams, tentative acceptance by the University of Arizona Press.
- Ellwood, Priscilla. 2002. Native American Ceramics of Eastern Colorado. *Natural History Inventory of Colorado*, 21. Boulder: University of Colorado Museum.
- Lekson, Steve. 2002. Salado Archaeology of the Upper Gila. University of Arizona Press, Tucson.
- Lekson, Steve, Art McWilliams, and Michael Bletzer. in press. Later Prehistory of the Rio Abajo, Magdalena, Mimbres and Chihuahua Regions. *In Pueblo IV* edited by E. Charles Adams and Andrew Duff. Accepted by University of Arizona Press, Tucson.
- Lekson, Steve. in press. Salado, Kayenta, Mesa Verde and Paquime: the Fourteenth Century in the Post-Mimbres Region. *In Proceedings of the Twentieth Mogollon Conference*, edited by Patrick Beckett. COAS Books, Las Cruces.
- Lekson, Steve. in press. Lords of the Great House. *In Ancient American Elite Residences*, edited by Jessica Christie and Patricia Sarro. Accepted by Costen Institute of Archaeology, UCLA.
- Lekson, Steve. in press. Southwestern New Mexico and "The Land Between." *In The Land Between: Southeastern Arizona In History And Prehistory*, edited by Henry Wallace. Accepted by University of New Mexico Press.
- Lekson, Steve. in press. Europe and the People Without Buildings. *In In The Anasazi Landscape*, V.B. Price and Baker H. Morrow, editors. Accepted by University Press of Colorado.
- Lekson, Steve. 2001. Landscape and Polity: The Interplay of Land, History and Power in the Ancient Southwest. *In The Road To Aztlan*, edited by Virginia M. Fields and Victor Zamudio-Taylor. Los Angeles County Museum of Art.
- Lekson, Steve. 2001. Chaco, Aztec and Paquime: The Origins of Casas Grandes. *In Ancient Casas Grandes: Spheres of Influence* edited by Grace Johnson. San Diego Museum of Man.
- Lekson, Steve, and Karin Burd. 2001. Foreword. *In Chaco Society and Polity*, edited by Linda Cordell, W. James Judge, and June-el Piper. New Mexico Archaeological Council Special Publication 4.
- Lekson, Steve. 2001. Presidents, Precedents, and Pundits. *In Anasazi Regional Organization and the Chaco System* (second edition), edited by David E. Doyel. Maxwell Museum of Anthropology.

- Lekson, Steve and D. White.. 2001. Early Hohokam. *In Encyclopedia Of Prehistory*. Peter Peregrine and Melvin Ember, editors. Kluwer Academic/Plenum.
- Lekson, Steve. 2001. Early Mogollon. *In Encyclopedia Of Prehistory*. Peter Peregrine and Melvin Ember, editors. Kluwer Academic/Plenum.
- Lekson, Steve. in press. Review of *Casas Grandes and Its Hinterlands* (Whalen and Minnis). *Journal Of Field Archaeology*.
- Lekson, Steve, C. Nepstad-Thornberry, B. Yunker, D. Cain, T. Sudar-Laumbach, K. Laumbach). 2002. Migrations in the 14th Century Southwest. *Kiva* 68(3).
- Lekson, Steve. 2002. War in the Southwest, War in the World. *American Antiquity* 67(4).
- Lekson, Steve. 2002. Chaco: Evil Empire or Shangri-La? *Smoking Mirror: Newsletter of the Pre-Columbian Society of Washington, D.C.* 9(12).
- Lekson, Steve. 2002. Review of *Archaeology of the Ojasaen (41EP289) and Gobernadora (41EP321) Sites, El Paso County, Texas* (Shafer, Dockall and Brewington). *Bulletin Of The Texas Archaeological Society*
- Lekson, Steve. 2002. Review of *Constructing Frames of Reference* (Binford). *American Scientist*
- Lekson, Steve. 2002. Review of *Anasazi America* (Stuart). *American Antiquity*
- Lekson, Steve. 2002. Review of *The Archaeology of Communities* (Marcello and Yaeger). *American Anthropologist* 104(1).
- Lekson, Steve. 2001. Flight of the Anasazi. *Archaeology* 54(5).
- Lekson, Steve, Karl Laumbach, Curtis Nepstad-Thornberry, Brian Yunker, Toni Laumbach, David Cain, David Hill and Jim Wakeman. 2001. Preliminary Report On The 2000 Research Season, Featuring Excavations At The Pinnacle Ruin, Canada Alamosa, New Mexico. *Human Systems Research Report* 2011, Las Cruces.
- Lekson, Steve. 2001. Southwestern New Mexico. *In The Archaeological Record Of Southern New Mexico*, edited by Susana R. Katz and Paul Katz. State Historic Preservation Division, Santa Fe.

Lectures & Public Programs

Linda Cordell

- 2002 Excitement of Accidental Discovery: Earl Morris's Basketmaker and an Expanded View of Pueblo History (CU Museum Centennial Lecture Series)

Steve Lekson

- 2002 Roads Through the Ancient Southwest. CU Mini-College, Fort Lewis College, Durango CO. (University of Colorado President's Community Tour)
- 2002 The "New" Ancient Southwest. Cynthia Irwin-Williams Memorial Lecture, Eastern New Mexico University, Portales NM.
- 2002 "Cannibalism: The Last Taboo" (video interview) Discovery Channel.
- 2001 Chaco: Evil Empire or Shangri-La? 2001 – A Chaco Odyssey. Annual Seminar, Pre-Columbian Society, Washington DC
- 2001 Archaeological Institute of America lecture program. Appleton WI, St Louis MO, Cleveland OH.
- 2001 Chaco Meridian. Banquet Speaker, Colorado Archaeological Society Annual Meeting, Fort Collins, CO.
- 2001 The "New" Ancient Southwest. Taos Archaeological Society, Taos NM.
- 2001 A History of the Ancient Southwest. Museum of New Mexico, Friends of Archaeology Annual Lecture Series, Santa Fe NM.

- 2001 Colorado Council of Professional Archaeologists, Executive Board.
- 2001 Chaco, Aztec, and Paquime; Chaco, Hohokam and Mimbres; and The 14th Century Southwest. Idyllwild School of Arts Native American Week, Idyllwild, CA.
- 2001 The Southwest and Mexico. Los Angeles County Museum of Arts, Los Angeles CA.
- 2001 Casas Grandes: The Southwest Meets Mexico. Alianza de las Artes Americanas, Denver Art Museum, Denver CO.
- 2001 Archaeological Institute of America lecture program. Asheville NC, Atlanta GA, Miami FL.
- 2001 "Ancient Anasazis: What Really Happened at Mesa Verde?" (video interview) Grizzly Adams Productions, PAX network.
- 2001 "In Search of Aztlan" (video interview) Carmona Productions.

James Dixon

- "Archeological Evidence for the First Colonization of North America: An Update", public lecture, Denver Chapter of the Colorado Archaeological Society (CAS), 1-21-01.
- "Archeology of Alaska's Caves: Early Evidence for Humans in North America", public lecture, Ft. Collins Chapter, CAS, 4-18-01.
- "Archeology of Alaska's Glaciers", public lecture, Indian Peaks Chapter, CAS, 10-11-01.
- "Archeological Evidence for the 1st Human Colonization of the Americas" public lecture, Denver Chapter, Arch. Inst. of N. Amer. 11-19-01). Teacher workshop, Denver Museum of Nature and Science.
- Docent training, Ice Age exhibit, Denver Museum of Nature and Science.
- Interviewed by Anchorage Daily Times, Dallas Daily News, Fairbanks Daily News Miner, Vancouver Sun.

Papers and Abstracts Presented at Professional Conferences

Linda Cordell

- Cordell, Linda S. "Rowe, Pecos, and Issues of Cultural Affiliation," Paper presented at the 66th Annual Meeting of the Society for American Archaeology, New Orleans, April 2001.
- Cordell, Linda S. "The Curation Crisis in the Southwest," paper delivered as part of a panel discussion at the 2001 Pecos Conference, Flagstaff Az. August 10th.
- Cordell, Linda S. "Southwest Archaeology in 2001," Paper presented at an invited Presidential Session at the 100th American Anthropological Association Annual Meeting, Nov. 28, Washington D. C.

Steve Lekson

- 2002 Mesa Verde in Southern New Mexico. 75th Pecos Conference, Pecos.
- 2002 Political Dynamics in the Northern San Juan. Society for American Archaeology 67th Annual Meetings, Denver.
- 2002 Discussant, Sponsored Symposium "Ritual, Religion and Symbolic Behavior". Society for American Archaeology 67th Annual Meetings, Denver.
- 2002 Discussant, Symposium "Reconstructing a Sense of Place" Society for American Archaeology 67th Annual Meetings, Denver.
- 2002 People and Pots: A Syllogism. 8th Biennial Southwest Symposium, Tucson.
- 2001 Complexity? In the Southwest? American Anthropological Association 100th Annual Meeting, Washington. Junior author with Catherine Cameron

- 2001 Southwest and Mexico. American Anthropological Association 100th Annual Meeting, Washington.
- 2001 War in the Southwest, War in the World. AAA-sponsored symposium “Multidisciplinary Approaches to Social Violence”, Society for American Archaeology 66th Annual Meeting, New Orleans.
- 2001 Mesa Verde Migrations in Southern New Mexico, Society for American Archaeology 66th Annual Meeting, New Orleans. Second author with *Brian Yunker et alia*.
- 2001 Mesa Verde Migrations and Cultural Transformations AD 1250-1350, Society for American Archaeology 66th Annual Meeting, New Orleans. Junior author with William Lipe.
- 2001 Discussant, Symposium “Architectural Analysis as Archaeological Method”, Society for American Archaeology 66th Annual Meeting, New Orleans.
- 2001 Writing Prehistory. Distinguished Lecturer, Anthropology Department, Southern Methodist University.

James Dixon

- Geoarcheology of 49-PET-408: Evidence for Early Maritime Adaptations in SE Alaska. Abstracts, 2001 Geological Society of America Annual Meeting, Boston, Massachusetts: A-127 (11-10-01).
- Archeological Investigations at 49-PET-408, SE, Alaska. Poster, Arctic Social Sciences Workshop, Sponsor: OPP, NSF, Seattle, Washington (1-18-20).
- Dixon, E. James and William F. Manley. Archeology of the Cryosphere. Paper presented at the XIV International Congress of Prehistoric and Protohistoric Sciences, 9-2-8, 2001. Pre-Prints:31

Professional Service within the University of Colorado

Linda Cordell

- Member of exhibition team for the Museum’s renovation of its Biology Hall
- Served as convener of the Museum's Advisory Board, spring 2001
- Served on Graduate Committee on Arts and Humanities, Spring 2001
- Served as Museum representative to Institute Directors meetings, spring 2001.

Steve Lekson

- 2002 Centennial Exhibit, University of Colorado Museum, co-curator with D. Bowers.
- 2001 Earl Morris Exhibit upgrades, University of Colorado Museum, co-curator with M. Larkin and R. Wilshusen.

James Dixon

- Boulder Campus, Chair, Curriculum Committee, Graduate Program, Museum and Field Studies, Univ. Museum.
- Boulder Campus, Member, Search Committee, Quaternary Paleoecologist, INSTAAR.
- Boulder Campus, Directorate Member, INSTAAR.

Other Professional Service

Linda Cordell

Co-organizer with Don W. Fowler of the invited presidential symposium, "One Hundred Years of Southwestern Archaeology: Transformation of a Discipline." at the 100th Annual Meeting of the American Anthropological Association. Washington D.C.
Participant at Mid-Winter Meeting of the Association of Science and Natural History Museum Directors, New York, NY, February 2001.
Served on advisory board of the Southwest Symposium.
Reviewed grant proposals for National Science Foundation, National Geographic Society, and Museum and Library Sciences General Operating Support.
Reviewed manuscripts for Journal of Field Archaeology and American Antiquity
Served as outside reviewer for two promotions to full professor at other universities.

Steve Lekson

Trail signage, Bluff Great House Site, Southwest Heritage Foundation, Bluff, Utah, senior author with *J. Till*.
Society for American Archaeology, Annual Meeting Program Committee.
Editorial board of the journal Archaeology
Executive board of the Colorado Council of Professional Archaeologists.
Editorial Board, Colorado Council of Professional Archaeologists (editorial and managerial review for five volume "Prehistory of Colorado")
Reviewer of manuscripts or grants for National Endowment for the Humanities, National Science Foundation, American Antiquity, University of Arizona Press, University of Utah Press, Archaeology

James Dixon

Curator of Archeology, Ice Age exhibit, Denver Museum of Nature and Science.
Reviewed grant proposals for National Science Foundation, National Geographic Society.
Reviewed manuscripts for American Anthropologist, Arctic Anthropology, and American Antiquity.
Contributed consulting, T. Koppel author, book describing scientific research pertaining to the NW Coastal route for the first human migration to the Americas.
Contributed consulting, D. O'Neil author, biography of geologist, David M. Hopkins.
Contributed consulting, S. Taffler, book on the current theory of Ice Age human migration along the NW Coast.
Consulting, BBC, educational film and book, ecology, paleoecology and archeology of the NW Coast of N America.
Scholarly-professional service, participant/contributor, Arctic Social Sciences Workshop, sponsor: NSF OPP Social Science Program, Seattle, 1-18-20.

Deborah Confer

Registrars Committee of the Mountain-Plains Museum Association.

BOTANY SECTION

HERBARIUM COLO

Accomplishments

- Revised the Herbarium's Collection Management Policy
- Put our type specimen database online on our website
- Developed efficient method of searching the specimen database and sending results of data requests as email attachments to requestors
- Continued writing/updating Procedures and Facilities manuals for the Herbarium
- Accessioned a large collection of specimens collected by Dina Clark in the eastern plains of Colorado, with Herbarium support.
- Collected fresh samples and vouchers of *Cleome* and *Veronica* for two international researchers
- Borrowed specimens of *Lycium* from several herbaria for study by post-doc Jill Miller
- Moved gymnosperm collection, Tom Ranker's lab and office, and Löve reprint collection to new Museum Collections Building

Herbarium Personnel

Tom Ranker	Curator of Botany	100% FTE
Tim Hogan	Collection Manager	75 % FTE
Nan Lederer	Collection Manager	50% FTE
Jane Bock	Associate Curator	WOC
Dina Clark	Field Collector	Contract
Pamela Diggle	Associate Curator	WOC
Yan Linhart	Associate Curator	WOC
Anna Arft	Curator Adjoint	WOC
Robert Bye	Curator Adjoint	WOC
Jo Ann Flock	Curator Adjoint	WOC
Sylvia Kelso	Curator Adjoint	WOC
Janet Wingate	Curator Adjoint	WOC
William Weber	Curator Emeritus	WOC
Jennifer Ramp	Graduate Assistant (Fall semester)	50% FTE
Jennifer Geiger	Graduate Assistant (Summer)	25% FTE
Mary Damm	Hourly Curatorial Assistant	25% FTE
Ann Henson	Volunteer	3 hrs. /week

WOC: without compensation, Museum associate

Botany
Fiscal 2002 Usage Statistics

Visitors:		Information requests	
CU	93	(phone, email, written)	134
Non-CU Colorado	138	Website hits	na
Other USA	18		
International	1		
Total	250		

Loans		Exchange	
To other institutions (# loans)	27	# of exchanges sent	5
To CU classes (# loans)	7	# of exchanges received	15
Total # loans	34	# of specimens sent	1,762
To other institutions (# specimens)	1,008	# of specimens received	2,603
To CU classes (# specimens)	27		
Total # specimens	1,035		

Accessions (# of specimens)		Gifts (# of specimens)	
Vascular	2,209	Sent	na
Bryophytes	644	Received	> or = 304
Lichens	302		
Total	3,155		

Deaccessions (# of specimens) -

Specimen Database Entry (# records) 9,545

# Publications Referencing Collection	na
# Pubs. by Collection Personnel	8
# Academic courses taught	1
# Public lectures/classes	2
# Students advised/mentored	7
# Professional conferences attended	2

(Please refer to narrative regarding these items.)

Museum-Based Grants

Principal Investigator	Museum Title	Granting Agency	Short title	\$Award (New)	FY02 (Cont)
Thomas Ranker	Curator	NSF	J.Ramp Dissertation: Microevolutionary dynamics Lasthenia Conjugens		9,991
Thomas Ranker	Curator	NSF	J.Ott Geiger: Dissertation: Phylogentic Sys. Hawaiian Dryopteris		9,814
Thomas Ranker	Curator	CRCW	Molecular Sys., Grammitidaceae	585	585
Total New Grants and Awards:				585	
Current Grant/Award Funds Total:					20,390

Proposals

Principal Investigator	Submitted Through:	Source	Short title	Amount	Status
Thomas Ranker, Curator w/ Guralnick, Bloom, Counter, Hakala	Museum	NSF	Biodiversity Science Education Project	2,034,150	Denied 11/02
Thomas Ranker, Curator and Jenn Ott Geiger	Museum	NSF	Origin of the Hawaiian Pteridohyte Flora	416,950	Denied 11/02
Thomas Ranker, Curator and Jenn Ott Geiger	EPOB	AAAS	International Collaboration in New Zealand	7,396	No Action
Thomas Ranker, Curator and Jenn Ott Geiger	EPOB	AAAS	International Collaboration in New Zealand	7,396	Denied 8/02

2001-2002 Research Utilization of the Herbarium Collection by UCB Faculty and Students

Name

Project

Tim Hogan, Collection Manager
Nan Lederer, Collection Manager
Mary Damm, M&FS grad.student

Floristics of the Sangre de Cristo Range
Floristics of Jackson County
Anthropogenic impacts on alpine vegetation community structure, Niwot Ridge
Lichens and mosses of Beringia, Alaska
Systematics and evolution of *Populus*

JoAnn Flock, Research Assoc.
Mary Ellen Ford, graduate student, EPOB (Salicaceae).
Heather Houston, graduate student, EPOB
Dan Liptzin, graduate student, EPOB
Jill Miller, post-doc, EPOB

Population genetics of *Sadleria* (Blechnaceae)
Biotic effects on biogeochemistry at treeline
Developmental reproductive biology of *Lycium* and *Solanum*

Jenn Ott Geiger, graduate student, EPOB
Dryopteris

Systematics and evolution of Hawaiian

Becky Rawlinson, EPOB/INSTAAR
Chris Schadt, graduate student, EPOB
Tyler Waring, undergrad. student, EPOB
W.A. Weber, Curator Emeritus

Non-native plants at livestock watering holes on Open Space
Molecular ecology of natural microbial and fungal populations
Lichen identification
Taxonomic work on vascular plants, bryophytes and lichens

2001 Publications by Herbarium faculty, staff, and students

Korb, J. E. and T. A. Ranker. 2001. Changes in stand composition and structure between 1981 and 1996 in four Front-Range plant communities in Colorado. *Plant Ecology* 157: 1-11.

Wolf, P. G., H. Schneider, and T. A. Ranker. 2001. Distributions of fern taxa: does dispersal obscure evidence of vicariance? *Journal of Biogeography* 28: 263-270.

Manuscripts submitted for publication by Herbarium faculty, staff, and students during 2001

- Chiou, W.-L., D. R. Farrar, and T. A. Ranker. 2002. The mating systems of some Polypodiaceae species. *American Fern Journal* In press.
- Ranker, T. A. and T. Hogan. 2002. Systematic treatment of the genus *Camassia* (Liliaceae). *Flora of North America*. Volume 26. In press.
- Ranker, T. A. and H. A. Houston. 2002. Is gametophyte sexuality in the lab a good predictor of sexuality in nature? *Sadleria* as a case study. *American Fern Journal* 92: 112-118.
- Ranker, T. A., J. M. O. Geiger, S. C. Kennedy, A. R. Smith, C. H. Haufler, and B. S. Parris. 2002. Molecular phylogenetics and evolution of the endemic Hawaiian genus *Adenophorus* (Grammitidaceae). *Molecular Phylogenetics and Evolution* In press.
- Schneider, H., A. R. Smith, R. Cranfill, C. H. Haufler, T. A. Ranker, T. Hildebrand. 2002. *Gymnogrammitis dareiformis* is a polygrammoid fern (Polypodiaceae) – Resolving an apparent conflict between morphological and molecular data. *Plant Systematics and Evolution* In press.
- Wise, C. A., T. A. Ranker, and Y. B. Linhart. 2002. Modeling problems in conservation genetics with *Brassica rapa*: I. Genetic variation and fitness in plants under mild, stable conditions. *Conservation Biology* In press.

2001 Publications which cited Herbarium COLO specimens, or involved COLO's technical assistance

- Breuss, O. and T. Spribille. 2001. *Verrucaria kootenaica*, a new Pyrenocarpous lichen from the Northern Rocky Mountains. *Bryologist* 104:453-455.
- Garilleti, R., F. Lara and V. Mazimpaka. 2001. *Orthotrichum underwoodii*, sp. nov. (Orthotrichaceae, Bryopsida) from California. *Bryologist* 104:268-273.
- Herrera-Campos, M.A., T. Nash III, and A. Zambrano Garcia. 2001. Preliminary study of the *Usnea fragilescens* aggregate in Mexico. *Bryologist* 104:235-259.
- Hong, W.S. and W. Matthews. 2001. *Barbilophozia* in western North America. *Lindbergia* 26:134-142.
- La Greca, S. and H.T. Lumbsch. 2001. Three species of *Lecanora* new to North America, with notes on other poorly known lecanoroid lichens. *Bryologist* 104:204-211.
- Lindblom, Louise. 2001. *Xanthoria tenuiloba*, a new lichen species from Baja California, Mexico. *Mycotaxon* 80:375-380.
- Mayrhofer, H., J.W. Sheard, et al. 2001. *Rinodina intermedia*, a well-characterized species with submuriform ascospores. *Bryologist* 104:456-463.
- Printzen, C. 2001. Corticolous and lignicolous species of *Lecanora* with usnic or isousnic acid in the Sonoran region. *Bryologist* 104:382-409.
- So, M.L. and R. Grolle. 2001. On *Plagiochila* subgenus *Plagiochila* Section Abietinae. *Systematic Botany* 26:459-469.
- Trinkaus, U., H. Mayrhofer and J.A. Elix. 2001. Revision of the *Buellia epigaea*-group (lichenized ascomycetes, Physciaceae) 2. The species in Australia. *Lichenologist* 33:47-62.
- Wetmore, C.M. 2001. The *Caloplaca citrina* group in North and Central America. *Bryologist* 104:1-11.
- Zander, R.H. and R. Ochya. 2001. *Didymodon tectorum* and *D. brachyphyllus* in North America. *Bryologist* 104:372-377.

Grant Proposals Submitted in 2001 by Tom Ranker

National Science Foundation. **2002-2004.** \$9,991. Dissertation Research for J. Ramp:
Microevolutionary dynamics and population genetics of the endangered California vernal
pool sunflower *Lasthenia conjugens* (Asteraceae). Funded.
National Science Foundation. 2001-2006. \$444,723. Evolution of sexual reproduction in
Sadleria. Not funded.

Grant Proposals Received and Ongoing in 2001 by Tom Ranker

National Science Foundation. **1998-2001.** \$75,000. Collaborative Research:
Morphological and molecular systematics of the Polypodiaceae and Grammitidaceae. (PI)
(Collaborative project with A. R. Smith, University of California-Berkeley and C. H.
Haufler, University of Kansas; total budget: \$212,000.)

National Science Foundation. **1999-2001.** \$6,563. REU Supplement to: Morphological and
molecular systematics of the Polypodiaceae and Grammitidaceae. (PI)

National Science Foundation. **2001-2003.** \$9,814. Dissertation Research for J. M. O.
Geiger: Phylogenetic Systematics and Biogeography of Hawaiian *Dryopteris*
(Dryopteridaceae). (PI)

University of Colorado, Graduate School, CRCW, Grant-In-Aid. **2000-2001.** \$6,360.
Pheromonal control of sex in ferns. (PI)

University of Colorado, Graduate School, CRCW, Small Grant. **2001-2002.** \$585.
Molecular systematics of Grammitidaceae. (PI)

Classes and Lectures by Herbarium Personnel

Tom Ranker, Curator

Fall, 2001: Doctoral Dissertation, EPOB 8990 (4 students)
Spring, 2002: Doctoral Dissertation, EPOB 8990 (4 students)
Independent Study, ENVS 4840 (1 student)

Ranker, T. A. July, 2001. The way forward: An action plan for the IUCN/Species Survival
Commission - Pteridophyte Specialist Group. Fern Flora Worldwide: Threats and
Responses, An International Symposium, University of Surrey, Guildford, UK.

Ranker, T. A. and J. M. O. Geiger. August, 2001. Molecular phylogenetics of ferns: using
molecules to infer patterns and processes of evolution and historical biogeographical.
Invited Keynote Speaker. Annual Meeting of the Queenstown Molecular Biology
Society, Queenstown, New Zealand.

Other Service Performed by Herbarium Personnel

Tom Ranker, Curator

Service to Scholarly or Professional Organizations

National Science Foundation, Systematic Biology Panel member
Botanical Society of America, Chair of Conservation Committee
The New York Botanical Garden: Outside reviewer for faculty reappointment, 2001.
IUCN/Species Survival Commission - Pteridophyte Specialist Group: Co-Chair
IUCN/Species Survival Commission - Pteridophyte Specialist Group & British
Pteridological Society: Member of Organising Committee for "Fern Flora Worldwide:
Threats and Responses, An International Symposium, University of Surrey,
Guildford, UK, 23-26 July 2001.
IUCN/Species Survival Commission - Pteridophyte Specialist Group: Invited
Member, 1994-present.
Secretary/Treasurer, Pteridological Section of Botanical Society of America
Committee on Committees, Botanical Society of America

Department, Unit, or Institute

Greenhouse Committee, EPOB
Search Committee for Museum and Field Studies Coordinator position
Yellow Jacket Advisory Committee, Museum
Space Committee, Museum
Interim Director, University Museum
Chair, Reappointment Committee for Instructor
Collections Committee, Museum
Curriculum Committee, Museum

Graduate School

Reviewer of Beverly Sears Grant Proposals for Graduate School

Boulder Campus

Reviewer of UROP grant proposals

Peer Review of Manuscripts, Grants or Creative Work

Reviewer of 10 grant proposals for the Charles A. and Anne Morrow Lindbergh
Foundation
Reviewer of manuscripts for: Ecology Letters, Western North American Naturalist,
Systematic Botany, Journal of the Torrey Botanical Society, Journal of Plant Science,
International Journal of Plant Science, British Fern Gazette, Brittonia, American
Journal of Botany, American Fern Journal
Review of 18 grant proposals for the National Science

Other Service

Science Advisory Network, Nature Conservancy of Colorado
Native Plant Policy Group, State of Colorado Dept. of Natural Resources
Technical Committee for Rare Plants in Colorado, U. S. Fish & Wildlife Service,
founding member

Tim Hogan, Collection Manager

Regional reviewer for Flora of North America Project
Member of Colorado Rare Plant Technical Committee
Board of Directors, Southern Rockies Ecosystem Project
Participant in Forest Service meetings on vegetation monitoring protocols
Collections Committee, Museum
Space Committee, Museum
Curriculum Committee, Museum
Centennial Exhibit Committee, Museum
Publications Committee, Museum
Collection Managers Committee, Museum

Nancy Lederer, Collection Manager

Informatics Position Hiring Committee, Museum
Exhibits Committee, Museum
Centennial Exhibit Committee, Museum
Annual Report Format Standardization Committee, Museum
Collection Managers Committee, Museum

Entomology Section

Prepared by Deane Bowers and Virginia Scott

Focus of Section

The Entomology Section of the University of Colorado Museum builds and maintains the Museum's insect and arachnid collections and supports research on these animals. Our collections concentrate on the insects and spiders of the Greater Rocky Mountain region. Our taxonomic strengths are our butterfly and bee collections.

Major Accomplishments

- Moved our collections from the Henderson Building to newly renovated space in the Bruce Curtis (MCOL) building
- Deane Bowers Co-curated the Museum's Centennial exhibit with Steve Lekson
- Obtained a donation of 14,009 North American bumblebees from Dr. Macoir, emeritus faculty at the University of Akron in Ohio
- Worked with Exhibits to develop Entomology Section portion of Centennial Exhibit

Personnel

M. Deane Bowers	Curator
Virginia Scott	Collection Manager
Jeff Oliver	Graduate Assistant
April Kinchloe	Graduate Assistant
Kasey Barton	Graduate Assistant
Michael Weissmann	WOC
Sharon Collinge	WOC
Cesar Nufio	WOC
Lyn Monroe	Volunteer
Gene Monroe	Volunteer
Moving crew	Volunteer (EPOB and M&FS students)
Katy Prudic	Volunteer
Andy Hicks	Volunteer
Paul Thompson	Volunteer
Evan Shively	Volunteer
Margy Lanham	Volunteer

Entomology Usage Statistics	2001 Jan.-June	2001 July-Dec.	Calendar 2001	2002 Jan.-June	Fiscal 2002
Visitors:					
Colorado	10	33	43	40	73
Other USA	1	0	1	1	1
International	0	0	0	0	0
Total	11	33	44	41	74
Information requests and identifications					0
(phone, email, written)	49	77	126	70	147
Website hits	(1/2 = 2221)	(1/2 = 2222)	4443	2646	4868
Loans (number of loans)					
To other institutions	8	1	9	6	7
To CU for education	3	0	3	3	3
Total	11	1	12	9	10
Loans (number of specimens)					
To other institutions	941	3	944	734	737
To CU for education	88	0	88	5950	5950
Total	1029	3	1032	6684	6687
Exchange					
# of exchanges sent	1	0	0	0	0
# of exchanges received	1	0	0	0	0
# of specimens sent	58	0	0	0	0
# of specimens received	55	0	0	0	0
Donations (# of specimens)					
Received	0	0	0	14009	14009
Accessions (# of specimens)					
Total prepared (approximate)	100	200	300	200	400
Deaccessions (# of specimens)					
Total number of specimens	0	0	0	0	0
Specimen Database					
Number of species added	65	22	87	25	47
Total number of species databased	15164	15186	15186	15211	30397
Number of specimens added	1	53	54	72	125
Total number of specimens databased	9817	9870	9870	9942	19812

Since the specimens were inaccessible after packing, we found it necessary to eventually close down to loans and visitors as packing progressed. After the move, we remained closed to these activities until unpacking was well underway. By June of 2002 we were again sending and receiving loan specimens and accommodating visitors.

Entomology Usage Statistics	2001 Jan.-June	2001 July-Dec.	Calendar 2001	2002 Jan.-June	Fiscal 2002
Publications (# of publications):					
Referencing Collection	0	0	0	0	0
Pubs. by Collection Personnel	0	0	0	7	7
# Academic courses taught	0	2	2	1	3
# Public lectures/classes	0	5	5	1	6
# Students advised/mentored	7	7	7	6	13
# Professional conferences attended	1	10	11	1	11
# Professional presentations	0	1	1	0	1
# Invited presentations and seminars	0	3	3	3	6
Grants received					
Number of grants	5	2	7	10	12
\$ amount	12,508	10,000	22,508	43,250	53,250

A summary of grants received by members of the Entomology Section can be found in Table 1. The following is a detailed listing of these grants:

Kasey Barton received the following new grants:

EPOB Graduate Student Grant	April 2001	\$500
Walker Van Riper Fund Grant	April 2001	\$800
John Marr Fund	April 2001	\$200
OTS Post-course Grant	Feb. 2002	\$500
Beverly Sears Graduate Grant	March 2002	\$500
OTS Pilot Grant	April 2002	\$1500
EPOB Graduate Grant	April 2002	\$2100
Pue Grant	May 2002	\$8000
ARCS grant	Oct., 2002	\$5000

David Bettman received a continuation of the following grant:

NSF Pre-doctoral Fellowship	continuation	\$7650
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MarieAnn de la Fuente

Fullbright grant	2001-2002	n/a
NATO grant	2001-2002	n/a

Katy Prudic received the following grants:

NSF Pre-doctoral Fellowship	2000-2003	\$20,000/year
Walker Van Riper Grant	2002	\$1,000
NSF Dissertation Improvement Grant	2002-2004	\$10,000

Jeff Oliver received the following grants:

Walker Van Riper Grant (w/Prudic)	2001	\$1008
Xerces Society	2002	\$2000

Section Activities

- Deane Bowers co-curated the Museum's Centennial exhibit with Steve Lekson. This exhibit opened in April of 2002 and will remain up until May of 2003.
- Moved the collection to the new Museum Collections Building (MCOL). Preparation for the move of our insect and spider collections began in February of 2001 when we started packing and stabilizing our specimens. In September of 2001 the collections moved to MCOL. We then began the process of unpacking the specimens, supplies and our library materials. The majority of the unpacking was completed by June 2002.
- New cabinetry: In connection with the move to MCOL, we obtained new cabinetry for the arachnid collection and additional cabinetry for growth in the insect collection. This cabinetry was valued at \$28,000. Library shelving and access to the walk-in freezer were also valuable additions to the Entomology Section.
- Collecting: Despite the huge task of preparing for, moving, and unpacking the collections, we were still able to do some limited fieldwork. Specimens were frozen for for preparation at a later date. Nine collecting trips were made, to many areas of the state including Baca County, Durango, Pawnee National Grassland, and the Bar NI Ranch in southern Colorado, as participants in The Nature Conservancy's 2001 Bioblitz.
- Bombus collection: We obtained a donation of 14,009 bumblebees from Dr. Macoir, emeritus faculty at University of Akron in Ohio. The majority of these specimens were collected in the Rocky Mountains. Additional material from the Eastern and Midwest portion of the United States provides comparative material, additional species not found in the West, and keeps his research collection intact.
- Deane Bowers developed new course: Practicum in Entomology (MUSM 5196)
- Participated in Family Day, a public programs event in the Museum (Ask the Experts).

Teaching

Deane M. Bowers

Collections Management (MUSM 5051)

Graduate seminar in Chemical Ecology (EPOB 6200)

Practicum in Entomology (MUSM 5196, co-taught with Dena Smith)

Independent study (1 graduate student)

Resource person for the OTS (Organization for Tropical Studies) program in Costa Rica, spring 2002.

Principal advisor to 8 grad students; on committee for 6 other grad students

Students advised by D. Bowers

Celeste Park	EPOB	MA completed August 2001
MarieAnn de la Fuente	EPOB	PhD completed May 2002
David Bettman	EPOB	MA candidate
Kasey Barton	EPOB	PhD candidate
Katy Prudic	EPOB	PhD candidate
Jeff Oliver	EPOB	PhD candidate
Steve Armstead	M&FS	MS candidate

Research

Deane Bowers: Ecology and evolution of insect and plant interactions

Virginia Scott: Insect fauna of Colorado

Publications

- Bowers, M.D. 2002. Coevolution of insects and plants. In: Encyclopedia of Plant and Crop Science. M. Kogan and S. Rao (eds.). Marcel Dekker Inc., in press.
- De la Fuente, M.A. and M.D. Bowers. Population variation in trichomes and iridoid glycosides in *Plantago lanceolata* (Plantaginaceae) and effects on butterfly oviposition. submitted to Ecological Entomology.
- Prudic K.L., A.M. Shapiro, and N.S. Clayton. 2002. Evaluating a putative mimetic relationship between two butterflies, *Adelpha bredowii* and *Limenitis lorquini*. Ecological Entomology 27: 68-75.
- Collinge S.K., Prudic K.L., and J.C. Oliver (in press) Landscape context and grassland butterfly diversity. Conservation Biology.
- Prudic K.L. and J.C. Oliver (submitted) Filling the gaps: a butterfly species survey of San Juan County, Colorado. Pan Pacific Entomologist.
- Oliver J.C., Prudic K.L., and S.K. Collinge (submitted) Butterfly diversity of Boulder County open space grasslands. Journal of the Lepidopterist Society.
- Voss SR, Prudic KL, Oliver JC, and HB Shaffer (submitted) Candidate Gene Analysis of Metamorphic Timing in Ambystomatid Salamanders. Molecular Ecology invited paper.

Lectures & Public Programs

Deane Bowers gave seminars at Smith College, Brown University, and the Denver Museum of Nature and Science.

Virginia Scott was interviewed for two programs that aired on Colorado Public Radio's Colorado Matters. One interview focused on moving insect collections. The other focused on insect collecting and the search for a rarely collected bee, *Andrena durangoensis*.

Steve Armstead guided two sessions of the CU Museum's Bug Safari during August 2001.

Papers and Abstracts Presented at Professional Conferences

Virginia Scott presented “An Entomological Odyssey: Moving Collections “ at the Entomological Collections Network annual meeting December 2001.

Professional Service within the University of Colorado

Deane Bowers

Museum steering committee
Museum Art selection committee for new Museum building
Museum AAM (American Association of Museums) Accreditation Committee
Museum Search Committee for Professor and Curator of the Museum Studies Program.
Museum Building Committee
EPOB Salary Committee
EPOB Strategic Planning Committee
EPOB Student Computer facility
BFA Committee on Women
Chancellor's Committee on GLBT (Gay, Lesbian, Bisexual and Transgendered) Issues
Boulder Faculty Assembly Executive Committee.
Boulder Faculty Assembly representative from the Museum

Other Professional Service

Deane Bowers

Co-curated the University Museum's Centennial Exhibit with Steve Lekson.
Scientific Advisory Board, Butterfly Pavilion
National Science Foundation. Panelist for the PEET (Partnerships for Enhancing Expertise in Taxonomy) Program. May.
Editorial Board, Chemoecology
Editorial Board, Biochemical Systematics and Ecology
Editorial Board, Journal of the Lepidopterists' Society
Editor, Journal of the Lepidopterists' Society
Reviewer for Journal of Chemical Ecology
Reviewer for Ecological Entomology
Reviewer for Ecology
Review of grant proposals for NSF

Virginia Scott

Participant in faunal and floral survey for the Colorado Chapter of the Nature Conservancy

Geology Section – Paleontology Collection

Prepared by Karen Chin, Peter Robinson, Dena Smith, Jaelyn Eberle,
Paul Murphey, Gene Hall, and Amy Moe

Focus of Section

The Geology section is dedicated to education and research in geology and paleobiology, and houses two major collections: Paleontology and Osteology. An extensive reprint collection and comprehensive teaching collections of recent and fossil vertebrates and invertebrates, ichnofossils, and rocks and minerals, are also maintained.

Major Accomplishments

- Dr. Karen Chin was hired as a Curator of Paleontology
- Geology Section facilities (including the paleontology collection) were packed and moved to the new facilities in the Museum Collections Building
- Grant from the French Ministry of Culture and the Charente Region Governing Council for organising a lab course on taphonomy and for analysis of materials from the site of Bois Roche: 61,000 francs (\$9,000) (Paola Villa)
- Grant from the FBBV (Fundación Banco de Bilbao y Vizcaya) Programa Catedra for research on taphonomy at Ambrona (Lower Paleolithic) at the University of Barcelona with Prof. Rafael Mora : 695,000 pesetas (\$4,000) (Paola Villa)
- Worked with Exhibits to develop Geology Section portion of Centennial Exhibit

Personnel

Peter Robinson	Curator of Geology/Paleontology
Dena Smith	Curator of Invertebrate Paleontology
Karen Chin	Curator of Paleontology
Paul Murphey	Collections Manager, Vertebrate Paleontology
Eugene Hall	Collections Manager, Invertebrate Paleontology
Herbert Covert	Associate Curator of Fossil Primates, WOC
Donald Eicher	Associate Curator of Micropaleontology, WOC
Bill Hay	Associate Curator of Nannofossils, WOC
Emily Bray	Museum Associate, Fossil Eggs, WOC
Steven Wallace	Museum Associate, Paleontology, WOC
Donna Engard	Museum Associate, Paleontology, WOC
Patricia Monaco	Museum Associate, Paleontology, WOC
Paola Villa	Curator Adjoint, Paleoanthropology, WOC
Mary Dawson	Curator Adjoint, Fossil Mammals, WOC
Emmett Evanoff	Curator Adjoint, Geology/Invert. Paleontology, WOC

Jeff Indeck	Curator Adjoint, Paleontology, WOC
Sherri Gabbert	Curator Adjoint, Paleontology, WOC
Donald Kron	Curator Adjoint, Paleontology, WOC
Malcolm McKenna	Curator Adjoint, Paleontology, WOC
Amy Moe	Graduate Assistant
Mary Damm	Graduate Work Study
Jennifer Haessig	Graduate Assistant
Joe Daniel	Graduate Assistant
Amanda Cook	Graduate Work Study
Ali Jaffri	Work Study/Mentoring/UROP
Wahab Sadeqi	UROP student
Mike Mercer	EPOB intern
Jamie Hodgkins	Undergraduate hourly
Sarah Melton	Undergraduate hourly
Kandi Fero	Undergraduate hourly
Robin Nesbeda	UROP student
Daphina Mark	Work Study
Sylvia Arnot	Volunteer
Jean Gohde	Volunteer
Jon Bennett	Volunteer
Marc Lanskey	Volunteer

Volunteers (at UCM)	4 volunteers (405 total hours)
Volunteers (external)	10 volunteers (180 hours total)

Collections Growth: Paleontology (catalogue numbers used shown in parentheses). Collections packing and moving happened in 2001.

Year	1998	1999	2000	2001
Number of new fossil localities	114	70	88	126
Number of catalogued fossil vertebrates	10,249 (UCM 77051-87300)	6,399 (UCM 87301-93700)	1,649 (UCM 93701-95350)	399 (UCM 95351-95750)
Number of catalogued fossil inverts (gaps to fill in seq.)	18 *	275 *	256 *	350 **(UCM 34000-34400)
Number of catalogued fossil plants (gaps to fill in seq.)	5 *	150 *	50 *	1,750 **(UCM 27901-38900)

Year	2001** (Jan-June)	2001** (July-Dec)	2002
Loans to CU campus*	1	3	4
Loans to within Colorado*	1	1	2
Loans to rest of USA*	12	6	18
Loans to outside of USA*	0	2	2
Total loans*	14	12	26
Phone inquiries (students, public)	3	8	11
Phone inquiries (scholars)	2	5	7
Mail/Email inquiries, responses	25	69	94

Collections visits (students, public), includes fossil IDs	10	14	24
Collections visits (scholars)	4	3	7
Collections data requests (scholars)	7	10	17
Collections data requests (students, public)	4	3	7
Collections study, scholars	1	2	3
Collections study, students	1	2	3
Total inquiries, visits, and searches	57	116	173

*A single loan is usually comprised of multiple specimens

**Years in which the collections were closed for part of the year for moving and unpacking

Miscellaneous Sectional Services.

Year	2000	2001	2002
Off campus lectures by sectional affiliates	7	4	*
On campus invited lectures by sectional affiliates	*	*	*
On campus courses/seminars taught by sectional affiliates	6	4	*
Off campus short courses/seminars taught by sectional affiliates	5	1	*
Professional meetings attended by sectional affiliates	*	3	*
Educational field trips led by sectional affiliates. (x) = number of participants	3 (40)	2 (28)	*
Museum gallery and/or collections tours led by sectional affiliates	*	5	*
Field research projects involving students and/or volunteers. (x) = number of participants	2 (16)	5 (20)	*
Interviews with media by sectional affiliates	5	5	*
Institutions to which UCM specimens were exchanged/donated (including casts)	4	3	*

*Information not available

2001 Research utilization of the Paleontology Collections by UCB faculty, staff, **WOCs, and students.

Name	Items Studied	Degree Conferred and Year
Peter Robinson	Eocene mammals	N/A
Dena Smith	Insects and plants	N/A
Karen Chin	Coprolites	N/A
Bert Covert*	Eocene primates	N/A
Paul Murphey*	Vertebrates, Bridger Fm.	Ph.D., Geological Sciences, 2001
Emmett Evanoff	Molluscs	N/A
Steve Wallace*	Vertebrates, invertebrates, plants	N/A
Jon Bennett	Arctocytonid condylarths	M.S. in progress, Geological Sciences
David Daitch	<i>Didymictis</i>	M.S. in progress, Geological Sciences
Emily Bray*	Fossil eggshell	M.S. in progress, Geological Sciences
Melissa Lester	<i>Microsyops</i> : Wasatch Fm., Washakie Bsn	M.S. in progress, Geological Sciences

Heidi Schutz	Fossil mammals	M.S. in progress, Museum & Field Studies
Amy Moe	Florissant insects	M.S. in progress, Museum & Field Studies
Amanda Cook	Plants and insects	M.S. in progress, Geological Sciences
April Kinchloe	Spiders in amber	PhD in progress, Geological Sciences
Joe Daniel	Vertebrates	M.S. in progress, Museum & Field Studies
Jamie Hodgkins	Vertebrates, Bridger Fm.	B.S. in progress, Biology and Anthropology
Mary Damm	Florissant plants	M.S. in progress, Museum & Field Studies

*voucher collection housed at UCM

**WOC appointments = without museum compensation

Funding obtained by sectional personnel for education and/or sectional development in 2001.

Student Name (if applicable)	Funding Source	FY	Amount	Supervisor/Sponsor
Jamie Hodgkins	UROP	00-01	\$1,200	Smith
Marie Ruiz-Yantin	SMART	00-01	320 hours	Smith
Robin Nesbeda	UROP	00-01	\$800	Murphey
Ali Jaffri	Dept. Geol. Mentoring	01-02	\$1,000	Murphey
Wahab Sadeqi	UROP	01-02	\$800	Murphey
Mike Mercer	EPOB internship	01-02	128 hours	Murphey
Julianne Macie	Dept. Geol. Mentoring	00-01	\$1,000	Bohor

Use of Geology Section specimens in UCB and off-campus classes during 2001 (note that class use was lower than normal because of moving).

Institution	Class Title	Dept.	Course #	Semester	Specimens Used
UCB	Vertebrate Zoology	EPOB	3770	Spring, 2001	Vertebrate fossils
UCB	Mammalogy	EPOB	4760/5760	Fall, 2001	Vertebrate fossils
UCB	Paleobiology	GEOL	3410	Fall, 2001	Invertebrate fossils

Section Activities

- Dr. Karen Chin was hired as a Curator of Paleontology
- Planning for the move out of the Hunter Building and for the new facilities in the Museum Collections Building continued throughout the first nine months of 2001
- Geology Section facilities (including paleontology collection) were moved in late September, 2001
- Set up of new offices, labs, and collections areas took place beginning in late September, 2001
- The unpacking of the paleontology collections was initiated in October, 2001

- Dena Smith developed course proposal and syllabus for "Introduction to Scientific Illustration". This is a new graduate-level course for students in the Museum and Field Studies Program and will be a part of the regular curriculum for the program.
- The Search for a new Curator of Vertebrate Paleontology was initiated in Fall, 2001
- The family of the late Don Kron donated a microscope, books and a reprint collection (value approximately \$8,000)
- Submission to NSF EAR Geology and Paleontology, \$458,999, not funded, will resubmit in 2003 (Dena Smith)
- Grant from the French Ministry of Culture and the Charente Region Governing Council for organising a lab course on taphonomy and for analysis of materials from the site of Bois Roche: 61,000 francs (\$9,000) (Paola Villa)
- Grant from the FBBV (Fundación Banco de Bilbao y Vizcaya) Programa Catedra for research on taphonomy at Ambrona (Lower Paleolithic) at the University of Barcelona with Prof. Rafael Mora : 695,000 pesetas (\$4,000) (Paola Villa)
- Proposal submitted to the National Geographic Society: Characterization of a late Cretaceous polar marine ecosystem (grant declined) (Karen Chin)
- Proposal submitted to the American Chemical Society: Geochronology and correlation of Eocene rocks in the greater Green River, Piceance Creek, and Uinta basins: Wyoming, Colorado, and Utah (Paul Murphey, Bruce Bohor, Alan Lester, John Dyni, Peter Robinson, Marvin Lanphere) (grant declined)
- Proposal submitted to NSF: Mountain and Plains Spatio-Temporal Database Initiative (NSF 0110133, \$616,000) (Paul Murphey, Co-PI)
- Participated in Family Day, a public programs event in the Museum (Ask the Experts).

Teaching

Peter Robinson

Paleontology of the Higher Vertebrates (GEOL 4480)

Independent study (1 student)

principal advisor to 6 grad students; member of committee for 1

Dena Smith

Paleobiology (GEOL 3410)

Entomology Practicum. Co-Taught with Deane Bowers (MUSM 5916)

Independent Study (2 students)

Resource Instructor for the Organization for Tropical Studies. Tropical Biology: An Ecological Approach - OTS 01-1. Field-oriented course taught in Costa Rica. Taught with the course for four weeks; Paleobiology, Beetle Systematics and Identification Techniques, Field Illustration Techniques for Biologists.

Developed new graduate-level course for the Museum and Field Studies Program, "Introduction to Scientific Illustration", which will be part of regular curriculum.

Principal dissertation/thesis advisor to 3 graduate students and one undergrad; member of committees for 5 other grad students; advised 1 UROP student; mentored 1 SMART student

Karen Chin

Principal dissertation/thesis advisor to 1 grad student, member of committee for 3

Research

Karen Chin: Paleontology of coprolites

Peter Robinson: Biostratigraphy and diversity of Early Eocene mammals, and the response of faunas to immigration events

Dena Smith: Insect paleontology

Paul Murphey: Vertebrate paleontology

Publications

Bennett, J.S. 2001. The basicrania of *Baioconodon denverensis* (Mammalia, Condylarthra) and *Diacodexis* (Mammalia, Artiodactyla), and the case for an "arctocyonid" ancestry of artiodactyls: Unpublished Masters Project paper, University of Colorado, Boulder, 23 p.

Murphey, P.C. 2001. Stratigraphy, fossil distribution, and depositional environments of the upper Bridger Formation (middle Eocene) of southwestern Wyoming, and the taphonomy of an unusual Bridger microfossil assemblage: *University of Colorado Doctoral Dissertation*, 345 p.

Murphey, P.C., Torick, L.T., Bray, E., Chandler, R., Evanoff, E. 2001. Taphonomy, fauna, and depositional setting of the *Omomyx* Quarry, an unusual accumulation from the Bridger Formation (middle Eocene) of southwestern Wyoming, *in: Eocene Vertebrates: Unusual Occurrences and Rarely Sampled Habitats* (G. Gunnell and J. Alexander, eds.), Plenum Press, NY, 361-402.

Evanoff, E., McIntosh, W.C., and Murphey, P.C. 2001. Stratigraphic Summary and ⁴⁰Ar/³⁹Ar geochronology of the Florissant Formation, Colorado. *Proceedings of the Denver Museum of Nature and Science*, Series 4, no. 1, p. 1-16.

- Hollocher, T.C., Chin, K., Hollocher, K.T., and Kruge, M.A. 2001. Bacterial residues in coprolite of herbivorous dinosaurs: role of bacteria in mineralization of feces: *Palaaios*, 16: 547-565.
- Marra C., Villa P., Beauval C., Bonfiglio L. & Goldberg P. (*in press*). Same predator, variable prey: taphonomy of two Upper Pleistocene hyena dens in Sicily and SW France. In "Humans and Carnivores" special issue of *Revue de Paléobiologie* (Geneva), (edited by J.P.Brugal and P. Fosse).
- Smith, D.M. (*in review*). The evolution of plant and insect interactions: insights from the Tertiary fossil record: *Submitted to Paleobiology 2001, revised for resubmission to Paleobiology, 2002*.
- Smith, D.M. (*in review*). Rainforests: implications for studies of fossil herbivory: *In review with Biotropica, 2001. Modified and in review with Oecologia, 2002*.
- Villa P. 2001. Early Italy and the colonization of Western Europe: *Special Issue of Quaternary International*, Out of Africa (edited by O. Bar Yosef and L. Straus), Vol. 75: 113-130.
- Villa P. and d'Errico, F. 2001. Bone and ivory points of the Lower and Middle Paleolithic of Europe: *Journal of Human Evolution* 41: 69-112.
- Villa, P., Castel J.C., Beauval C., Bourdillat V. & Goldberg P. (*in press*). Human and carnivores sites in the European Middle and Upper Paleolithic: similarities and differences in bone fragmentation and modification: In "Humans and Carnivores" special issue of *Revue de Paléobiologie* (Geneva), (edited by J.P.Brugal and P. Fosse).
- Villa, P., Bon, F., & Castel, J.C. (*in press*). Fuel, fire and fireplaces in the Paleolithic of Western Europe: *Review of Archaeology*.

Lectures & Public Programs

Karen Chin presented two public lectures at the Discovery Center of Idaho, December, 2001. Karen Chin was interviewed by the Boulder Daily Camera and the Great Falls Tribune about dinosaur research.

Papers and Abstracts Presented at Professional Conferences

- Harrington, G.J., Bowen, G. J., Koch, P. L., Fricke, H. C., Robinson, P., and Wing, S. L. 2001. Floral and isotopic data from the LPTM in the Powder River Basin, Wyoming: *In*, Ash, A. W. and Wing, S. L., Climate and Biota of the early Paleogene, P. 39. http://www.paleogene.net/abstract_volume.html.
- Chin, K., 2001, Rooting for evidence of an ancient fire: *Paper presented at the Sixth Conference on Fossil Resources*, September 10-14, Grand Junction, Colorado.
- Marra, C., Villa, P., Beauval, C., Bonfiglio, L. Goldberg, P., 2001, Same predator, variable prey: taphonomy of two Upper Pleistocene hyena dens in Sicily and Southwestern France : *XIV UISPP Congress, Liège, Sept. 2-8* (Abstract volume p. 69).
- Smith, D.M and A. Cook 2001. Beetle Bias: How sedimentary environment influences patterns of Coleopteran Diversity in the fossil record. Geological Society of America Annual Meeting, Abstracts with Programs, 33(10).
- Smith, D.M. 2001. Taphonomic bias and insect diversity: A lesson from the beetles and flies. North American Paleontological Convention 2001, Abstracts with Programs.

- Villa, P., 2001, The Middle Pleistocene in Western Europe: Early settlements and behavioral patterns: *Round Table "Asia and the Middle Pleistocene in Global Perspective"* in Hawaii, March 14-17, Sponsored by the organizers.
- Villa, P., Castel, J.C., Bourdillat, V., Beauval, C. and Goldberg, P., 2001, Breakage patterns of animal bones: distinguishing carnivore, human and postdepositional effects : *XIV UISPP Congress, Liège, Sept. 2-8* (Abstract volume p. 68).
- Villa, P., and d'Errico, F., 2001, Ivory points in the Lower Paleolithic of Europe: *1st International Congress "The World of Elephants" Rome*, October 16-20, 2001: Workshop on The use of Proboscidean Remains in Everyday Palaeolithic Life, organized by Sabine Gaudzinski and Elaine Turner. Abstract published in the Proceedings volume.
- Villa P., Soto E., Perez-Gonzalez A., Mora R., Taphonomy at Ambrona: new perspectives: *1st International Congress "The World of Elephants" Rome*, October 16-20, 2001. Abstract published in the Proceedings volume.

Professional Service within the University of Colorado

Karen Chin

Museum Search Committee for a new Curator of Geology/Paleontology
Museum Education and Outreach committee

Dena Smith

Museum Space Committee
Co-Chair, Search Committee for Curator and Assistant Professor of Vertebrate Paleontology.
CU Museum and Department of Geological Sciences
Museum Curriculum Committee
Museum Geology Section Committee
Museum Collections Committee
Museum AAM Accreditation Committee
Member of Sloan Committee, Department of Geological Sciences

Other Professional Service

Karen Chin

Contributed to exhibit at the Boston Museum of Science

Peter Robinson

Chair of committee to revise a chapter on the Eocene Mammalian Faunas of North America
Consulting for Garden Park Paleontological Society, Canon City, CO
Consulting for UintaPaleo, Vernal Utah
Consulting for Rocky Mountain Paleontology

Dena Smith

Created and manage a listserve called NAPALEOENT. This listserve was created to facilitate discussion and collaboration between North American Paleontologists.
Consulting with Florissant Fossil Beds National Monument. Identification of fossil insects in NPS collection.
Reviewed manuscript for the journals Cretaceous Research and Rocky Mountain Geology.

Zoology Section

Prepared by Alan de Queiroz, Robert Guralnick, and Rosanne Humphrey

Focus of Section

The Zoology Section provides zoological resources to researchers, students, educators and the general public within and outside of Colorado, and serves as a repository for invertebrates and vertebrates from the Rocky Mountain and Great Plains regions. The strength of our collections is the significant representation of specimens from Colorado and the surrounding plains, plateaus and basins.

Major Accomplishments

- Awarded NSF grant for \$617,000. NSF Mountain Plains Spatio-Temporal Database Informatics Initiative. Robert Guralnick, Paul Murphey (UCM), Rob Ramey, Russ Graham (DMNS), and Carol Dawson (Denver Botanic Gardens). (\$419,583 of total is for UCM .)
- Developed new course - lecture and lab -for the Museum and Field Studies program, "Creating and Managing Digital Media in Museums", MUS6110, 3 credits
- Major revision of existing course: Invertebrate Zoology, EPOB-3850-010, 4 credits. All the lectures and labs were created anew and included a significant upgrade in quality of the course
- Finished geocoding mollusk database; geo-coded herp database records
- Planned and supervised the move of all zoological collections into the new Museum Collections Building
- Worked with Exhibits to develop Zoology Section portion of Centennial Exhibit
- Upgraded entire snake collection
- Reorganized entire bat collection

Personnel

Alan de Queiroz	Curator of Vertebrates
Robert Guralnick	Curator of Invertebrates
Shi-Kuei Wu	Emeritus Curator of Zoological Collections
Rosanne Humphrey	Collection Manager of Vertebrates
Gene Hall	Collection Manager of Invertebrates
David Armstrong	Associate Curator, Mammals, WOC
David Chiszar	Associate Curator, Amphibians and Reptiles, WOC

Alexander Cruz	Associate Curator, Birds, WOC
Jeffrey Mitton	Associate Curator, Fishes, WOC
John Burch	Adjoint Curator, Invertebrates, WOC
Robert Finley	Adjoint Curator, Mammals, WOC
Gerald Freeman	Adjoint Curator, Mammals, WOC
Mark Gordon	Adjoint Curator, Invertebrates, WOC
Carron Meaney	Adjoint Curator, Mammals, WOC
Chris Pague	Adjoint Curator, WOC
Harry Taylor	Adjoint Curator, Amphibians and Reptiles, WOC
Harrold Tyus	Adjoint Curator, Fishes, WOC
Jasmin Becker	Museum Associate, WOC
Katherine Pague	Museum Associate, WOC
Barbara Romig	Museum Associate, WOC

Personnel Data			
Paid and Non-paid	Jul-Dec 2001	Jan-Jun 2002	
Temp Paid & Non-Paid Section Support	or Hours	or Hours	Total Fiscal 2002
Non Student Hourly			360
Lea Bonewell	80	280	
Student Hourly			1,479
David Daitch, grad student	33		
Ryan Allen, grant	217	133	
Robbie Glaubitz, grant	105		
Leslie Johnson, grant	168	200	
Curis Nepstad Thornberry	6		
Kim Breen, work study	112	185	
Amy Moe		120	
Kent Vanderploeg, grant		200	
GA			1,666
Jennifer Haessig, grant	140	133	
Joe Daniel, grant	140	133	
Allison Smith	320	480	
Dolly Crawford	320		
Independend Study Students			750
John Krieger	75	75	
Dolly Crawford	75	400	
Heidi Schutz	75		
David Daitch		50	
Volunteer			266
Erin King	11		
Mark Hays	8	20	
Christie Kirsch	15		
Heidi Quist	2		
Will Roberts	20		
Curt Burney		40	
Laura Chu		150	
WOC			180
Barbara Romig	50	130	
Total Hours			4,701

Fiscal 2002 Collections Usage and Activity	CU	Colorado (non-CU)	Outside Colorado	Internt'l	Total
Visitors	118	34	7	0	159
Loans to other institutions					
Loans (not including class use)	12	2	9	1	24
#Specimens	616	210	277	13	1116
Loans to CU classes	5	Teaching collections:			5
# specimens	3110	Advanced Vertebrate Biology, Ornithology, Fish Ecology			3110
Total no. loans	17	2	9	1	29
Total # specimens	3726	210	277	13	4226
Note that the section was finishing unpacking and setting up after the move to MCOL.					
Information requests					
(phone, email, written)	81	73	47	4	203
#Acquisitions					1309
Deaccessions (# of specimens)					0
Specimen Database Entry (# records)					10,000
Percent of Goal					72.5%

GRANTS

Museum-Based

Principal Investigator	Museum Title	Granting Agency	Short title	\$Award (New)	FY02 (Cont)
Robert Guralnick	Curator	CDNOR	Invertebrate Database: Mollusks	7,000	
Robert Guralnick	Curator	NSF	MaPSTedi: Bioinformatics	419,583	
Robert Guralnick	Curator	NSF	MaPSTedi-subcontracts: DMNH,DBG	197,417	
Robert Guralnick	Curator	CU-FA	Junior Faculty Development Award	12,000	
Total New Grants and Awards:		7		636,000	
Current Grant/Award Funds Total:					-

Proposals

Principal Investigator	Submitted Through:	Source	Short title	Amount	Status
Thomas Ranker, Curator w/ Guralnick, Bloom, Counter, Hakala	Museum	NSF	Biodiversity Science Education Project	2,034,150	Denied 11/02
Total Proposals Fiscal 2002		5		2,034,150	

Section Activities

- Awarded NSF grant for \$617,000. NSF Mountain Plains Spatio-Temporal Database Informatics Initiative. Robert Guralnick, Paul Murphey (UCM), Rob Ramey, Russ Graham (DMNS), and Carol Dawson (Denver Botanic Gardens). (\$419,583 of total is for UCM .)
- Developed new course - lecture and lab -for the Museum and Field Studies program, "Creating and Managing Digital Media in Museums", MUS6110, 3 credits
- Major revision of existing course: Invertebrate Zoology, EPOB-3850-010, 4 credits. All the lectures and labs were created anew and included a significant upgrade in quality of the course.
- Updated "Move" website
- Updated Zoology website, added "Section News" page
- Planned and supervised the move of all zoological collections into new space
- Interview with Denver post, regarding the move
- Prepared the MCOL spaces for the move (taped floors, problem solved -some rooms smaller than on floor plans, ordered furniture and equipment for zoology section, etc.)
- Set up custodial services, recycling, and security for MCOL Building
- Worked with contractors, building occupants, and CU project manager to solve problems in new building
- Unpacked about 250 boxes of wet zoological specimens, books, and supplies. Unpacked and reinstalled about 60 cabinets of bird specimens
- Configured all databases for online use via the web, new layouts, passwords, etc.
- Entered higher taxonomy for Mammal and Bird databases
- Reconfigured the server to eliminate security problems (Windows 2000 Server)
- Set up new server account (CU Maintained Unix acct) for web site files, updated the site
- Set up network -zoology and paleontology sections, shared server and all individual computers

- Unpacked, organized, relabeled vertebrate teaching collections
- Worked with Keith Furones (MCOL renovation liaison) and MCOL occupants to solve problems in the building (plumbing, sewage, fume hoods, mechanical noise, paleo prep sink, etc.)
- Worked with Exhibits to develop Zoology Section portion of Centennial Exhibit. Assisted with label copy, loaned approximately 250 specimens, slides, field notes, and other objects
- Entered 7,860 records into vertebrate and invertebrate databases
- Finished geocoding mollusk database. Geo-coded herp and herp database records
- Upgraded entire snake collection (added shelves, new bottle tags, lid liners, topped off jars, reassessed arrangement of jars)
- Reorganized entire bat collection, updated taxonomy where possible, integrated about 350 uninstalled bats into the main collection, expanded into new cabinet
- Participated in Family Day, a public programs event in the Museum (Ask the Experts).

Teaching

Alan deQueiroz

Evolutionary Biology (EPOB 2080, new course)

Graduate Evolution Core Course (EPOB 5320)

Independent study (1 student)

Principal advisor to 3 grad students, member of committee for 18 others; advisor to 1 UROP student

Rob Guralnick

Invertebrate Zoology, (EPOB-3850-010 Major revisions made to course)

Creating and Managing Digital Media in Museums, (MUS6110, new course)

Invertebrate Biology, (EPOB3850)

Independent study (2 students)

Principal advisor to 5 grad students, member of committee for 8 others

Research

Alan de Queiroz: The evolution of behavior, especially of squamate reptiles; phylogenetic biology; key evolutionary innovations; evolution of specialization.

Rob Guralnick: Invertebrate biology

Publications

- Hoberg, E. P., N. L. Alkire, A. de Queiroz, and A. Jones. 2001. Out of Africa: origins of the *Taenia* tapeworms in humans. *Proceedings of the Royal Society of London B* 268: 781-787.
- Ashton, K. G., and A. de Queiroz. 2001. Molecular systematics of the western rattlesnake, *Crotalus viridis* (Viperidae), with comments on the utility of the D-loop in phylogenetic studies of snakes. *Molecular Phylogenetics and Evolution* 21: 176-189.
- de Queiroz, A., C. Henke, and H. M. Smith. 2001. Geographic variation and ontogenetic change in the diet of the Mexican Pacific lowlands garter snake, *Thamnophis validus*. *Copeia* 2001: 1034-1042.
- de Queiroz, A., and R. R. Groen. 2001. The inconsistent and inefficient constricting behavior of Colorado western terrestrial garter snakes. *Journal of Herpetology* 35: 450-460.
- de Queiroz, A. From interspecific variation to individual context-dependence: Effects of water depth on aquatic foraging behaviour in the garter snake. Manuscript submitted to *Animal Behaviour*.
- de Queiroz, A., R. Lawson, and J. A. Lemos-Espinal. 2002. Phylogenetic relationships of North American garter snakes (*Thamnophis*) based on four mitochondrial genes: How much DNA sequence is enough? *Molecular Phylogenetics and Evolution* 22: 315-329.
- de Queiroz, A. 2002. Contingent predictability in evolution: key traits and diversification. *Systematic Biology* 52: in press.
- Forbis, T. A., S. K. Floyd, and A. de Queiroz. 2002. The evolution of embryo size in angiosperms and other seed plants: implications for the evolution of seed dormancy. *Evolution*: in press.
- Guralnick, R. P. and D. R. Lindberg. 2001. Reconnecting cell and animal lineages: what do cell lineages tell us about evolution and development of spiralia? *Evolution* 55:1501-1519.
- Guralnick, R. P. and J. Kurpius. 2001. Spatial and temporal growth patterns in the phenotypically variable *Littorina saxatilis*: Surprising patterns emerge from chaos. pp. 195-221 In M. Zelditch (ed.) *Beyond Heterochrony*. New York, NY: John Wiley and Sons.
- Guralnick, R. P. in review. A Recapitulation of the Rise and Fall of the Cell Lineage Research Program: The evolutionary-developmental relationship of cleavage to homology, body plans and life history. *Journal of the History of Biology*.
- Lindberg, D. R. and Guralnick, R. P. in press. Lineages, Cell and Animal. In Brian K. Hall and Wendy Olson (eds.) *Keywords in Evolution and Development*. Cambridge, Mass.: Harvard University Press
- Guralnick, R.P. Integrating Historical and Functional Data In Molluscan Feeding: Approaches and Case Studies. Symposium paper to be published in the *Malacological Bulletin* 2002.

Lectures & Public Programs

Alan de Queiroz gave talks at Yale University and at the University of Northern Colorado.

Rob Guralnick gave a public presentation at the Denver Museum of Nature and Science for Biodiversity Day.

Rosanne Humphrey was interviewed by the Denver Post about the move to the new Museum Collections Building.

Papers and Abstracts Presented at Professional Conferences

Alan de Queiroz

The contingency of key innovations. Invited talk for Symposium on Developing Uses for Phylogenetic Tree Shape, Society of Systematic Biology annual meeting.

Phylogenetic analysis as meta-analysis. Invited talk for second workshop on Bioconsensus, Center for Discrete Mathematics and Theoretical Computer Sciences, Rutgers University.

Rob Guralnick

International Symposium Talk Presenter at the World Congress of Malacology: Major modifications of the feeding apparatus in Mollusca - an evolutionary, structural and functional approach

Co-author on International Conference Symposium Talk at the World Congress of Malacology 2001: The evolution of early development in gastropod molluscs

Talk presented at national conference - Society for Integrative and Comparative Biology 2001: Reconnecting Cell and Animal Lineages: A Synthetic Approach to Spiralian Evolution and Development.

Presentation to Evo-Devo Supergroup - "Reconnecting Cell and Animal Lineages"

Professional Service within the University of Colorado

Alan de Queiroz

Museum Collections Committee

Museum Space Committee

Museum Exhibits Committee

Museum Museum Studies Committee

Museum Informatics Committee

Museum, Chair of Collection Manager job search committee

Museum, Co-Chair of Vertebrate Paleobiology Curator job search committee

EPOB Graduate Committee

EPOB, Chair of Student Fees Committee

EPOB Growth Chambers committee

Rob Guralnick

Museum Collections Committee

Committee to oversee EPO Biology Graduate Student Computing Facilities

Hiring Committee for Museum Informatics Staff Position
Museum BioHall Renovation Committee
Member of the Technology, Arts and Media Certificate Faculty Overseeing Committee
Sequencing Facility Start Up: Worked with two other EPOB faculty member to start up an
EPO Biology Sequencing Facility.

Other Professional Service

Alan de Queiroz

Associate Editor for Systematic Biology
Reviewed manuscripts for the journals Copeia, Journal of Biosciences, the American
Naturalist, Ecology, Annals of the Entomological Society of America, and Systematic
Biology.
Reviewed manuscript of chapter in book, Advances in Evolutionary Herpetology
Participant in faunal and floral survey for the Colorado Chapter of the Nature Conservancy

Rob Guralnick

Editorial Board Member - Freshwater Gastropods of North America (FWGNA).
Society for Integrative and Comparative Biology, Division of Systematics and Evolutionary
Biology nominating committee.
Peer Review of NSF Grant Biological Databases and Infrastructure
Peer review for The Veliger