

SOCIETY OF VERTEBRATE PALEONTOLOGY NEWS BULLETIN

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EXECUTIVE COMMITTEE LETTER TO THE SVP MEMBERSHIP

We hope that your summer has been interesting and rewarding in the domain of vertebrate paleontology. There is a long past still in front of us! We look forward to seeing many of you at the annual meeting in Mexico City.

Because fees are increasing this year for both membership renewal and for the annual meeting registration, we wish to explain this necessary burden.

(1) Membership Fees. Membership fees for the Society have not changed since the 1993–94 fiscal year, but operating expenses continue to increase annually. We now publish substantially more pages in the *JVP* (an expense initially supported by The Dinosaur Society). New awards have been added and awards to students have been increased markedly. In addition, the Society now supports new services, including an expanded Web site, support of the on-line journal *Palaeontologica Electronica*, and support of activities of the Government Liaison Committee and SAFE to monitor legislative activities in Washington, D.C., that have a bearing on the status of vertebrate fossils on U.S. public lands. Publication of abstracts is now free, and submission is faster and more convenient. Through support of dedicated members, services such as the on-line *Bibliography of Fossil Vertebrates* are now available. All of these services require funding. The Society runs an annual shortfall of operating funds. The projected shortfall for 2000–01 is \$90,000, up from about \$70,000 for 1999–00.

(2) Annual Meeting Fees. There is considerable effort made each year to keep the registration fees as low as possible, while covering the costs of services. As the size of the Society has increased, so has the necessity of large and expensive meeting facilities. The costs of the annual meeting depend strongly on the location of the meeting and on which services are covered by registration fees. Getting meeting supplies to Mexico City has raised the overall meeting expenses this year. In contrast, the meeting hotel room price is lower this year than at the last two meetings. Fees have been increased, but even as such, they may not cover all the costs to the Society for this meeting. There is no increase for student members. In fact, the registration fee for students is well below estimated costs per person.

For these reasons, we are compelled to raise the membership renewal fees from \$80 to \$95 for regular members, with comparable increases in other membership categories. Please note that there is no increase in the fees for student members. The unchanged fees for student members reflect our commitment to keep expenses as low as is realistically possible for students wishing to be active in the Society.

These increases have not been adopted lightly. In fact, the circumstances leading to these increases occupied a substantial portion of the discussion at the midyear meeting of the Executive Committee. The increases do not eliminate the shortfall in the Society's operating expenses, but they keep the shortfall from being genuinely excessive.

DISCOVERY AND THE SALE OF VERTEBRATE FOSSILS ON LINE SUSPENDED

In May of this year, Ted Vlamis, President of SAFE, and Richard Stucky, Vice President of SVP, had the opportunity to meet with chief executives of Discovery .com, including Michela English, Bill Allman, and others, to discuss the on-line auction of fossils that occurred in 1999. Several SVP members were concerned about the sale of scientifically significant vertebrate fossils as well as the use of past clips of them that were used without permission to promote the sale of fossils on line.

Discovery indicated that their mission was consistent with the scientific and educational goals of the Society of Vertebrate Paleontology and agreed to the following points:

1. Discovery will not auction vertebrate fossils on line.
2. Discovery will, to the extent possible, not sell scientifically important fossil vertebrate specimens.
3. Discovery will not use footage of any vertebrate paleontologist for the promotion of the sale of vertebrate or other fossils.
4. Discovery has initiated a review process of the sale of vertebrate fossils in all of their businesses.
5. SVP has encouraged Discovery to sell replicas and casts as a means of distributing duplicates of scientific and educationally valuable fossil vertebrates.
6. Discovery and SVP will work together toward providing information to its customers of the importance of keeping scientific information with a specimen.
7. Discovery may support the efforts of the paleontological community in providing greater education and protection of fossil vertebrates that come from public lands.
8. Discovery will not sell any fossils that have been illegally exported from foreign countries.

SVP agreed to provide basic information on criteria for determination of scientific value, information relating to export laws, and information regarding other points made above.

Discovery sees its work in delivering educational messages about vertebrate paleontology as a highly important part of its mission and wants to cooperate in every way in ensuring a good relationship with our Society and professional vertebrate paleontologists. Please call Richard Stucky or Ted Vlamis if you have any questions about these agreements. (Richard Stucky)

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— **NEWS FROM MEMBERS** —

CANADA

Fundy Geological Museum, Parrsboro, Nova Scotia

The collection and preparation of prosauropod dinosaur specimens from the Early Jurassic, McCoy Brook Formation continues to be the focus of the Research Lab at the Fundy Geological Museum. A museum expedition this July will collect a third prosauropod specimen from a small bone-bed deposit.

Ongoing collection of smaller Jurassic vertebrates also continues at the McCoy Brook site. Recent preparation of a specimen collected in 1998 has exposed a very well-preserved, articulated skull of *Protosuchus micmac*. This specimen is being prepared and illustrated by Tim Fedak and studied by Hans-Dieter Sues (ROM). (Tim Fedak)

Redpath Museum, McGill University, Montreal, Quebec

Jason Anderson and Alison Murray are both completing their PhD theses for submission later this summer, Jason on the anatomy and phylogeny of Paleozoic aistopod amphibians, and Alison on Eocene cichlids of Tanzania. Jason's manuscript, "The phylogenetic trunk: Maximal inclusion of taxa with missing data in an analysis of the Subclass Lepospondyli," has just been accepted by *Systematic Biology*. Catherine Boisvert will begin her PhD research in September, on development of the vertebral column in modern salamanders and their possible Paleozoic ancestors. Several undergraduates have been conducting independent studies or honors projects on various aspects of the anatomy and possible relationships of Paleozoic and modern amphibians. A paper by Susanne Cote, Robert Carroll, Richard Cloutier, and Lee Bar-Sagi on vertebral development in *Eusthenopteron* should be ready for submission by fall. Anna Taranko and Campbell Rolian are working on the developmental biology of the heads of branchiosaurs, frogs, and salamanders, concentrating on the functional integration of the jaw suspension, hyoid apparatus, and middle-ear region as a basis for

establishing relationships.

Neil Shubin visited the Biology Department at McGill to speak about his work on evolutionary-developmental biology, with specific emphasis on the juvenile rhizodont recently found in Pennsylvania. His student, Marcus Davis, followed soon after, to examine fin development in a growth series of *Eusthenopteron*.

Volume 4 of the series Amphibian Biology, edited by Bob Carroll and Harold Heatwole, titled "Palaeontology: The Evolutionary History of Amphibians," has just been published by Surrey Beatty & Sons, 43 Rickard Road, Chipping Norton NSW, Australia. This is a multi-authored text, including chapters by Jenny Clack, John Bolt, Eric Lombard, Tim Smithson, Michel Laurin, Robert Holmes, Anne Warren, Jürgen Boy, Hans-Dieter Sues, Zbynek Rocek, Jean-Claude Rage, Ana María Báez, Andrew Milner, J. Alan Holman, and Bob Carroll, covering the entire spectrum of amphibian evolution. (Bob Carroll)

Royal Ontario Museum, Toronto, Ontario

This report will concentrate on the work of our postdocs and students. Ryosuke Motani is about to finish writing his part of the ichthyosaur volume of the Paleoherpertology Handbook. He has also been working on the scaling effects in the biomechanics of thunniform swimming.

Axel Hungerbühler continues his studies on phytosaur taxonomy and evolution. While preparing manuscripts on European phytosaurs out of his PhD thesis, he is gathering more first-hand data for a comprehensive phylogenetic analysis of phytosaurs. Earlier this year he spent several weeks in Paris and Berlin to study basal phytosaurs from Morocco (in cooperation with E. Fara, Bristol) and *Angistorhinopsis* from the latest Triassic of Germany (with O. Rauhut, Berlin). Visiting collections in the USA with phytosaurs from the Chinle Formation and Dockum Group will keep him busy for the rest of the year.

Simone Klutzny successfully defended her dissertation at Bristol. Her research goal is to try to find out whether it is possible to recreate existing cladograms of mammalian crown groups by working exclusively with embryonic characters. These characters were taken from the phylogenetically important orbitotemporal region of the chondrocranium of 30 species of Mammalia, using *Sphenodon punctatus* as the outgroup.

Thomas Carr's joint revision of Tyrannosauridae of New Mexico with Thomas Williamson (NMMNH) took them to the collections of the AMNH last fall and the CMN in Ottawa early in the new year. In Ottawa, they CT-scanned the braincase of the holotype of *Daspletosaurus torosus* at the Ottawa Civic Hospital. Carr and Williamson completed the gathering of data for a specimen-based cladistic hypothesis of Tyrannosauridae in August with a visit to the LACM collections. The first fruit of this collaboration took the form of a review of the tyrannosaurid fossil record of New Mexico that was submitted in June. In July, Carr and Williamson visited the McWane Center in Birmingham, Alabama, as part of a collaboration with David Schwimmer (CSU). In August, Carr was in Albuquerque to describe a giant late Campanian tyrannosaurid collected by

Williamson and NMMNH staff and volunteers from the San Juan Basin in 1998.

Sanja Hinic is working on the skull anatomy of *Massospondylus* (Prosauropoda, Sauropodomorpha). She is describing the cranial features of five *Massospondylus* specimens of various developmental stages, concentrating on ontogenetic and intraspecific variation. On the basis of cranial characters, an evolutionary hypothesis is sought for the phylogenetic relationships within Prosauropoda, more specifically among *Anchisaurus*, *Massospondylus*, *Thecodontosaurus*, and *Plateosaurus*. (Kevin Seymour)

Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta

Phil Currie and David Eberth had an excellent trip to Argentina, working on a theropod bonebed near Plaza Huincul as part of a joint project with Rudolfo Coria. They are currently working on a bonebed dominated by the remains of *Albertosaurus* in the Upper Horseshoe Canyon Formation near Drumheller. Later this summer, Phil will spend time in Dinosaur Provincial Park relocating old quarries, a process that inevitably turns up significant new specimens. Information from the theropod bonebeds will be the subject of a temporary exhibit at the Royal Tyrrell Museum this summer.

Betsy Nicholls is working with Makoto Manabe collecting a giant ichthyosaur from the Pink Mountain area of northern British Columbia. The back part of the skull was collected last year. Based on this, the animal is estimated to be within the size range of a large baleen whale.

Donald Brinkman is currently working on two well-preserved marine turtle skulls from the Late Cretaceous of Alberta. They appear to be close to, but distinct from, *Toxochelys latiramus*. He is also working with Julia Sankey and Phil Currie on a review of the small theropod teeth from the Dinosaur Park Formation of Alberta.

Michael Ryan will be leading a field party to the Manyberries area of southern Alberta, and later to the Dinosaur Park area, in the search for more ceratopsian material (among other things).

Wu Xiao-chun has left the Tyrrell Museum for the Canadian Museum of Nature. We wish him well in his future endeavors. (Don Brinkman)

Université de Montréal, Laboratoire de Paléanthropologie, Montreal, Quebec

This will be the last report from Michel Chartier at this location since he has successfully completed his Master's thesis on the Troxell collection of Wasatchian vertebrates from the Bighorn Basin, Wyoming. A lot of effort was put into trying to determine the geographic provenance and approximate stratigraphic position of the various fossil assemblages comprising the collection. Robert Witter of Cody, Wyoming, was very helpful in relocating some of the ranches that may have been used as base camps by Edward Leffingwell Troxell and his assistants in 1929 and 1931. Michel also attempted to figure out the history of the collection. It turns out that the bulk of the material was acquired by the Canadian Museum of Nature in Ottawa, while several important specimens ended up in US museums (YPM, MCZ, USNM, LACM). Gratitude is expressed to the collections

managers at these institutions for their collaboration. Although systematic study of the fossils focused on the primates and plesiadapiforms, an examination of the other vertebrates in the Ottawa collection turned up two noteworthy specimens: a possible snake represented by three or four articulated vertebrae, and what may be the most complete specimen yet found of the rare mesonychid *Hapalodectes anthracinus* (which includes parts of the lower and upper jaws with several teeth). Both are encased in hematite and will have to be prepared before they can be studied.

Martin Dubreuil is still working on his Master's thesis on early hominid paleoneurology. Two other students are working on their Master's: Catherine Desparois' project is entitled "Evolving interpretations of the evolution of the hominid hand," while Pascal Lapointe's topic is "*Homo erectus*: A taxon with a past that has no future?"

Michel will be taking a break from student life for the next year but will remain busy with several research projects. A manuscript on the richly fossiliferous latest Pleistocene–earliest Holocene site of Saint-Nicolas, near Quebec City, co-authored with Serge Occhietti (Université du Québec à Montréal), avocational paleontologist Mario Cournoyer, and Steve Cumbaa and Dick Harington (Canadian Museum of Nature), is essentially complete and should be submitted to *Canadian Journal of Earth Sciences* soon. A detailed study of the vertebrate assemblage, which includes walrus, white whale, seals, marine birds, and a variety of fish, is underway and will be the subject of another paper. Recovery of a large number of isolated fish vertebrae of various morphologies from the tidal channel sands of the Saint-Nicolas site has led Michel to suspect that the fish taxonomic diversity may be as high as that recorded from better-known Champlain Sea localities in the Ottawa-Hull area. Study of a second, smaller assemblage from another Champlain Sea locality in Saint-Césaire, east of Montréal, is progressing with Mario, Dick, and Steve as collaborators. The collection, which was assembled over a period of 20 years by local naturalist and historian Jean-Marc Morin, includes remains of white whale, ringed seal, eider duck (only the second record from Champlain Sea deposits), and an as yet unidentified (and quite enigmatic) fish. Finally, Michel is working with Janet Waddington (Royal Ontario Museum) and avocational paleontologist Pierre Veilleux on the description of a fragmentary but important eurypterid fossil (from the Upper Ordovician of southern Quebec) which proves to be the first record of the genus *Megalograptus* from Canada. (Michel Chartier)

FRANCE

Musée des Dinosaurés, Esperaza

Eric Buffetaut is still based in Paris, working for the Centre National de la Recherche Scientifique and with no intention to move, but maintains close links with the Esperaza Museum. His work in Thailand with Varavudh Suteethorn and other colleagues from the Geological Survey, which has now been going on for 20 years, still brings in exciting new discoveries. As in 1999, in February 2000, Eric and Haiyan were joined in Thailand by Gilles Cuny (Bristol) and Jean le

Loeuff and Christel Souillat (Esperaza). One of the most noteworthy discoveries of the last two years was that of Late Triassic sauropods. The first specimen (described in *Nature*, 2000), was an immature and comparatively small individual, but a second find revealed that some of those early sauropods were quite as large as some of the big Jurassic forms. More and more specimens of the Early Cretaceous sauropod *Phuwiangosaurus* have become available, including good skull material which definitely indicates close affinities with the Late Cretaceous nemegtosaurids. Other interesting finds from Thailand include a possible tritylodont from the latest Jurassic or basal Cretaceous. In addition, screenwashing of sediment from various Early Cretaceous sites by Gilles Cuny is beginning to yield abundant and interesting vertebrate microremains.

Eric's fieldwork in southern France has focused again on the Late Cretaceous sites at Cruzy. Several excavation campaigns with the local paleontological association have resulted in the discovery of hundreds of bones of assorted vertebrates. Interestingly, some semi-articulated specimens (notably of turtles and *Rhabdodon*) are beginning to turn up instead of the usual disarticulated bones. Eric's work on Late Cretaceous birds from France has resulted in a review presented at the meeting of the Society of Avian Paleontology and Evolution in Beijing in June 2000. He is currently describing an interesting enantiornithine tibiotarsus from the Upper Cretaceous of Fox-Amphoux (in Provence), together with its discoverers, Patrick and Annie Mechin.

Eric's work with the Geological Survey of Tunisia has been the occasion for several field trips to the southern part of the country, where he visited a number of Jurassic and Early Cretaceous vertebrate localities. Among noteworthy finds is a spinosaurid dentary fragment which shows close similarities with *Spinosaurus aegyptiacus*, rather than with *Baryonyx* or its close ally, *Suchomimus*. In relation with his work in Tunisia, Eric spent two weeks in November at the London Natural History Museum to work with Angela Milner on the enamel ornamentation of spinosaurid teeth. This has revealed interesting resemblances and differences between *Baryonyx* and *Spinosaurus*, which remain to be interpreted in phylogenetic terms.

Eric's stay in London also gave him the opportunity to do more comparative work on *Gastornis* and *Diatryma*, which confirmed that those Early Tertiary giant birds are indeed very similar and in all likelihood congeneric (a view he also defended at the SAPE meeting in Beijing).

Eric's links with Slovenian paleontologists have led to a joint project with Irena Debeljak, Adrijan Kosir, and other colleagues of the Ljubljana Paleontological Institute, on a newly discovered fissure-filling in the Karst area of southwestern Slovenia. The fissure is Late Cretaceous in age and contains abundant teeth and bone fragments of crocodylians and dinosaurs, which seem to be quite distinct from those found in deposits of the same age in western Europe.

Eric's interest in the history of paleontology has resulted in the publication of two recent papers. One of them, based on hitherto unpublished, handwritten documents by Mantell, is on the respective roles of Mantell and Cuvier in the identification of *Iguanodon* (*Oryctos*, 1999). The second paper is about the

completely forgotten first discovery of dinosaur footprints in South America, reported from Colombia in 1839 by Carl Degenhardt (*Bull. Soc. geol. France*, 2000).

Lionel Cavin got a two-year grant from the Swiss National Fund to pursue his research at the Musée des Dinosauriens. He mainly continues his studies on fishes from the Cretaceous of Morocco. He spent six weeks in 1999 at the Natural History Museum in London to describe remains of the oldest-known knifefish (notopterids) and to reassess the relationships between mormyrids and notopterids in collaboration with Peter Forey. He described, in collaboration with Paulo Brito, some nice specimens of a new primitive gar from Morocco, which shares similarities with the gar from the Santana Formation of Brazil. He also completed his work on an albulid from the phosphatic deposits of the Ouled Abdoun basin and is going on with a monograph on *Goulmimichthys* (a pachyrhizodontid from the Goulmima locality in Morocco).

Lionel went to several localities in southern Morocco with Sylvain Duffaud during the spring of 2000. They plan to collaborate with geologists from the University of Er Rachidia.

Finally, Lionel is updating his data file on Mesozoic bony fishes and is tormenting it to get information about the effects of the Cretaceous–Tertiary boundary event and other Mesozoic events on the diversity of fishes.

Sylvain Duffaud focused this year on Caudata, mostly from late Cretaceous, Paleocene, and Eocene sites in France, questioning the validity of some poorly defined genera such as *Koalliella* or *Megalotriton*, and trying to follow the expansion of the family Salamandridae. He also started the study of the batrachofauna from an Oligocene Belgian site recently discovered by R. Smith, which contains a very unusually high number of cranial remains of a small salamandrid, as well as many not fully developed anuran bones. Sylvain was also involved in some changes and experiments in the museography of the present museum, which are to be tested and evaluated for the new museum (due to open, hopefully, in 2002). The next project will be the preparation of a touring exhibition on the Late Cretaceous of southern France, to start next year. Finally he went with Lionel Cavin to Morocco to meet Profs. Kabiri and Boudad of the faculty of sciences of Er Rachidia and start with them a joint project on an exhibition on Moroccan fossils.

Yves Laurent spent most of the summer of 1999 excavating Late Cretaceous vertebrate localities and, in the meantime, he went on with his thesis (on Late Maastrichtian European continental faunas) at the University of Toulouse. In June and September 1999, Yves excavated a new Late Maastrichtian locality in the Garonne valley south of Toulouse (the Cassagnau sites at Marignac-Laspeyres, Marnes d'Auzas Formation) which has yielded a very rich fauna comprising Osteichthyes, Chelonia, Squamata, Crocodylia, Dinosauria, and Aves. The study of this new material is in progress. In July and August he supervised (with Alayn and Jean Le Loeuff) the usual excavations of the Bellevue site at Campagne-sur-Aude (with new titanosaur and ornithopod material). Fieldwork in May and June 2000 at another new Late Maastrichtian site of the Garonne

valley (Ausseing locality) has also been successful. Hadrosaur remains had been fortuitously discovered during the digging of a well. The workers did not find water but found many dinosaur bones instead, and our plan was to excavate a 4-m-deep hole to reach the bone bed. It was a success despite some problems with a spring. Yves presented some new data on Late Maastrichtian vertebrates from the French Petites-Pyrénées at the Fourth European Workshop on Vertebrate Paleontology in Albarracin, Spain (with Lionel Cavin and Michel Bilotte, June 1999), and at the workshop of the Impact Program of the European Science Foundation in Quillan and Espéraza (September 1999). In March 2000, Yves took part (with Jean Le Loeuff and Christel Souillat) in fieldwork in the Mesozoic of Saharan Tunisia with the Geological Survey of Tunisia. Yves also completed a multi-authored paper on the correlation of marine and continental Late Cretaceous sites of southern France which will appear this year in a volume on the Campanian–Maastrichtian boundary edited by Gilles Odin (CNRS, Paris).

Jean le Loeuff still spent most of his time at his director's job, with multiple meetings about the next enlargement of the museum, and editing the second volume of *Oryctos* (published in December 1999). Jean also organized, with Eric Buffetaut, a workshop of the Impact Program of the European Science Foundation in Quillan and Espéraza (September 1999): 60 researchers, mainly physicists, geophysicists, and geochemists, attended this meeting on "Geological and Biological Evidence for Global Catastrophes," which was an excellent opportunity to appreciate the way nonpaleontologists can apprehend the K/T boundary extinctions, and to confront very different perspectives. Two excursions were organized to continental and marine KTB sections in the vicinity of Espéraza. In October 1999, Jean also guided, with Michel Bilotte (University of Toulouse) an excursion to the Upper Aude Valley for the Association des Géologues du Sud Ouest.

The summer of 1999 was, as usual, devoted to the excavation of the Maastrichtian Bellevue site, with new titanosaur material. Jean also briefly joined Yves Laurent on his excavations in the Late Maastrichtian of the Garonne valley, where Yves recovered amazing new material.

Jean joined the Thai-French paleontological expedition in February 2000, which gave him the opportunity to map two new footprint sites. A preliminary account of the 1999 discoveries was presented at the Fourth European Workshop of Vertebrate Palaeontology in Albarracin.

Since November 1999, Jean was invited three times to Tunisia by the Geological Survey of Tunisia (Office National des Mines) and the French Embassy in Tunis to work on Mesozoic vertebrates in southern Tunisia. A five-year program of excavations in the Jurassic and Cretaceous of Saharan Tunisia has been agreed upon between the Musée des Dinosauriens and the Geological Survey of Tunisia. The first excavations in March 2000, with Yves Laurent and Christel Souillat, led to the discovery of Callovian and Late Early Cretaceous vertebrates.

Other work on Late Cretaceous European dinosaurs, paleobiogeography, and dinosaur extinction is in progress with Yves Laurent (Late Maastrichtian

vertebrates of southwestern France) and Eric Buffetaut, (including the description of a new large, albeit fragmentary, theropod).

Marie Pincemaille is going on with her PhD thesis on the ornithopod *Rhabdodon*, while making a living as a school teacher. She has a lot of new material from Cruzy, Bellevue, Fox-Amphoux, and other sites in southern France at her disposal, and it is hoped she will be able to solve at least some of the many problems posed by this still largely mysterious dinosaur.

Haiyan Tong (based in Paris like Eric) is working on various aspects of turtle paleontology. With several co-authors, she recently described (*Comptes Rendus de l'Académie des Sciences de Paris*, 1999) a new primitive dermochelyid turtle from the Late Paleocene/Early Eocene of Saudi Arabia, which was duly called *Arabemys*. A large part of her activity (as Research Associate of the American Museum of Natural History) has been devoted to joint work with Gene Gaffney on various pleurodiran turtles (including several new taxa) from the Maastrichtian–Eocene phosphates of Morocco (this being part of a larger project with Gene Gaffney and Peter Meylan on pleurodires). The chelonoids from Morocco are being studied with Ren Hirayama (Chiba). Together with Gene, Haiyan also studied new pleurodiran material from the Upper Cretaceous of southern France. Haiyan also works on Eocene cryptodiran turtles from southern France with Julien Claude, a PhD student at the University of Montpellier. Finally, she spent two weeks in her native Beijing in the spring of 2000, to work on cryptodiran turtles from the Yixian Formation (of feathered dinosaurs fame) at the Museum of Geology. (Eric Buffetaut and Jean Le Loeuff)

Université Paris VII, Département des Sciences de la Terre

En 1999, Jean Gaudant a poursuivi ses programmes de recherche sur l'ichthyofaune continentale du Cénozoïque européen et sur l'ichthyofaune néogène de Méditerranée. Pour cela, il s'est rendu à Vienne et à Graz pour compléter un manuscrit sur les poissons miocènes d'Eibiswald (Styrie, Autriche). Il est également retourné à Sofia pour terminer l'étude de matériaux récoltés par Milorad Vasev, de l'Université des Mines et de la Géologie, dans quatre gisements du Sud-Ouest de la Bulgarie dont l'âge s'échelonne de l'Eocène terminal au Miocène. Enfin, à Bruxelles, il s'est intéressé aux dents de Characiformes découvertes à Dormaal (Belgique) à la limite Paléocène–Eocène.

Dans le cadre de ses recherches sur l'ichthyofaune néogène de Méditerranée, Jean a examiné les poissons messiniens de Gabbro conservés au Museo del Mediterraneo de Livourne et ceux du Messinien évaporitique de la Vena del Gesso, récoltés par le musée de Faenza. Il a également réalisé une mission à Chypre où il a fouillé un nouveau gisement avec Ioannis Panayides, du Geological Survey de la République chypriote.

Par ailleurs, Jean a décrit, en collaboration avec Mike Barker, Dave Martill (University of Portsmouth), et cinq autres collègues, l'ichthyofaune d'un nouveau gisement serravallien proche de Limassol (Chypre). Il a également révisé les poissons des "grès de Moulas," près du Boulou (Pyrénées-Orientales, France), et a conclu que ces poissons ne sont pas éocènes, comme le pensait Depéret, mais

très probablement miocènes. (Jean Gaudant)

ITALY

Dipartimento di Scienze della Terra, Università degli Studi di Milano

Andrea Tintori continues his Triassic fishes when not fighting with teaching and bureaucracy duties: there is always new fish material from the Alps (much more than we can study). Andrea and colleagues organized the Third International Symposium on Lithographic Limestones last September in Bergamo and he is now dealing with the Third International Meeting on Mesozoic Fishes which will be held in Serpiano-Monte San Giorgio (Switzerland) in August 2001. A new site, possibly from fresh-water or brackish environment of Anisian age, will be exploited this summer. It is a nice place in the Dolomites and so far fragmentary specimens of *Dipteronotus* and *Saurichthys* have been found in a terrestrial plant-bearing bed. We hope to find more material as our nonmarine bed are very rare and a comparison between the radiating marine fishes and the, probably, more conservative fresh-water faunas is very interesting.

Cristina Lombardo spent the second part of the last year in Spain with a government fellowship to study the awesome (as mode of preservation) Ladinian fauna of Montral-Alcover. Though the fauna looks very interesting, lack of bones prevents a nice description. However, some comparison with the fauna from Besano-Monte San Giorgio is possible. Cristina started also to revise the material collected by the staff of the Milano Museum of Natural History in Besano and discovered that in the Besano Formation (Grenzbitumenzone) there are at least three different fish assemblages. Also in the Ladinian of the Meride Limestone and Kalkschieferzone, in the same area, there are several assemblages. What is due to changes in environment and what is pure evolution is difficult to say, but she hopes to have new results after the summer campaign in Meride, sponsored by the Lugano Museum of Natural History (Switzerland). Cristina also published in *Palaeontology*, 42(4), 1999, a paper on a new *Peltopleurus* with strong sexual dimorphism. The same genus is under study from the basal Ladinian to the Norian, with at least 25 species! In these months the Carnian species have been prepared and preliminarily described and again she found a group of species which almost coexisted.

In the Norian Andrea has new material from a rather poorly known bed from Val Garza, much older than the classical Zorzino Limestone vertebrate levels. Together with Paolo Schirolli and Mauro Brunetti from the Brescia Museum, we collected a few specimens representing rather primitive species of different groups—the most interesting is a new pycnodont, clearly the most primitive representative of the order. Also durophagous fishes are still one of the major attraction of the Zorzino Limestone fauna. Last summer, Valeria Gallo da Silva from Brazil was here to make measurements on *Parelepidotus* growth series and plotted them to show the allometric growth of this species. Glorria Arratia (Berlin) will be here in the summer and again in October to revise with Andrea the rich pholidophorid assemblage from our Norian.

Regarding new Bolca excavations, Andrea and the Verona Museum staff had

some problems with the first site chosen by the late Lorenzo Sorbini. Actually, after heavy preparation of the site, we found a very small limestone outcrop. The fact that people have been looking for fossil fishes in the Bolca area for four or five centuries may explain why it is so difficult to find a good site. We are trying again this summer and hope to be more lucky!

Andrea went back to the Sultanate of Oman last January and collected more material to be dissolved for fish remains. This Middle Permian (or basal Late Permian) material is very interesting and new. Andrea hopes to start the descriptions as soon as the new material is ready.

On the reptile side, Silvio Renesto described recently two new specimens of the enigmatic diapsid reptile *Megalancosaurus*: one specimen shows for the first time a partial skull articulated to the rest of the skeleton. The paper is published in *Rivista Italiana di Paleontologia e Stratigrafia*, 106(2). New data strongly support arboreal habits, as well as intriguing similarities with part of the *Protoavis* material might be traced. Silvio's joint paper with Fabio dalla Vecchia (Monfalcone Museum) on the peculiar tooth morphology of the prolacertiform reptile *Langobardisaurus* has been accepted for the publication in *JVP*, 20(3). Silvio and his student, Emanuele Gozzi, are going on with the preparation and study of the 4-m-long "marine" phytosaur from the Zorzino Limestone, which is nearly complete. It is a long-tailed, short-limbed (for a phytosaur), and somewhat narrow-bodied animal, an eel-like phytosaur!

Regarding the Quaternary, we are slowly going on with our cave bears. In the last two years Andrea and Emanuela Zanalda, now a school teacher, managed to open the excavations in the cave on Monte Generoso to visitors. We had many problems, but now things are going along well: we collect large amounts of cave bear bones and our sponsor, the Monte Generoso Railway, is happy to have a new form of entertainment on the mountain. (Andrea Tintori and Silvio Renesto)

THE NETHERLANDS

Natuurhistorisch Museum Maastricht

During the past few months, our so-called mosalab (short for mosasaur laboratory) has attracted a lot of attention from the national and regional media and visitors alike. Various portions of the skeleton of a huge mosasaur discovered at the ENCI-Maastricht bv quarry in August 1998 have now been prepared and will be on exhibit as of mid-December. The skull, of which the (incomplete) lower jaw measures 1.23 m, is now being freed from the matrix by our colleague Hans Peeters. Judging from the number of teeth in the lower jaw, the original length must have been at least 1.45 m, possibly even longer. The jaw bones are all massive, as is the pterygoid bone. The skull roof is partially damaged; the left quadrate appears atypical for *Mosasaurus hoffmanni*. In short, we are still not certain whether this skeleton does represent this or another species of mosasaur. The fact that a portion of backbone is of a smaller size than would be expected, adds to the confusion. The discussion continues.

Anne Schulp and John Jagt attended the Fifth European Workshop on Vertebrate Palaeontology in Karlsruhe (June 26–July 1), and, together with

colleagues, presented posters on possible mosasaur predation on the late Maastrichtian turtle *Allopleuron hofmanni*, and on the first appearance datum of the mosasaur *Carinodens belgicus* in the Maastrichtian type area. Both are now also working on a revision of Polish late Cretaceous mosasaur material, collected by coauthors Marcin Machalski and Andrzej Radwanski, to be published in *Acta Palaeontologica Polonica* in 2001.

Our Maastrichtian celebratory exhibition, hosted by our Romanian sister museum Muzeul Civilizatiei Dacice si Romane (Deva) at Hunedoara castle, has been attracting a lot of attention from people in the Hateg area, Coralia-Maria Jianu tells us. As of October, the next venue of the exhibition will be the New Jersey State Museum (Trenton, New Jersey).

Plesiosaur material from the Maastrichtian type area (a few isolated teeth and vertebrae) has now been written up, with John Jagt as coauthor; the paper will be published in the *Bulletin de l'Institut royal des Sciences naturelles de Belgique* (Brussels) later this year.

A special issue of the Dutch journal *Geologie en Mijnbouw* (volume 78, 1999) is entirely devoted to the proceedings of the Third European Workshop on Vertebrate Palaeontology (May 1998). In this issue, D. Weishampel et al. provide an update of dinosaur remains from the type Maastrichtian, N. Bonde commemorates Colin Patterson, L. Cavin and D. Dutheil briefly describe a Cenomanian fish faunule from southeastern Morocco, and J. Vergoossen writes up Late Silurian fish microfossils from southern Sweden. In addition, D. Grigorescu et al. record latest Cretaceous microvertebrates from the Hateg basin (Romania), D. Martill and E. Frey discuss a possible azhdarchid pterosaur from the Crato Formation of northeastern Brazil, J. Company et al. focus on a late Cretaceous azhdarchid from Valencia (Spain), while C.-M. Jianu and D. Weishampel reflect on possible dwarfing in sauropod dinosaurs. M. Casanovas et al. present a late Maastrichtian primitive euhadrosaurian from Catalunya (Ager, Pyrenees), D. Naish puts forward his views on Wealden theropod dinosaur diversity and paleobiology, A. Kristoffersen describes early Palaeogene lithornithid birds from Denmark, while I. Raufuss and W. von Koenigswald list new remains of Pleistocene muskoxen from Europe. (John W. M. Jagt and Anne Schulp)

POLAND

Institute of Paleobiology, Polish Academy of Sciences, Warsaw

Vertebrate paleontology continues to prosper at the Institute of Paleobiology (<http://www.paleo.pan.pl>). We welcome two new staff members to our Department of Vertebrate Paleontology: Tomasz Sulej and Lucja Fostowicz-Zahorska. They successfully defended their Master's theses at Warsaw University in 1998. Subsequently, they joined us as postgraduate students, and as assistant research scientists. Tomasz works on late Triassic metoposaurids from Krasiejów, southern Poland. For this project, he spent a week in November 1998 studying the late Triassic stereospondyls at the Staatliches Museum für Naturkunde, Stuttgart. We expect him to begin generating manuscripts soon. Lucja is working on the Cretaceous and Paleogene Antarctic vertebrates and

Plio-Pleistocene Polish lagomorphs. She has recently submitted for publication in *Palaeontologia Polonica* a description of the postcranial remains of a late Cretaceous plesiosaur from Seymour Island (co-authored by Andrzej Gaździcki of the institute's Department of Micropaleontology and Biostratigraphy), as well as a chapter on late Pleistocene lagomorphs for the monograph on the hominid-bearing site at Oblazowa Cave, Polish Carpathians. She also presented a poster with her reconstruction of the life appearance of the Plio-Pleistocene leporid *Hypolagus beremendensis* at the Seventh Pan-Polish Mammalogical Conference in Białowieża in 1998. Amongst all of this activity, Lucja was married to Grzegorz Frelik in December last year.

Magdalena Borsuk-Białynicka continues her studies on early Triassic small tetrapods from the karst locality of Czatkowice, southern Poland, in collaboration with Elisabeth Cook (University of Bristol), Susan Evans (University College London), and Teresa Maryńska (Polish Academy of Sciences Museum of the Earth). Two papers from this project have appeared in *Acta Palaeontologica Polonica*. One of them presents the results of a preliminary comparative study of the hitherto prepared material and reports some procolophonids, a small predatory archosaur of preproterosuchid or proterosuchid grade, a prolacertiform, plus some lepidosauromorphs, amphibians, and fishes. The other paper provides a description of the new genus and species *Czatkobatrachus polonicus*, the first pre-anuran salientian known from the northern part of Pangaea (only slightly younger than the oldest known salientian, *Triadobatrachus massinoti*, from Madagascar). Susan Evans visited us twice: in June 1998 with Elisabeth Cook (who investigated the taphonomy of the locality), and with Caroline Northwood (La Trobe University) in July last year. Caroline helped in ordering the long-bone material and searching for temnospondyl remains which, however, appear to be scarce. In January 1999 Magdalena spent a week at University College London studying collections of Jurassic small vertebrates, and then a few days in Paris at the Muséum National d'Histoire Naturelle, where she examined the original material of *Triadobatrachus massinoti*, and looked through *Plesiolacerta* remains from Jean-Claude Rage's collections. In addition to the Czatkowice project, Magdalena was engaged in a study of a middle Eocene lizard corpse newly discovered in Baltic amber. The first, and for many years only, lizard found in Baltic amber was a specimen described by R. Klebs in 1910. The state of preservation of the new amber specimen, being so different from that of "normal" fossils, induced Magdalena to pay a visit to the Zoologisches Forschungsinstitut und Museum Alexander Koenig in Bonn, to study collections of extant lizards. This was possible owing to the kind invitation of Wolfgang Boehme and financial support from the Deutsche Forschungsgemeinschaft. During her two weeks' stay in Germany, Magdalena managed visits to Mainz University to meet Johannes Müller with his *Eolacerta* material, and to the Forschungsinstitut Senckenberg, Frankfurt am Main, where she investigated collections of extant lizards and looked through the middle Eocene lizard material from Messel (many thanks to Günther Koehler, Monika Laudahn, Stephan Schaal, and Sinje Weber for their hospitality). A paper by Magdalena, Mariusz Lubka, and Wolfgang

Boehme on the amber lizard has recently been published in *Acta Palaeontologica Polonica*. The lizard, *Succinilacerta succinea*, appears to be one of the crown lacertids (this contradicts the Oligocene age of the group assumed from recent molecular studies). Of the two recent Master's students of Magdalena, Mariusz Lubka defended his thesis on the assignability of tetrapod vertebrae at Poznań University in September 1999, and Agnieszka Kapuścińska (Warsaw University) is near to completing her thesis based on a *Stereosternum* specimen from Brazil, and dealing with swimming adaptations in Mesosauria.

Zofia Kielan-Jaworowska has continued her work on the systematics, distribution, and phylogeny of various groups of Mesozoic mammals. In a recent issue of *Acta Palaeontologica Polonica* she published a description of several maxillae, dentaries, and teeth of early Cretaceous amphilestids from Mongolia (coauthored by Demberlyin Dashzeveg of the Geological Institute, Mongolian Academy of Sciences). Together with Rich Cifelli (University of Oklahoma) and Zhexi Luo (Carnegie Museum of Natural History) she challenged the alleged placental nature of the Cretaceous Australian mammal *Ausktribosphenos*, arguing that it may actually have been an advanced symmetrodont (*Lethaia*). With Alexander Averianov (Russian Academy of Sciences Zoological Institute) she described two edentulous dentaries and a dentary fragment with an ultimate molar from the upper Cretaceous strata of Uzbekistan, referring these to the marsupial genus *Marsasia* and concluding that it was morphologically intermediate between the North American *Kokopellia* and Asian *Asiatherium* (*Acta Palaeontologica Polonica*, 44[1]). Furthermore, with Malcolm McKenna and Jin Meng (American Museum of Natural History) she comprehensively described the earliest eutherian skull known to date, coming from the upper Cretaceous deposits of Uzbekistan; based on the specimen they erected the new species *Daulestes nessovi* which they included in Asioryctitheria (*Acta Palaeontologica Polonica*, 45[1]). Recently, in cooperation with Rich Cifelli and Zhexi Luo, Zofia has started writing the book "Mammals from the Age of Dinosaurs: Origins, Evolution, and Structure." When preparing a comprehensive chapter on allotherians, she found that current multituberculate systematics is not well supported. This induced her to reevaluate multituberculate phylogeny and systematics (coauthored by Jørn Hurum of the University of Oslo). Another activity, which takes quite a lot of Zofia's time, is being the editor of *Acta Palaeontologica Polonica*.

Halszka Osmólska and Rinchen Barsbold (Mongolian Academy of Sciences Geological Institute) have at long last published the results of their study on the skull of the late Cretaceous dromaeosaurid *Velociraptor mongoliensis* (*Acta Palaeontologica Polonica*). Along with Philip Currie (Royal Tyrrell Museum), Nathan Myhrvold (Microsoft Research), Khishigjav Tsogtbaatar (Mongolian Academy of Sciences Geological Institute), and Mahito Watabe (Hayashibara Museum of Natural Sciences), they have also published a brief communication on the first dinosaur with a pygostyle (*Nature*, 403[6766]). Halszka and Teresa Maryńska have been busy with the second edition of "The Dinosauria," which unfortunately delayed work on their oviraptorosaur project.

Karol Sabath participated in the First International Symposium on Dinosaur Eggs and Babies in Isona-Tremp Area, Spain (September 1999), and presented a talk entitled "Pitfalls and promises of reconstructing paleophysiology." Along with Paweł Koteja (Jagiellonian University), he gave an invited talk at the November plenary session of the Biological Division of the Polish Academy of Sciences on ecological and paleontological perspectives of the evolution of endothermy, and on the possibility of testing hypotheses about the origin of elevated metabolic rates. In October 1999, we hosted a group of Norwegian paleontologists from the University of Oslo (including Jørn Hurum), who brought back the prepared bones of our *Tarbosaurus* skull to be described by Jørn and Karol. As usual, Karol actively popularized vertebrate paleontology in the media. He was also engaged in the organization of the second and third Warsaw Science Festivals in September 1998 and 1999, and was awarded by the organizing committee for his efforts (congratulations!). Last year our institute presented, among others, an exhibit and slide show entitled "Tracking Polish-Mongolian Expeditions in the Gobi Desert" (in collaboration with geology students of Warsaw University), and Marcin Machalski of the institute's Department of Biogeology (normally specializing in ammonites) gave a talk on Mesozoic marine reptiles (mosasaurs and crocodiles) from Poland.

Mieczysław Wolsan spent a week at the Slovak National Museum and Comenius University in the fall of 1998, studying Miocene and Pliocene musteloids and phocids. While in Bratislava, he managed a short trip to Vienna to survey the Tertiary carnivoran collections at the Naturhistorisches Museum. In March 1999 he paid short visits to Staatliches Museum für Naturkunde, Stuttgart, the Naturhistorisches Museum Basel, and Mainz University, where he mainly studied Oligocene and Miocene musteloids. During his stay in Germany he attended the annual meeting of German-speaking vertebrate paleontologists in Laimering, presenting his functional interpretation and a hypothesis about environmental causes of the increase in relative volume of the middle-ear cavity in carnivorans following global climatic cooling and increased aridity events at the Eocene-Oligocene transition. This subject was also presented by him as a poster at the Seventh Pan-Polish Mammalogical Conference in Białowieża in September 1998, as well as a talk on the earliest-known procyonids from the late Oligocene of France. Mieczysław has recently published several papers and book chapters, but only one of these is directly related to vertebrate paleontology. In this paper (*Acta Palaeontologica Polonica*, 44[2]) he identified the holotype of *Palaeomephitis steinheimensis*, recovered from the middle Miocene deposits of Steinheim am Albuch, Germany, as the oldest and most primitive mephitine cranium known to date. The fossil provides new evidence in support of the traditional view that skunks are derived from a mustelid ancestor (with a close relationship to the Lutrinae), which is contrary to recent molecular studies that have placed the skunks as the sister taxon of a clade containing the procyonids and mustelids. In June 1998 Mieczysław hosted Qi Guoqin (Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences), who visited him to continue a joint project on late Miocene musteloids from

South China. Mieczysław is going to visit China this year to finish a few manuscripts from the project. Last year he was unwise enough to agree to write encyclopedia articles on carnivorous mammals for the Polish Scientific Publishers PWN, which took much more time than he had expected. He has also completed two manuscripts (co-authored with his PhD student, Grzegorz Lipecki of the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences) on carnivorans from two Paleolithic human sites in southern Poland, and most recently (together with Clemens Mödden of Mainz University) he has submitted to *Acta Palaeontologica Polonica* a brief report on the external brain morphology of the late Oligocene musteloid *Bavarictis gaimersheimensis*. Mieczysław's other projects related to the phylogeny, evolution, systematics, and biogeography of musteloid carnivorans have made gradual progress and still continue. Recently, Mieczysław has been appointed head of our department. (Mieczysław Wolsan)

SOUTH AFRICA

Bernard Price Institute for Palaeontological Research (BPI), University of the Witwatersrand, Johannesburg

Postdoctoral fellow Ross Damiani has been working steadily on the temnospondyl fauna of the upper Beaufort Group since his arrival last year, and has submitted several manuscripts on several South African taxa. Among these is a description of the first trematosaurid and “capitosaurid” from the Early Triassic *Lystrosaurus* Assemblage Zone, a short paper documenting the presence of the “capitosaurid” *Paracyclotossaurus* in the Early to Middle Triassic *Cynognathus* Assemblage Zone, and a multi-authored paper on the oldest-known stereospondyl from the Upper Permian of Namibia. In addition, and with strong encouragement from Sean Modesto, Ross has broadened his scope of research to include parareptiles, and has submitted a small paper (with Sean) describing the vomer of a pareiasaur. Ross and Sean are also working on a new procolophonoid from the *Lystrosaurus* zone. Finally, Ross has been working closely with John Hancox (Wits Geology) and Johann Neveling (Council for Geoscience, Pretoria) on the fauna and biostratigraphy of the upper Beaufort Group. Recent fieldwork yielded a wealth of tetrapods (temnospondyls, archosauromorphs, therapsids) and some fish material that, along with material collected on previous trips, will form the basis of a soon-to-be-submitted paper describing the fauna and paleoenvironments of the *Cynognathus* Assemblage Zone in the northern Karoo Basin.

Alain Renaut recently segued from humble graduate student to Research Officer of the BPI and Lecturer of the University of the Witwatersrand. He continues to research the morphology, taxonomy, and paleoecology of the Triassic dicynodont *Kannemeyeria*. Last September Alain attended the Sixth Mesozoic Terrestrial Ecosystems conference held in Buenos Aires, where he presented a paper on the jaw mechanisms of dicynodont therapsids in general and on the different masticatory strategies of *Kannemeyeria* in particular. While in Argentina, both he and John Hancox undertook field trips to the Ischigulastia Basin, to Talampaya Cañon, and to the Chañares Formation, and visited several

provincial museums to examine dicynodont materials. As a result of his South American adventures, Alain is pleased to report that several papers on the morphology and taxonomy of Triassic dicynodonts are now in progress. In addition to his work on *Kannemeyeria*, Alain is beginning a revision of gorgonopsian taxonomy, as well as reconsidering the physiology and evolution of these carnivorous Permian therapsids. As an official BPI staff member, he has also assumed supervision of a graduate research project on the postcranial anatomy of the dinocephalian therapsid *Tapinocaninus*.

Increasingly aware that his time is running out in Africa, Sean Modesto has been working furiously to complete numerous projects. Manuscripts on *Eunotosaurus*, *Mesosaurus*, *Acanthotoposaurus*, *Elliotsmithia*, a new species of Late Permian captorhinid, and on early amniote locomotory strategies, written singly or with various colleagues, have been submitted in recent months to diverse journals. Several other collaborative projects with Bruce Rubidge on new taxa of dicynodonts are still to come. All this laboratory research was thankfully interrupted by field trips to the Eastern Cape and Northern Cape provinces (details below). Sean has found his time at the BPI extremely productive and life in general in Johannesburg interesting and edifying, but for some strange reason is looking forward to the next Canadian winter.

Bruce Rubidge continues his research on basal therapsids. A redescription of the biarmosuchian *Burnetia* is in the works with Chris Sidor (University of Chicago), as is the description of a new burnetiid from the lower Beaufort of South Africa that is being coauthored with James Kitching (Johannesburg). On the geological front, Bruce, John Hancox, and Octavian Catuneanu (University of Alberta, Edmonton) have completed a manuscript on the Ecce-Beaufort in the southern Karoo of South Africa. Bruce also continues with his long-term project of collecting fossils along the Ecce-Beaufort boundary throughout the breadth of the Karoo. A BPI team was joined by Billy de Klerk (Albany Museum, Grahamstown) and John Nyaphuli (National Museum) for a very successful two weeks of fieldwork in Eastern Cape Province during early February. The areas visited are well known among South African collectors for their paucity of fossils, but a whole bonebed of dinocephalian therapsids was discovered on a farm near Jansenville, and Bruce believes that it will make an exciting taphonomic study. A little later he was off to the field again, this time to the most westward Beaufort deposits known, in the areas surrounding the lonely settlement of Middelpoos in Northern Cape Province. Bruce and his team collected dicynodonts and other therapsids, the first vertebrate fossils found in this region of the Karoo, all of which will assist greatly in elucidating the biostratigraphy of the lower Beaufort in that part of the basin. A scant week after returning from Middelpoos, Bruce was back in the field with Johann Welman (National Museum) and Johann Look (Bloemfontein) in a collecting and mapping trip to the lower Beaufort in the southern Free State. Bruce reports that all this collecting around the Ecce-Beaufort contact has elucidated important biostratigraphic trends that will enhance the development of basin models for the Karoo Basin.

Patrick Bender (Council for Geoscience) recently submitted his PhD thesis on

palaeoniscid fish of the lower Beaufort. He linked up with Bruce and Sean as they were finishing up their fieldwork near Middelpos, and then the whole team drove eastwards to a locality near Carnarvon in order to collect samples from a shoal of fossil fish that was discovered last year. Only a small excavation was made for now, but several complete and beautifully preserved fish were unearthed. Johann Neveling is wrapping up the fieldwork for his doctoral research on the sedimentology, paleontology, and stratigraphy of the contact between the *Lystrosaurus* and *Cynognathus* assemblage zones. (Sean Modesto)

University College London, Department of Anatomy and Developmental Biology

It has been a long time since you heard from us, but we are still alive and kicking! Susan Evans has been on sabbatical for a year, based at UCL but visiting China, Japan, Poland, France, and the USA, and continuing to work on a variety of projects involving Triassic–Cretaceous small reptiles and amphibians from several continents, modern lizards, and an increasing diversity of choristoderan reptiles.

G. V. R. Prasad from the University of Jammu, India, visited as a Royal Society/Indian Academy exchange for three months from November 1999 to January 2000 to work with Susan on microvertebrates from the Jurassic and Cretaceous of India, and we also had visits from Makoto Manabe and Yoko Kakegawa (Tokyo), Hiroshige Matsuoko (Kyoto), and Ralf Kosma (Hamburg). Fabiola Barahona continues her work on modern and subfossil island lizards (Canary Islands, Cape Verde Islands), and Caroline Northwood (from Ann Warren's lab in Melbourne) has been with us on a Royal Engineering Society postdoc to work on a comparison of Early Triassic assemblages (check our preliminary Web site: <http://evolution.anat.uck.ac.uk>, then click Early Triassic Database). Bryony Green successfully completed her thesis on Paleogene lizards from the UK and is now teaching biology; Ben Edwards is in the final stages of writing his thesis on Late Triassic microvertebrates; and Brian Ruth has joined us to work on a geometric morphometric study of pelvic structure in lizards. (Susan Evans)

UNITED KINGDOM

Sedgwick Museum, Earth Sciences, Cambridge

David Norman has been trying to hold on to a number of gossamerlike threads of work over the past few months. His life as museum director has been swamped by both teaching commitments and a large government grant, which will enable renovation and redevelopment of part of this old museum. This can be viewed, in part at least, on the following Web site (<http://www.sedgwick.esc.cam.ac.uk/>). New staff are on board and work is progressing, but the attendant government bureaucracy is a decided millstone that rather takes the gloss off the new money.

On the research side Paul Barrett has given up his research fellowship and has taken up a teaching post at Oxford (Zoology). Alex Burton successfully completed his thesis on Wealden environments and is now teaching. Ian Jenkins

completed his thesis on synapsid cranial functional anatomy and is now at Bristol (Geology). Emily Rayfield is beginning the period of purdur, otherwise known as the writing-up phase of her PhD on theropod cranial mechanics—but she has recently been favored by a special millennium scholarship from the British Federation of Women Graduates. We are currently developing a research proposal (in collaboration with Angela Milner at the Natural History Museum) with a view to continuing development of this work. In the meantime Craig Hunn (systematics and biogeography in the Mesozoic) and Sarah Sangster (*Dimorphodon*) have joined the group, and this is shortly to be expanded by the arrival of Kitty Thomas (archosaur functional anatomy). Rumor has it that after producing two children Laura Gerlach (née Canning) is nearing completion of her much-delayed thesis on “English megalosaurs”; having seen her early 1990s work on basal theropod relationships and the disbanding of the ceratosaurs discovered independently by others, this is very much a case of “better late than never,” but this is nevertheless very fundamental research that I (and many others) have been waiting for for some time now.

Recent visitors have included: Jeff Thomason (Guelph) spent his sabbatical (1999) working here in Cambridge, which was not only pleasant, but stimulating for all concerned. He has nearly finished a book for OUP and we are working on a joint biomechanical project. Khishigjaw Tsogtbaatar (PI, Ulaan Baatar) also visited Cambridge in December 1999 and we discovered several embarrassingly closely allied pieces of research in common, but we had an enjoyable time and hope to work jointly on projects concerned with Mongolian ornithopods over the next few years; this seems to offer me a belated opportunity to actually visit Mongolia and the sites that have revealed the dinosaurs that I have been describing in recent years. The long paper redescribing *Probactrosaurus* is almost finished (again the illustrations are taking me forever to complete—would be nice to have a tame artist!). A joint project on the Romanian species “formerly known as *Rhabdodon*” is nearing completion, with able assistance (and much argument) from Dave Weishampel (Johns Hopkins University—amid severe e-mail indigestion), Cora Jianu (Deva Museum), and Zoltan Cziki (Bucharest). I also had an amazingly productive time working with Jack Horner in Montana last autumn following on from the embarrassment of my “nonpaper” at the Denver SVP.

My own work on the redescription of *Scelidosaurus* is moving steadily but slowly, though the artwork is progressing quite well, and the craniology of *Heterodontosaurus* is similarly moving, but again slowly. A few squibs have been published, largely on historical matters (De la Beche’s cartoons, the historical position of *Scelidosaurus* in the history of dinosaurs, etc). Let’s draw a discrete veil over the “Dinosauria” and deadlines shall we?

It is with some considerable relief that I can announce that I shall be taking a year’s sabbatical at the Smithsonian Institution. I really look forward to this as time to get some real research not only started, but much completed! This is, incidentally, an interesting time at the Smithsonian. I will be occupying a newly endowed chair in biology (well, I have to sit somewhere, I guess!) and they

anticipate being able to develop from this a full-time senior dinosaur research post at the Smithsonian. At last! A chance to appoint a successor to that unsung hero Charles W. Gilmore. I do hope so, and would encourage dinosaur workers out there to sharpen up their CVs over the next year or so.

Paul Upchurch has been busy with a number of projects. Collaborative work with Craig Hunn on Mesozoic biogeography, plus work with Peter Galton and Paul Barrett on the prosauropod and sauropod chapters for the new "Dinosauria," occupy most his time at present. The "two Pauls" are off to China at the end of July—this time to study prosauropods and perhaps some stegosaurs if time allows.

Julia Day has just started a postdoc working on a new Middle Jurassic dinosaur trackway site. This site is of considerable significance as it is by far the largest and most extensive dinosaur trackway site to have been discovered in the UK, containing both theropod and sauropod tracks. It's Bathonian age and potential relevance to the nearby historically famous site at Stonesfield from which the theropod *Megalosaurus* (the first dinosaur to be scientifically described) and the sauropod *Cetiosaurus* are known. In addition, bulk sieving of the overlying clays are being sampled for microvertebrate fossils which should reveal important information relating to the ecology of the site.

Emily Rayfield has been heavily involved in completing the meshing and testing of skull and lower jaw models of *Allosaurus* in FEA. This work is now bearing fruit, and has resulted in presentations at the SVP (Denver) and another planned for the functional morphology meeting at Jena in July 2000. One aspect of her work has been written up and submitted, but much of her work is now devoted to the slog of completing her PhD thesis early in 2001.

Sarah Sangster is in the first year of her PhD, the provisional title of which is "Anatomy, functional morphology and systematics of the early pterosaur *Dimorphodon*." She has recently commenced a detailed anatomical redescription of *Dimorphodon*, based upon the type specimen held in the Natural History Museum, London, and is currently coding characters of other rhamphorhynchoids in order to perform a cladistic analysis on the suborder, using PAUP.

Craig Hunn is currently developing a proposed transition in spatial phylogenetics that aims to take a chronobiogeographical approach to problems. He has formulated a time/space algorithm that utilizes temporal and spatial data in unison, instead of treating the former as subordinate to the latter. This algorithm ultimately aims to take the next step in cladistic biogeography by attempting to diagnose evolutionary events and processes (such as vicariance or sympatry) on time/area cladograms (an extremely Darwinian aim), instead of using the more traditional approach that involves simply the recognition and interpretation of spatial patterns. Craig's work is as yet extremely theoretical but he hopes to perform some practical analyses in the near future.

Kitty Thomas will be joining the group in Cambridge in September 2000. Her project is concerned with the analysis of archosaur limb structure and function and will span observations on modern diapsids (primarily birds and crocodilians) and a reasonably well-preserved Triassic archosaur from Tanzania that originally

formed the focus for a PhD in the 1950s by Alan Charig for F. R. Parrington. (Dave Norman)

UNITED STATES OF AMERICA

Northeast Region

American Museum of Natural History, New York, New York

After a 40-year stint at the American Museum and Columbia University, Malcolm McKenna is retiring and moving to Boulder, Colorado. He can be reached at home (1000 Jasmine Circle) or at the University of Colorado Museum in Boulder, or at the Geology Department at the University of Wyoming, Laramie, where he is Adjunct Professor of Geology. Summers will be based at the family ranch (303-459-3265), where visitors are welcome, especially if they like to pick washed concentrates for fur-ball teeth. Malcolm's various unfinished projects will continue, so he looks forward to unabated harassment from Pete Robinson and Jay Lillegraven. (Malcolm C. McKenna)

Brown University, Providence, and University of Rhode Island, Kingston

The pot continues to boil at URI. David Fastovsky's Petrified Forest National Park mafia—Matthew Jones, François Therrien, and Alisa Herrick—all handily finished their MS theses within the last year. Therrien's has come out as an article in *Palaeos* describing the paleoenvironments of the primitive theropod *Coelophysis*. Among his other contributions, he was able to identify the sedimentological origins of the "blue layers" that have proven so productive on the Colorado Plateau. These appear to be paleosol A-horizons. Jones' MS thesis has been submitted to the *Journal of Sedimentary Research*. His work breaks new ground in understanding why there are so many thick B-horizons in ancient sequences—we think it has to do with pedogenesis in aggradational systems.

We welcome to URI Yuichiro Kashiya from the University of Tokyo. Kashiya is quantitatively studying magnetic remanence and repetitive visible spectra to get a better handle on the depositional environments of Tepexi de Rodrigues, the fabulous Albian-aged Mexican lagerstätten with everything from amiids and pycnodonts, to dinosaurs, to spiders.

David himself is laden with papers on the last 3 m of the Cretaceous (with colleagues P. M. Sheehan and C. B. Barreto), on dinosaur paleoecology (with Josh Smith, for the second edition of the Weishampel et al. *Dinosauria* volume), and on herbivore food-processing architecture in a gymnosperm-dominated world (for an upcoming GSA short course). Also, NSF smiled upon our program and, in conjunction with Jason Hicks and Lisa Tauxe (Scripps), we are finally processing the more than 900 paleomagnetism samples that we collected from the Cretaceous of the Nemegt Basin, Mongolia. The goal is to calibrate the Mongolian section with the global timescale, in the process finally establishing the age of creatures like *Protoceratops* and *Tarbosaurus*.

Steve Gatesy (Brown) is working on 3-D animations and simulations of theropod track formation. In March he spent a week scanning deep footprints at the UT high-resolution CT facility in Austin. His other projects include a

computer analysis of pigeon wing movement, the evolution of flapping flight, and a theoretical approach to limb motion. Kevin Middleton is continuing his thesis work on theropod foot evolution, and he traveled to Beijing for museum work on Mesozoic birds from China and to attend the Society of Avian Paleontology meeting. Dave Baier joined the Gatesy lab this year to do functional morphology and paleontology. Steve, Kevin, and Dave all attended the Florida symposium at the Graves Museum in April.

Christine Janis and Jessica Theodor (Brown) have been working hard together over the past few months. They have a co-authored paper (with John Damuth) on Miocene ungulate communities and climatic changes coming out soon in *Proceedings of the National Academy of Sciences*, and have just submitted a manuscript to *JVP* on the evolution of pacing locomotion in camelids. They have also been working together to build a Luddite-proof database set up on the information in the *Evolution of Tertiary Mammals of North America* volume. Work is progressing (albeit slowly) on the second volume (Marine Mammals and Vermin), and Christine is just about to depart for Michigan for a few days to work with the other editors, Gregg Gunnell and Mark Uhen. Jessica is busy finishing up various projects at Brown and getting ready to move in August. She's excited to be heading to UCLA to work with Blaire Van Valkenburgh, although she says she will miss GRIPS. (Christine Janis)

Calvert Marine Museum, Solomons, Maryland

In February, Jim Clark (George Washington University) treated the Calvert Marine Museum Fossil Club to a public lecture that included just the right mix of Mongolian dinosaur paleontology, field-collecting woes of epic proportion, and local culture.

Many thanks are due Art Andersen (Virtual Images Inc.) for having completed the rapid prototyping of the Chinese troodontid dinosaur, *Sinornithoides*.

A number of important specimens have been added to our collection. The first consists of a nearly complete skull, lower jaw, and cervical vertebral series of the Miocene seal *Leptophoca lenis*. Irina Koretsky (NMNH) identified this superb specimen, from a collector who wishes to remain anonymous. If that weren't enough, shortly after receiving the seal skull, Richard Frye donated a lower jaw of another Miocene seal, *Callophoca* sp., and a partial lower jaw of the Miocene dog, *Tomarctus* sp. Yet another delightful specimen has come our way through the collecting efforts of Jean Hooper. Robert Purdy (NMNH) identified Jean's find as Uranoscopidae (electric stargazers) in origin. This group of living fish has almost no fossil record! The new Miocene stargazer partial skull exhibits the finished edge marking the opening of its left electric organ pouch!

Stephen Godfrey continues to work on a Miocene whale and whale evolution exhibit. (Stephen Godfrey)

Lamont-Doherty Earth Observatory, Columbia University, New York

This is the first news from the paleontologically-oriented members of the

Triassic–Jurassic Working Group at Lamont-Doherty Earth Observatory, though we have been lurking a while! The group concentrates on all aspects of the Pangean Late Triassic–Early Jurassic rift basins; however, Paul Olsen has two graduate students with interests focused on vertebrate paleontology (Emma Rainforth and Nick Salkowski) who are reinvigorating his vertebrate work. Paul is collaborating with the North Carolina Museum of Natural Sciences, Hans Sues (ROM), Joe Carter (University of North Carolina, Chapel Hill), and Mike Szajna and Brian Hartline (Mount Penn, Pennsylvania) on spectacular new vertebrate material from the Late Triassic of Pennsylvania, North Carolina, and Virginia. Several sites have produced large quantities of material, mostly dicynodonts and traversodont cynodonts, procolophonids, stagonolepids, and rauisuchians from red, rooted, sandy mudstone—one of the most common lithologies in the eastern US Triassic–Jurassic. Very satisfying is that much of this material consists of articulated skeletons and skulls. Paul has also finally completed the description of the “deep-tailed swimmer”—a manuscript co-authored with Ned Colbert that has taken some 20 years to complete! It will appear in a future issue of *Novitates*. Nick Salkowski is dissolving large quantities of the Late Triassic of Nova Scotia, Pennsylvania, and North Carolina in his quest for microvertebrate remains. So far these “barren” sandstones and siltstones have produced a significant amount of material, though not of all of it is identifiable! One surprise so far, however, has been the abundance of sharks, notably the minute *Lissodus*, of which two forms are clearly new. Paul also continues his work on his book, *Dinosaur Tracks and Other Footprints from Eastern North America*, for Columbia University Press, that hopefully will take less time to complete than his paper with Ned Colbert! Emma Rainforth is continuing her work on vertebrate footprints of the Newark Supergroup, trying to sort out the ichnotaxonomic disaster area left by Edward Hitchcock and Richard Swann Lull. She cut her teeth on *Otozoum*, and is now heading into the realm of the grallatorids. Paul and Emma have also revised the taxonomy of *Anomoepus*, which will appear in a volume co-edited by Paul and his former (stratigraphy and paleomagnetic) student Peter LeTourneau on the Newarkian rift basins. (Emma Rainforth)

National Museum of Natural History, Smithsonian Institution, Washington, D.C.

On their annual trip to the Carolinas and Georgia, Bob Purdy, Dave Bohaska, and Fred Grady (with Jim Knight of the South Carolina State Museum and two USNM volunteers), collected several noteworthy specimens. In Georgia, in addition to many Late Eocene vertebrates, Fred collected six unassociated vertebrae of *Pterosphenus*. At Harleyville, South Carolina, they spent 2½ days collecting the anterior portion of a medium-sized archaeocete whale that was dug up by the quarry owners; the company’s bulldozer broke the specimen into over 20 blocks and hundreds of pieces. While the SI crew was chipping boulders down to manageable sizes and jacketing the exposed bone, the company brought out the media people. It was obvious from their clothing and shoes that they hadn’t done many stories in a cement company’s quarry. You may have seen

Dave being interviewed on the TV news. At another nearby quarry, Vance McCollum, who joined us for the day, collected the proximal portion of a sea cow humerus that, according to Daryl Domning, represents a new geographic record for Eocene sea cows. Aside from the fact that they had to clean up their rental van which looked like it wallowed with its doors open in a white slime pit, it was a great trip.

Ralph Chapman has been very busy working on a wide variety of projects. In addition to finishing up a couple of chapters for the new edition of the *Dinosauria* with a variety of co-authors (Biogeography and Pachycephalosauria), he has been working on lots of technological aspects of research in VP. Along with Arthur Andersen, he presented a paper at the dinosaur-bird conference at the Graves Museum (Fort Lauderdale, Florida) on using virtual modeling and prototyping to study the biomechanics of dinosaurs and other organisms. Included was work with Stephen Godfrey (Calvert Marine Museum) on taking a CT scan of *Sinornithoides*, the small troodontid dinosaur from China which has been prepared on only one side, and creating a full 3-D virtual model of it, and then prototyping the results so they can see what's on the other side. The results were quite promising. The biggest part of Chapman's time has been spent on the virtual *Triceratops* project. It is nearly completed and we are animating it and using it as a basis for planning the final mount in the new Horned Dinosaurs section of the Dinosaur Hall. Of great importance was a two-day miniconference in April where they used real material, the virtual *Triceratops*, and prototyped bones at 1/6 scale from the original mount, to work out the posture and biomechanics of the animal. In addition to Chapman, Mike Brett-Surman, Pete Kroehler, Steve Jabo, and Rebecca Snyder from the SI/NMNH, Cathy Forster, Rolf Johnson, Kent Stevens, and Brenda Chinnery were down, and they were able to rebuild the animal from the ground up (actually from the vertebral column distal and anterior). It was a great two days and has led to many great discoveries of how *Triceratops* looked and functioned.

Linda Deck has been very busy on a variety of exhibit projects. She has been developing and managing production of exhibits for FossiLab, the fossil preparation area visible to our visitors from the Dinosaur Hall and Life in the Ancient Seas. These exhibits give the visitor basic primer information on fossils: what is a fossil, what work is going on here, how are fossils useful to us, and so forth. Also, some improvements are being made to the actual preparation area, including the purchase and installation of a vacuum system for particulates and fumes. The work is underway and the lab is really starting to look nice. The newer additions should make it a very useful area for interacting with the public and still getting some work done. Her main project has been managing the development of the new Horned Dinosaurs section of the Dinosaur Hall. Working with SI staff and outside advisor Cathy Forster, the new area will open in the late fall and will include a new mount of the *Triceratops*, this time as a cast in reaction to the new cast of Stan the *T. rex* mounted across the stairs from it. The new section will have an upper area which discusses relationships among the horned dinosaurs and with the pachycephalosaurs under the Marginocephalia. It

will contain casts of four genera of pachycephalosaurs, as well as a variety of ceratopsian material, both casts and real fossil material. The lower area will discuss *Triceratops* and the efforts put into its restoration and virtual modeling. It will contain the original heads of *Triceratops* and *Diceratops* and some original postcranial material, as well as a miniature version of the original mount and a video section showing animations of the virtual skeleton.

Dan Chaney assisted Maureen Steiner (University of Wyoming, Laramie) in collecting paleomag samples from the Upper Penn–Middle Permian section in north-central Texas. It is hoped that the pole positions will provide validation of the general age of the rocks. The importance of this is that Dan and his colleagues (Bill DiMichele, USNM, and Robert Hook, Austin, Texas) have recovered a flora in rocks only slightly younger (Blaine–San Angelo contact) than E. C. Olson’s Kahn Quarry (San Angelo Formation) material. This flora has some elements in it that they have tentatively identified as congeneric with Late Triassic and Jurassic plants from elsewhere in the world, thus providing the first real evidence that at least some Mesozoic forms were established in the Lower or Middle Permian well before the end Permian extinction event. This suggests a bias in the record of evolutionary events with much happening beyond the bounds of depositional basins. It is hoped that the pole positions will independently show that these rocks are in fact Permian in age. If the resolution of the pole positions is good enough they may help resolve a more exact age (Guadalupian or Leonardian) for of the Kahn Quarry material—but don't hold your breath on this one.

Sally Shelton has wrapped up a long spring of teaching courses on federal and international scientific collecting permits for SI staff. A more general version of this will be offered at the third federal collections meeting in Austin in November. Sally also attended the Association of Systematics Collections meetings in May to moderate a panel on genetic resource collections. She will become Past President of the Society for the Preservation of Natural History Collections in July. (Ralph Chapman, Dan Chaney, and Sally Shelton)

Yale Peabody Museum, New Haven, Connecticut

Yale Peabody Museum Preparators, Marilyn Fox and Vicki Yarborough, with the aid of the Vertebrate Paleontology Lab’s excellent volunteers, are proceeding with the conservation of the Marsh dinosaurs and, with the help of John McIntosh, are currently unraveling the problems of *Camarasaurus grandis*. All specimens are being cleaned and properly supported, and photographs and important data for each bone are being included in a database of this part of our collection.

Dan Brinkman is busily trying to finish his dissertation on *Tenontosaurus* this summer as he has accepted a temporary instructorship position in geology at James Madison University in Virginia starting in September.

Takanobu Tsuihiji has begun his work on the reconstruction of the cervical musculature of theropod dinosaurs for his dissertation. This summer he will be joining a Yale University field party in Wyoming.

Paul Whitehead's book, *Old World Monkeys*, was published in May by Cambridge University Press. Paul edited the book with Cliff Jolly from NYU. It is a collection of 19 papers on various aspects of cercopithecoid evolution, systematics, morphology, ecology, and behavior. Paul is currently lecturing in the Yale summer session, teaching "Diversity of Life," and serving as Acting Collection Manager for the Division of Vertebrate Zoology and Ornithology. (Christine Chandler)

Southeast Region

Columbus State University, Columbus, Georgia

We have several Cretaceous projects ongoing, mostly regional but with some interesting connections. David Schwimmer is completing the text of a book on the paleoecology of the Cretaceous crocodylian *Deinosuchus rugosus*, and finishing mechanical reconstruction (following computer reconstruction, already done) of the skull. David, together with Cait Kiernan, recently visited the McWane Center in Birmingham to study a subadult theropod that was collected a decade ago in western Alabama, and not formally described. It turns out to be in fairly good condition, with much of the skull preserved, and is unmistakably a tyrannosaurid close to *Albertosaurus* or *Daspletosaurus*. A sample of matrix from the specimen was dated to the mid-Campanian by Charlie Smith of the Alabama Geological Survey, indicating it came from the Arcola Limestone. Work on this is obviously ongoing, and it especially interesting to consider how remarkably similar tyrannosaurids appear on both sides of the Interior Seaway synchronously. In the past year Ed Hooks (Alabama State Museum) and David published a note in *JVP* on the distribution of the pycnodont *Phacodus punctosus*; and David and Ed submitted another note on late (Santonian-Campanian) occurrences of the large lamnid selachian *Cretodus crassidens* in eastern USA. David has also been consulting with the Fernbank Museum in Atlanta, helping set up their "Mesozoic Giants of the Southern Hemisphere" display. They have recently mounted a cast of *Giganotosaurus*, and will be completing the display with a cast of *Argentinosaurus*. As they say, size matters. (David Schwimmer)

Florida Museum of Natural History, University of Florida, Gainesville

Dave Webb is pleased to announce that the "Bone Valley Deer" is now officially dubbed *Eocoileus gentryorum*. It was named in the new volume from Yale Press, *Antelopes, Deer, and Relatives*, edited by Elisabeth Vrba and George Schaller, and honoring Alan Gentry. As one of the two oldest deer in North America, *Eocoileus* helps establish a framework for the evolution of New World Cervidae. "That's our story and we're sticking to it."

Bruce MacFadden recently gave talks on stable isotope analyses of fossil horses at two European conferences: a bone diagenesis conference in Albaracin, Spain; and a stable isotope ecology conference in Braunschweig, Germany. Then, Bruce led the Pony Express Western Expeditionary Force to the badlands of western Nebraska, where they recovered Oligocene fossils. Bruce has submitted

his *Anchitherium* manuscript to the *FLMNH Bulletin*; continued work with Gary Morgan on an Arikareean oreodont from Florida; submitted another paper to *Annual Review of Ecology and Systematics*; and has a paper in the July issue of *Quaternary Research* on climate cycles in Tarija, Bolivia. In June, the VP gang officially welcomed Penny Higgins to the FLMNH. Penny, who recently completed her doctoral work at the University of Wyoming, has accepted a postdoctoral appointment working with Bruce MacFadden. She will be looking at climate and vegetational change in postglacial North and South America as evidenced by the stable isotopes of fossil horses.

The great news among Florida VPeres is that Richard Hulbert has come back to Gainesville. He began officially to serve as manager of VP collections in mid-July. After a decade in exile in Georgia, Richard returned to the fossil-fertile ground from which his PhD was spawned.

Brian Beatty is preparing a paper for publication with Dave Webb on the Protoceratidae. His contribution is an analysis of *Prosynthetoceras*, including a description of the postcranial skeleton, paleobiological analysis, biogeography, and identification of characters new and definable to the Protoceratidae. Brian finished his duties as collections assistant here at FLMNH and this summer moved on to the Department of Anatomy at Howard University in Washington, D.C., where he will pursue a Master's degree. Brian intends to study the Desmostylia under the tutelage of Daryl Domning.

Matt Mihlbachler is completing his MA thesis on the paleobiology of Miocene rhinos from Florida. His many notebooks full of numbers are busily being chewed up by the many analytical methods Matt has chosen to employ, including life tables, stable isotopes, biomechanics, CAT-scans, tooth wear, and the kitchen sink. Matt has chosen to pursue a PhD at Columbia University, so that he may caress the trochanters of every large mammal at the AMNH.

Julie Meachen has just completed her Bachelor's degree in zoology from the University of Florida. She will be applying to the graduate school at the University of Florida for the fall of 2001. She has completed an undergraduate research project on the niche differentiation between *Palaeolama mirifica* and *Hemiauchenia macrocephala*, two extinct Pleistocene llamas.

After two semesters of intensive coursework in the Zoology Department, Diana Hallman is again heeding the siren song of research. She is presently preparing a proposal for her dissertation project. After substantially more than two semesters in the Zoology Department, Jay O'Sullivan is concerned that the siren song he hears may be that of an ambulance, come to take him to a nursing home. Concerned by the fact that teaching assistants do not receive pensions, Jay is resolved to finish his dissertation next May and get a job. No, really. (Jay O'Sullivan)

Georgia Southern University, Statesboro, Georgia

This will be the last SVP news report out of GSU, at least temporarily. Richard Hulbert has left GSU to become the VP collections manager at the Florida Museum of Natural History. In April Richard became the *JVP's* editor for

mammals as part of the reorganization of the journal's editorship. While encouraging submissions on all aspects of mammalian paleontology, he urges prospective authors to carefully read the submission guidelines published in the first number of the current volume and follow them with religious fervor. He is very willing to answer queries about format or style prior to submission (via e-mail if possible, rhulbert@flmnh.ufl.edu). Those wishing to visit and use the Georgia Southern Museum paleontology collection, in particular to study the holotype of *Georgiacetus voglensis*, should now directly contact the museum's director. (Richard Hulbert)

LSU Museum of Natural Science, Baton Rouge, Louisiana

Judith Schiebout, Suyin Ting, and Ray Wilhite continue work on the Fort Polk Miocene. After submitting a major report on Fort Polk research to the Corps of Engineers in early April, Schiebout is able to get to some work done other than report writing, and is working on a description of new finds and biostratigraphic problems. She is also preparing to make more use of computer technology in her fall classes, including "Dinosaurs, Extinctions, and Catastrophes." On field trips to Fort Polk in May and June, Ting, Wilhite, and undergraduate Mike Williams located our first Fort Polk Miocene whale material and spines of a very large fish. The site is also yielding camel and horse material, and our future plans include considerable quarrying there. Ting is continuing work with Malcolm McKenna, Paul Koch, and Will Clyde on their cooperative project with the IVPP, Chinese Academy of Sciences, on the biostratigraphy, chemostratigraphy, and magnetostratigraphy across the Paleocene/Eocene boundary in the Henyang Basin, China. New fossils from the January 2000 trip include mesonychid material from a new taxon and a complete skull of *Haplodectes*. Postcranial material of *Matutinia* from Henyang is currently being prepared by Ting. Wilhite is visiting museums to collect data for his dissertation on sauropod biomechanics. He and Ting accompanied Bill Lee, a Baton Rouge resident who has long worked with Brad McPherson on the Louisiana Pleistocene, to see some of the McPherson sites. Ray has been curating the McPherson Collection, which was donated to the LSU Museum of Natural Science. Paul White will be in Big Bend National Park in late July/August collecting fossils and sediment samples in the vicinity of the Paleocene/Eocene boundary for his dissertation study. Schiebout will go to Big Bend to get him oriented. If all goes well, Schiebout and Ting will get a chance to see Julia Sankey and Barbara Standhardt while out in Big Bend. Undergraduate Mike Williams is eagerly anticipating his first field trip to the Miocene site at Toledo Bend, Texas, in July. He is looking forward to collecting sediments/rocks and screen washing in hopes of expanding the microvertebrate fauna to study for his Master's. (Judith A. Schiebout)

Murray State University, Murray, Kentucky

Bob Martin was on sabbatical this past semester, and had a very profitable visit to the Museum of Paleontology at Michigan during the winter. He found, among other things, that Hibbard's *Peromyscus sawrockensis* is actually the earliest

Symmetrodontomys in the Meade Basin. This record was recently published in the latest issue of *Paludicola*. He also discovered, much to his surprise and delight, that the record of Meade Basin geomyids offers more biostratigraphic potential than any other rodent group. He drew and measured almost all the important Michigan fossil gopher material, and with MSU undergraduate Janna Wells, is now sorting and measuring the gophers from his new Meade Basin sites. Bob spent a few days of April in Madrid with colleague Pablo Pelaez-Campomanes and gave a lecture in memory of Remmert Daams at the University Complutense. He visited briefly with Jorge Agusti in Barcelona and Laurent Viriot in Poitiers before settling into a week of study with the Ptolemais and Tegelen arvicolines at Utrecht and Leiden. Albert van der Meulen, Hans De Bruijn, Jan Van Dam, and Lars Hoek Ostende were wonderful hosts, and Bob was also fortunate to explore European arvicoline evolution with a knowledgeable undergraduate at Utrecht, Kees Hordijk.

The MSU scanning electron microscope has been put to good use over the past two years, and has produced a fine inventory of arvicoline schmelzmusters. Leon Duobinis-Gray, Bob, and undergrad Chris Crockett are finishing a manuscript on some Pleistocene lemming patterns that also includes the description of a new early Pleistocene *Synaptomys* species from Florida.

Ryan Hurt has settled in Louisville, and he is working to finish his MS thesis on the rodents from our new localities in the Borchers Badlands. A full crew of students, from here and abroad, will be joining Bob, Jim Honey, and Pablo Pelaez-Campomanes for another month of Meade Basin fieldwork this summer. A large state-of-the-art paper on this project is in review. Among other localities, the group will sample from a new, rich site discovered in October just before Bob and Jim led the Meade Basin field trip for the Denver SVP meeting. The special volume of *Paludicola*, "The Early Evolution of *Microtus*," edited by R. Martin and A. Tesakov, is again available in a limited edition from Bill Korth for \$15. Contact him at wwkorth@aol.com. (Robert A. Martin)

Paleontologist at Large, Birmingham, Alabama

With deer season making most of the Mooreville Chalk outcrops inaccessible (or at least perilous), Caitlin Kiernan spent much of the winter collecting outcrops in the Demopolis Chalk and Prarie Bluff Chalk in Sumter County, Alabama. This included three very productive days at Moscow Landing on the Tombigbee River. Aside from a diverse molluscan assemblage, numerous selachian taxa were collected at the site, from both the Cretaceous and Tertiary beds, along with fragments of a very large *Mosasaurus maximus*. In April, she returned to work on Mooreville outcrops in Greene County, devoting most of her attention to the AGr-11 locality. The site is producing an extremely diverse microvertebrate fauna, including ichthyornithiformids, subadult mosasaurs, and a host of sharks, rays, and bony fishes. But the unquestionable gem of the site is what appears to be a velociraptorine tooth, which turned up during the excavation of a toxocheylid turtle. The specimen is currently on loan to Columbus State University (Columbus, Georgia), and Caitlin is working with Dave Schwimmer to confirm

the dromeosaurid identification. Caitlin is also continuing her work on mosasaur biostratigraphy and the “new” Mooreville *Clidastes* species. (Caitlin R. Kiernan)

Midwest Region

University of Michigan, Ann Arbor

Jerry Smith continues to add to the known Miocene and Pliocene fish faunas of the Great Basin and Columbia Plateau. The application of mtDNA divergence data to clades with fossil first-appearances indicates that fish rates of molecular divergence are slower than thought (by molecular biologists) and clades are older than assumed (by paleontologists). He is looking forward to getting out of administration and spending more time on paleoichthyology.

Dan Fisher continues to enlarge his sample of late Pleistocene mastodons and mammoths for which life history data and oxygen isotope records are available. He and a group of undergraduates are also developing a library of digital models of mastodon osteology. It's slow going, but the preliminary results promise great facilitation of site documentation and taphonomic analyses.

Phil Gingerich will work in Wyoming this summer studying microstratigraphy across the Clarkforkian/Wasatchian boundary. Phil will be joined in Wyoming by Geological Survey of Pakistan colleague Muhammad Arif. Phil continues his work on the early evolution and diversification of archaeocete whales and anticipates returning to Baluchistan in the fall with his GSP colleagues. Phil just returned from a trip to Alaska where, among many other things, he was able to observe locomotion of humpback whales.

Soon after receiving his PhD from the University of Chicago in August 1999, Jeff Wilson joined the University of Michigan faculty on a two-year visiting professorship. He teaches courses on dinosaur evolution and on vertebrate paleontology. Recently, he has been finishing up a manuscript on the genus-level relationships of sauropod dinosaurs, and is working on several smaller projects. Jeff will be in Warsaw and Moscow this summer, and will visit India in early 2001. On an even happier note Jeff will be getting married in August. We wish Jeff and Monica all the best!

Bill Sanders reports from the prep lab that: 1) they are busy (as has become common) prepping out a slew of new archaeocete whales from Phil's latest expedition to Pakistan; 2) we say goodbye to our outgoing assistant preparator, Jen Gulick (leaving for graduate work in Arizona); and 3) we welcome Joe Groenke in as new assistant preparator. On the research front Bill has just returned from museum work in Addis Ababa, Ethiopia, where he made a detailed study of the new late Oligocene mammalian fauna from Chilga (John Kappelman's project), and of new early Miocene proboscidean fossils from Fejej (John Fleagle's project). Bill is currently working on a paper revising *Primelephas gomphotheroides* with Sol Munding and on a paper addressing functional morphology of the sacrum in early hominids with Peter Rose, both undergraduates working in our prep lab. He has also just finished a paper with Ellen Miller on a new, very diverse proboscidean fauna from the early Miocene site of Wadi Moghara in Egypt.

Gregg Gunnell has finally finished editing his book on unusual occurrences and rare habitats in the Eocene and has submitted it to Plenum. He hopes it will appear before SVP in Mexico City. He has also finished two, long overdue chapters for two other books and is continuing to work on yet two more chapters for yet another two books. Gregg has just returned from a month of fieldwork in Oaxaca, Mexico, with colleagues Ismael Ferrusquia (UNAM) and David Gillette (Museum of Northern Arizona). This work constitutes the first phase of a long-term project to document geology and vertebrate paleontology in southeastern Mexico. Gregg, along with Bonnie Fine Jacobs and Jason Head (Southern Methodist University) and Pat Herendeen (George Washington University), will be leaving in early July for a month of fieldwork in Tanzania at the middle Eocene locality of Mahenge. For daily updates from the field in Tanzania check out the University of Michigan Exhibit Museum Web page at www.exhibits.lsa.umich.edu after July 15. Finally, Gregg and Bill Bartels (Albion College) continue their work on basin margin faunas from South Pass and will soon submit a paper on vertebrate faunas from the Wasatch Formation at Fossil Butte National Monument.

Jon Bloch is in the final days of dissertation writing and is planning to defend in September. Meanwhile Jon continues his work on mammals preserved in freshwater limestones from the Paleocene and Eocene of Wyoming and has recently submitted a paper on new paromomyid specimens from one of these limestones. Jon, along with Phil, Gregg, Muhammad Arif, Intizar Hussain, Munir-Ul-Haq (Geological Survey of Pakistan), and Will Clyde (University of New Hampshire), are working on the new early Eocene vertebrate fauna from Gandhera Quarry in Baluchistan. A preliminary account of this faunal sample is included in Gregg's book.

Ross Secord will continue his studies of the Tiffanian/Clarkforkian transition in northwestern Wyoming this summer. Ross will be joined in the field this summer by fellow UM grad student Iyad Zalmout.

The museum has been full of visitors over the past few months. We have recently enjoyed visits from Bob Martin (Murray State), Pat Holroyd (University of California, Berkeley), Mary Silcox (Johns Hopkins), Ellen Miller (UCLA), Jim Farlow (Indiana-Purdue), and Christine Janis (Brown). (Gregg Gunnell)

Western Michigan University, Kalamazoo, Michigan

Bob Anemone's field crew will not be returning to the early Tertiary deposits of the Great Divide Basin in southwestern Wyoming this summer after six consecutive field seasons there. Instead, Bob will spend the months of July and August working at European museums (London, Paris, and Frankfurt) on the evolution of saltatory locomotion among primates. His paper on the hind-limb skeleton of *Omomys* from Bridger C beds of southern Wyoming (with Bert Covert) was recently published in the May 2000 issue of *Journal of Human Evolution* (38:607–633). Bob is also working on a description of the Clarkforkian primate fauna from the Great Divide Basin, work which he and several co-authors (e.g., Jeff Over, Brett Nachman, and Ed Johnson) have presented at

recent SVP and AAPA meetings. Ed Johnson is in the finishing stages of the writeup of his Master's thesis on the Tipton Buttes local fauna, a late Wasatchian assemblage from the Great Divide Basin. Jim Harris just left Kalamazoo for the wide-open spaces of Kansas where he will work with Bob Martin's field crew this summer. Jim hopes to write a Master's thesis next year on some aspects of locomotion and functional morphology among callitrichids. Bob welcomes Randall Case as his newest MA student, beginning in the fall semester 2000. (Bob Anemone)

Southwest Region

Dallas Museum of Natural History, Dallas, Texas

Starting in late June, the Dallas Museum of Natural History unveiled a series of new exhibit modules entitled "Texas Dinosaurs." In addition to our *Tenontosaurus* and Proctor Lake hypsilophodontid skeletons, and footprints from Glen Rose and Lake Grapevine, we also have a huge module entitled "Life and Death in the Big Bend" that features a *Tyrannosaurus rex* skeleton feeding on the remains of a juvenile *Alamosaurus* within an abandoned stream channel. The module also has a *Torosaurus* skull eroding out of the stream bank. The module is highlighted with a 52-ft mural by Karen Carr showing an interpretation of the Javelina Formation ecosystem.

In mid-July Tony Fiorillo will be joining Roland Gangloff for an extensive field season examining the Jurassic and Cretaceous sections of northern and western Alaska. While we are working in Katmai National Park and Preserve, Vince Santucci will also be joining us. These efforts are focused on expanding the known dinosaur record for Alaska. (Tony Fiorillo)

Mesa Southwest Museum, Mesa, Arizona

Heidemarie Johnson survived the symposium in Flagstaff on early vertebrates. Many saw her arthrodires from the Devonian Martin Formation. Fieldwork will resume as soon as fire danger diminishes in her field area. Doug Wolfe presented a brief paper on *Zuniceratops* at the New Mexico Natural History Museum recently. Doug did additional fieldwork at the Zuni site along with Jim Kirkland and Karen Chin. Karen is beginning a study of what is apparently an extensive angiosperm forest at the Zuni site. Brian Curtice and Greg Cranwell are excited by their new sauropod site in the Albanian Shellenberger Canyon Formation of Arizona. The site promises to be difficult work, but already produced some intriguing specimens. Bob McCord is recovering from the opening of our new 40,000 ft² expansion which is chiefly devoted to paleontology. The insanity that preceded the opening even including a one-month stint as acting director of the museum. Bob resumed his fieldwork in the Fort Crittenden Formation of Arizona, and just returned from the first of three expeditions planned there this year. He reports he has more dinosaurs, turtles, and fishes than he knows what to do with. We look forward to seeing you all in February 2001 at the WAVP meetings that we are hosting. We also look forward to the 2002 WAVP meetings at the Raymond M. Alf Museum. (Robert McCord)

Museum of Northern Arizona, Flagstaff

It was a busy spring and early summer for paleontology at the MNA. Starting things off back in March, the museum hosted the annual meeting of the Western Association of Vertebrate Paleontologists (WAVP) which brought together about 50 participants. Following WAVP, the museum cohosted with Northern Arizona University the Ninth International Meeting on Early Vertebrates. Over a dozen countries were represented and a postmeeting field trip across Nevada, Utah, Wyoming, Colorado, and Arizona was enjoyed by all. Shortly thereafter, Dave Gillette left for southern Mexico where he spent about six weeks conducting a field reconnaissance with Ismael Ferusquia. In early June, after Dave's return, he, Barry Albright, and Janet Whitmore-Gillette began the excavation of a couple of pliosaurs in the Glen Canyon National Recreation Area of southern Utah. Both sites yielded skull material, with one of the sites including a large percentage of the skeleton. Alan Titus, the newly appointed paleontologist for the Grand Staircase–Escalante National Monument, was able to lend his expert biostratigraphic interpretation of the region to accurately place both localities in a refined temporal context. Both appear to be very early Turonian in age.

NAU graduate student and MNA student research associate Eben Rose is finalizing the writing of his Master's thesis on a revision of the Cambrian stratigraphy of the Grand Canyon, and the Museum's other NAU grad students, Bill Parker and Dan Woody, are working for the National Forest Service in the Northhorn region of Utah this summer.

The paleo staff at the museum was also joined this summer by interns Margaret Imhof and Katie Sherman. Both are keeping busy helping us in the field, lab, and collections. Ralph Molnar and his wife, Barbara, joined us for a visit recently and Ralph will begin his appointment as our new Honorary Curator of Paleontology as soon as they get settled here in Flagstaff. Our preeminent Honorary Curator, Ned Colbert, is doing just fine, as is his wife Margaret, and is back in the office two days a week. (Barry Albright, Dave Gillette)

Quaternary Sciences Program, Northern Arizona University, Flagstaff

Previously known as the Quaternary Studies Program, QSP heavily changed its curriculum for the overall program beginning fall 2000. Paleontology (Neogene reptiles and mammals) is still an emphasis within QSP, but is now more refined. The Laboratory of Quaternary Paleontology is expanding its present holdings of 24,000 curated modern and fossil specimens, thanks largely to the direction of Sandra Swift and to the graduate students. Marci Hollenshead, Sandy, and Jim Mead are working on Late Pleistocene *Sorex* of the Great Basin. Marci is beginning her thesis on the Pleistocene herpetofauna from a cave in north-central Great Basin. Jim is pulling together the fossil and subfossil salamanders, reptiles, and mammals from Oregon Caves National Monument with the help of Sandy, Marci, Chris Jass, and Chris Bell (University of Texas, Austin).

Chris Jass completed his thesis and will begin his PhD work with Chris Bell in Texas in the fall. Mary Carpenter continues to work on her thesis on the fauna from Rampart Cave, Grand Canyon, and is writing a manuscript about a

mummified coyote. Michael Pashenko is completing his thesis on *Rhyncotherium* with Larry Agenbroad. Larry continues his work at the Hot Springs Mammoth Site, South Dakota, and on the frozen mammoth remains in Siberia (Discovery). Jim is working: with Chris Bell on the lizard *Shinisaurus*; on a new Pliocene *Ovis* with Lou Taylor (Denver) and Chris Shaw (LACM); on a new crocodile from the South Pacific with Dave Steadman (Florida) with help from Chris Bell and Chris Brochu; and the late Pleistocene lizards from southwestern Australia with Sandy and Blaine Schubert (Illinois). The entire lab is working on various aspects of the Pleistocene fauna from Kartchner Caverns State Park, Arizona, with the help of Cathy Johnson, archaeologist. Blaine and Jim with the help of Russ Graham (Denver), are finishing their edited volume about cave faunas of North America. (Jim I. Mead)

The University of Texas at Austin, Department of Geological Sciences and Vertebrate Paleontology Laboratory

We are pleased to announce the arrival of two friends in Austin! Jessie Maisano joined the High-Resolution X-ray CT facility as a postdoctoral fellow in January, after completing her dissertation on postnatal skeletal development in squamates at Yale. She is overseeing the lab's construction of a Web-based Digital Library of Vertebrate Morphology, part of the National Science Foundation's Digital Libraries Initiative. In June she presented a report on the project's status at the All-projects meeting in Stratford-on-Avon, England. Aside from her CT-lab duties, Jessie is preparing her dissertation results for publication, preparing to clear-and-stain even *more* lizards and is involved in several projects dealing with squamate anatomy and systematics, some involving CT data. John Maisano also joined us in January as the new exhibits designer at the Texas Memorial Museum. John has 11 years of experience at Yale University under his belt, and brings a refreshing perspective and an engaging personality to our program. He is working closely with Bob Rainey on the new "Dino Pit" project at the Austin Nature Center.

Ernie Lundelius is busy with several projects. He is finishing a manuscript with Bill Turnbull on the last specimens currently available from the Grange Burn locality in Australia. This will add one or two taxa to the Hamilton fauna. Another project, being done in cooperation with Alex Baynes and Ken Aplin of the Western Australian Museum deals with material from fissure fills on Barrow Island, Western Australia. This should provide information on at least one Pliocene or Pleistocene fauna from northwestern Australia. He is also chairing the "Pliocene-Pleistocene" committee as part of the revision of the Cenozoic Mammals of North America volume edited by M. Woodburne.

Tim Rowe completed another successful field season in the Kayenta Formation in Arizona in June. His dedicated field crew included Liz Gordon, Pamela Owen, Jon Franzosa, Ted Macrini, Brian Andres, Matt Colbert, Amy Balanoff, and Roger Gary.

Chris Bell is finally finishing his work on the microtine rodents from Porcupine Cave, and is also working on a series of projects dealing with

squamates. Jim Mead visited the Austin campus in June and worked with Chris on a detailed description of the cranium of *Shinisaurus*. Susan Evans arrived in mid-June and spent two weeks with Jessie Maisano and Chris Bell working on a phylogeny of gymnophthalmid lizards and a description of the cranial osteology of *Neusticurus eupleopus*.

We have a lot to celebrate this year in terms of student successes. Pamela Owen completed her dissertation on North American badger evolution. Fortunately, we do not have to say goodbye to Pamela because she joined us in June as the new collection manager at the Vertebrate Paleontology Lab. Jon Franzosa, Lyn Murray, Dennis Ruez, and Ron Tykoski successfully defended their PhD dissertation proposals this spring; we now look forward to amazing productivity from all of them in upcoming months! (Chris Bell)

Rocky Mountain Region

Brigham Young University, Provo, Utah

Our research and other work here has been along several different fronts. Wade Miller is still spending most of his research time working with Oscar Carranza doing paleo things in central Mexico. During April the two of them with Bart Kowallis (geochronologist from BYU) spent time visiting several Mexican states and located some new fossil sites in the states of Mexico, Aguascalientes, and Jalisco. At two of the new sites volcanic ashes lie in close proximity to the fossils found, allowing for good dating possibilities. This research will continue through the summer. Wade and Oscar just put together a field guidebook which will be published (along with others) to be used with the SVP field trips this year. They also are organizing a symposium for the meetings on the Great American Biotic Interchange.

Along with Greg McDonald, work was just completed on a partial *Megalonyx* skeleton. It represents a very large individual (one of the largest known) which was found in very late Pleistocene Lake Bonneville deposits here in Utah. With the help of Tom Morris (stratigrapher at BYU) much stratigraphic data is included in the paper, which will be published the first of next year.

Allen Shaw, graduate student, is currently working on the taphonomy of ankylosaurs. Hopefully he will be able to determine the preferred habitats of these strange beasts.

The Earth Science Museum here at BYU now has a skeletal mount of *Torvosaurus tanneri* which was installed May 18 as a permanent exhibit. It has received much public interest and adds some freshness to the exhibits. Fieldwork by Ken Stadtman and staff continues at the Dalton Wells quarry near Moab, Utah, which is in the early Cretaceous Cedar Mountain Formation, and will also take place later this summer at Dry Mesa in the Morrison Formation. With the help of volunteers as well as staff, preparation work is going well in the lab. Current research interests for Stadtman and collaborative researchers are centered on sauropods from the Cedar Mountain Formation, as well as on ceratosaurs from Dry Mesa and other Morrison Formation sites.

Recent receipt of high-resolution CT-scan data on a *Coelophysis* skull, borrowed from the Cleveland Museum of Natural History, will lead to a paper by David Smith, Paul Bybee, Art Anderson (who acquired the data), and Hans Larsson. They will describe features of the virtual braincase. The description is being supplemented with information from a rapid prototype model and the original specimen. Data gathered to date support a very close relationship between *Coelophysis* and *Syntarsus*! A concurrent CT-scan project with Dan Chure of Dinosaur National Monument is being performed on a large *Allosaurus* braincase from Dry Mesa, Colorado. This work should lead to a better understanding of growth, variation, and the endocranium. A paper describing this *Allosaurus* was submitted in April for publication. Other papers in review or in press by workers here include one proposing a new species of *Allosaurus* by David Smith, Paul Bybee, and Ken Stadtman, and also a paper by Don Brinkman, Ken Stadtman, and David Smith describing a complete juvenile specimen of the Jurassic turtle, *Dinochelys*, from Dry Mesa. (Wade E. Miller)

Bureau of Land Management

It's been a while since you heard from BLM paleontologists Laurie Bryant, Harley Armstrong, and Mike O'Neill, but that's because we've been making slow but steady progress on some large projects that relate to fossils on public lands.

First, the report "Assessment of Fossil Management on Federal and Indian Lands" was delivered to the US Senate as requested on May 15, 2000. The report focuses on seven basic principles that direct current and future efforts to make fossils available for scientific, educational, and (where appropriate) recreational use by the American people. Eight federal agencies considered input from the public, including amateurs, academics, museum staff, professional societies, and commercial entities. The report is posted on the Web at www.doi.gov/ under the heading "What's New at Interior."

Wyoming BLM continues to support work on its Red Gulch Dinosaur Tracksite near Shell. This is where technology meets the road! Our partners—geologists, paleontologists, spatial data specialists, and geodesists—continue to provide higher levels of accuracy and documentation for this middle Jurassic site in the Sundance Formation where some 1,000 theropod tracks are exposed in an area half the size of a football field. Work on the largest outcrop in the area should be largely completed this summer.

About 40 other permits, new and ongoing, are in effect in Wyoming. Most of the permittees have projects in the Bighorn and Bridger basins, but others are scattered across the state from Lance Creek to Kemmerer. On average, ten individuals—students, volunteers, etc.—work with each permittee, so that there are at least 400 people doing paleo on BLM-administered lands in Wyoming this year. (Laurie Bryant)

The Denver Museum of Nature and Science, Denver, Colorado

On May 8, 2000, the Denver Museum of Natural History officially changed its name to The Denver Museum of Nature and Science. The trustees made this

change for several reasons. Although the Denver Museum has more than 85% name recognition within the Denver community, many infrequent visitors did not understand what natural history meant or confused the museum with history. The name change reflects what the museum is today and what it will be in the future. A significant result of the name change is the elevation of both nature, the content of the museum, and science, the process to analyze nature, to a much higher level of awareness within the Denver community. We anticipate that this will result in greater awareness of key issues in science and nature and indirectly in improved science awareness and literacy. The domain of the museum has now become dmns.org and all e-mail addresses have changed to (first initial)(last name)@dmns.org (e.g., rstucky@dmns.org).

Since July 1998 Tom Hardy, with assistance and direction from Chief Curator Richard Stucky, has been systematically revising and updating the DMNS Middle Eocene, Bridgerian insectivore and rodent collections. These specimens were collected by DMNS Earth Science staff and volunteers for nearly the last ten years. They are from sites in and around Sweetwater County, Wyoming. During the SVP meetings held in Denver last October, Tom had the opportunity to discuss and review his work with Mary Dawson from the Carnegie Museum of Natural History in Pittsburgh. She concurred with Tom that the rodent collections contained at least two and possibly three undescribed species. Tom is currently developing a systematic description of these species while continuing to revise and update the remainder of the rodent collection.

Ken Carpenter made his annual trek with his loyal band of volunteers to the Cedar Mountain Formation in search of dinosaurs. Ken's new book, "Eggs, Nests, and Baby Dinosaurs," is now in the book stores.

Bryan Small recently attended the SAPE meeting in Beijing. He will undertake his usual fieldwork in the Triassic of Colorado in August, and will investigate two new earliest Permian localities (Eskridge Formation) in Nebraska in September. The Nebraska sites are producing some well-preserved amphibian and fish material. Bryan and Virginia hope to start work at a new Morrison Formation dinosaur locality in Wyoming in July. We don't know what is there yet except lots of bones. By this time Bryan should have completed the long-overdue manuscript on *Desmotosuchus*, and will have one on the skull of *Longosuchus* shortly after.

The US Forest Service has found a new bone site on the Pawnee Grasslands. Russ visited the site in February with Bud Phillips and Bruce Schumacher. The site is named Broken Jaw after a specimen that was collected. Broken Jaw is about four miles from the *Trigonias* Quarry, a site excavated by DMNS in the 1920s. Broken Jaw has abundant fossils, especially titanotheres, and is in White River deposits that are capped by a tuff. Broken Jaw may be stratigraphically equivalent to *Trigonias* Quarry and Kate's Site at Bones Galore but more work is needed to confirm this speculation. DMNS will probably do some preliminary work at the site later in the spring or early summer.

Bruce Schumacher has been hired as the new regional paleontologist for the eastern part of Colorado. Bruce received his undergraduate degree from Fort

Hays State in Kansas. He did a Master's degree at the School of Mines in Rapid City, South Dakota. Bruce is interested in marine reptiles. We welcome Bruce to Colorado and look forward to working with him.

Russ and geologist Emmett Evanoff will be the leaders in fieldwork at Bones Galore for the last three weeks of August. The crew will be primarily DMNS-trained volunteers. To compensate for the heat Russ is considering different strategies. Work in the morning with a midafternoon break and then another two hours late in the afternoon.

Volunteer Pat Erwin has completed preparation of the titanotherium skull from Bones Galore. It is a beautiful specimen and Pat did an excellent job. The importance of this specimen is that it will allow us to determine which genus of titanotherium it represents. Pat and Russ have been working on this problem and Pat already has some good ideas.

Russ plans to do some test excavations at *Trigonias* Quarry in order to get more detailed information about stratigraphy and taphonomy. This information will add to the value of collections that have already been made by DMNS. Also, these tests will be used to see if more work is warranted at *Trigonias*. Russ plans to use a small group of volunteers for this project.

Logan Ivy is moving the collections in the Little Bone Room to the new space in the South Service Building, second floor. The Big Bone Room that stores just that plus the map collection and the paleobotany collections will remain in place.

Ray Wilhite, a sauropod researcher from Louisiana State University, visited recently to work with Virginia Tidwell. They are collaborating on a paper describing a partial juvenile sauropod that was collected from near Moab, Utah. The juvenile was found with a partial adult of the same species. The adult represents a new taxa and will be described next year. Virginia, Ken, and Bill Brooks published a paper recently in *Oryctos* titled "New sauropod from the lower Cretaceous of Utah, USA."

Porcupine Cave is the highest Pleistocene locality in North America and remains one of the most important fossil localities of its age in North America. The fossil bones were discovered in 1981 by Larry and Don Rasmussen. The Carnegie Museum of Natural History was involved in collection and study in 1986–88. The DMNS has been involved from 1992 to the present. The Western Interior Paleontological Society (WIPS) has been involved since 1994. The University of Kansas was involved in 1994 and the University of California, Berkeley, in 1993–94. Bone picking (sorting the bone, teeth, and invertebrates from the matrix) continues under the direction of Elaine Anderson. The DMNS is the repository for all bones and teeth recovered. WIPS provides the logistics and personnel for the summer camp. The museum now provides the leadership under Russell W. Graham for the scientific excavation of material and assists with generous funding.

Ken Carpenter has returned from the field as of May 29, 2000. He reports that he and his crew have begun excavation of an ankylosaurus bone bed in the Cedar

Mountain Formation. Joining that crew was Jim Kirkland. Allen Shaw from BYU also joined in to do the taphonomy of the site.

Jaelyn Eberle, Canada Museum of Nature, is working with Kirk Johnson on the Denver Basin Project. Kirk has secured funding for a detailed stratigraphic study of the Denver Basin. This interdisciplinary project is based on a 2256-ft core from the Denver Basin near Kiowa, Colorado. In addition, Kirk and other scientists have been studying fossils, sediments, and depositional environments from outcrops in the Denver Basin area. Jaelyn will be studying the Paleogene vertebrates in this area as her contribution to the project. (Alan Keimig)

Dinosaur National Monument, Jensen, Utah

Dan Chure has defended and deposited his PhD dissertation on a new species of *Allosaurus* from Dinosaur National Monument and a revision of the Allosauridae. He is now getting it ready to submit as an *AMNH Bulletin*. Publications by Dan which are in press include: 1) a description of Marsh's long-lost "*Megalosaurus*" material from Utah, actually the first record of *Allosaurus* from Utah (*BYU Geology Studies*), 2) a new specimen of *Stokesosaurus* from South Dakota, with John Foster (*BYU Geology Studies*), 3) new data on the morphology and pathology of the gastral basket of *Allosaurus* (Graves Museum Symposium Proceedings), 4) the theft of vertebrate fossils from museums and exhibits (*NPS Collection Management Bulletin*), 5) the wrist of *Allosaurus* and the evolution of the theropod carpus (Ostrom Symposium Volume), 6) a redescription and assessment of the type and referred material of *Laelaps trihedron*, and 7) a survey paper on the geology and paleontology of DNM, with Joe Gregson (Utah Geological Survey).

Preparation of our Early Cretaceous sauropod skull is proceeding and both sides of this spectacular specimen are now prepared. It shows a number of peculiar features and Dan will begin running algorithms on it later this summer. (Dan Chure)

Garden Park Paleontology Society dba Dinosaur Depot, Cañon City, Colorado

What sort of fossil hunting can you do in Colorado in fall and winter?—no problem here in Colorado's meteorological "banana belt." Weather permitting—and more than 75% of the time it is—crews are out looking over the Cañon City Basin for signs of newly eroded or previously unnoticed fossils. We do have new eyes looking—one William Kurtz of the Mesozoic Research Institute (a new nonprofit) who lives in town. Being into ichnology he has been looking all over and hit a potential motherlode of tracks on a public right of way and very popular scenic drive west of town. The abstract of the discovery was presented at WAMP in Flagstaff earlier this year. Titled "A preliminary report on nodosaur tracks from the Plainview Formation (Cretaceous: Albian) of Colorado with comparison to purported thyreophoran tracks, and notes on Plainview paleoecology and associated ichnofauna," the tracks are being called *Nodosauripes cañonensis*. There are other types of tracks along with these, namely iguanaodontid and tridactyl. Thus far crews working on a weekly basis have uncovered more than

60 tracks providing lots of educational entertainment for those driving this scenic road, Skyline Drive. Our only hazard is those racing by at much more than the posted speed limit of 15 mph while we dump matrix and talk with onlookers who are interested in the details. For more information on this as well as other activities at Dinosaur Depot, either call us at 1-800-987-6379 or visit us online at www.dinosaurdepot.com. (Pat Monaco)

Idaho Museum of Natural History, Pocatello, Idaho

Since our contribution to the last *News Bulletin* passed too close to a black cyberhole between Wyoming and Pittsburgh, never to be seen again by human eyes, and because things are totally chaotic here, we simply repeat below the news that was supposed to have appeared in the last issue and will catch up next time.

Another year has rolled by since our last contribution. Lately, Bill Akersten has been tied down with grant proposal writing and tenure review documentation (after 14 years at IMNH, he is finally undergoing tenure review). He will return to editing the White volumes and finishing a couple of old manuscripts after the Christmas HUA. Bill, Allen Tedrow, and Mary Flint (among others) published articles in White Volume #1. A list of papers in the volume is posted on the IMNH Web site (www.isu.edu/departments/museum/earth_science_division/earth_sciences.html). Bill also gave a paper on a small fauna with Hemphillian and Blancan components at the Rocky Mountain GSA. At the same meetings Allen Tedrow discussed early Hemphillian rodents from south-central Idaho. Two of Allen's papers finally appeared in the Utah Geological Survey volume "Vertebrate Fossils of Utah." One (co-authored with Steve Robison) describes a new Clarendonian local fauna from northwestern Utah and the other (co-authored with Robison and Jon Baskin) documents the second occurrence in North America of the large Hemphillian procyonid *Simocyon*. His current projects include Oligocene geomyid rodents from northwestern South Dakota and early Hemphillian sciurids from south-central Idaho. Jeff Meldrum is swamped and will update his news in the next issue.

In recent fieldwork, Allen and Steve Robison were awarded a Forest Service Partnership Grant to assess fossil resources on the Caribou and Targhee national forests. Thus far, they have documented several new dinosaur eggshell localities in the lower Cretaceous Wayan Formation of eastern Idaho plus vertebrates, plants, and insects from Cretaceous through late Tertiary. Allen and Bill took a break from the mid-June heat to conduct a salvage operation (with the aid of local cavers) for the BLM collecting bison and camel bones with associated microfauna at a cave in central Idaho. Bill and Greg McDonald made a short trip to far western Idaho this fall to examine a locality on private land where root plowing has turned up *Aphelops* material associated with fish in lake deposits.

Bill's crew of graduate students appear to be Y2K compliant. The holidays and new year will find them all operational. Karen Austin (DA Biology) is spending part of the holidays looking at morphological differences in the cervical and thoracic vertebrae of *Bison bison* and *Bison latifrons*. Rodger Rapp (MS

Geology), continues to study a Hemphillian fauna from southwestern Idaho. Delda Findeisen (MS Geology), the “new kid,” will be working on a thesis at John Day Fossil Beds. Mary Flint (PhD Biology) continues her examination of camelid foot morphology and its implications for locomotor behavior and is working with Greg McDonald and Lennart Ostblom (a Danish veterinarian) on so-called navicular disease in fossil and modern horses. Denny Diveley (MS Geology) completed her thesis on Mad Chipmunk Cave, Utah, and accepted an education job at the American Museum of Natural History. (Bill Akersten)

Sheridan College, Department of Geology, Sheridan, Wyoming

The spring semester of field season 2000 has seen Sheridan College students and faculty working in a number of sites within the Cloverly and Morrison formations of northern Wyoming and southern Montana. The Sheridan College Jurassic Dinosaur Quarry was opened early this year and provided another spring semester of field course work for our geology majors. The summer session will have two college-credit courses located within the Cloverly and Morrison formations of northern Wyoming. Bill Matterson and Jessica Kluzes continue their inventory of fossil localities along the western Powder River Basin. Grant funds have been used to upgrade field truck transportation to four-wheel drive paleo sites in Montana and Wyoming. Faculty and students plan on continued use of upgraded ArcView GIS software and non-SA band GPS site mapping and field cataloging within microvertebrate sites within the Cloverly and Morrison formations. Mike Flynn continues his field research/quarry locations of William Utterback’s (Carnegie Museum, 1903–06) Jurassic Morrison quarries western Powder River Basin. (Mike Flynn)

University of Colorado Museum, Geology Section, Boulder, Colorado

With less than a year before moving into our new building, Geology Section curatorial staff and students and are busy trying to finish up large curation projects before shifting our efforts to packing. Our NSF-funded Collections Improvement Project will be ending in August, but with the move coming up there will be no time to rest!

This summer looks like a busy one for us. Peter Robinson will be making a number of field trips to parts of Colorado and Wyoming, and is busy trying to finish the Eocene chapter for Mike Woodburne’s upcoming volume on North American mammalian biostratigraphy. Paul Murphey is working on his detailed stratigraphy of the upper Bridger Formation, including a detailed bedrock geologic map of the southern Green River Basin, Wyoming. He hopes to finish this by summer’s end. He and Peter are also continuing to work with our Exhibits Department on a new paleontology exhibit. Peter and Paul will be taking a group of our public programming, exhibits, and administration staff members to the field in June for their first taste of field paleontology. Among other projects, we plan to conduct a test excavation at a new locality high in the Bridger E in hopes to better nail down its biochronologic affinities. It is hoped that this trip will

strengthen ties between the public side of our museum and its research and collections divisions by teaching them why we do what we do.

Emmett Evanoff continues to teach classes at CU and at the Denver Museum. He has a number of projects planned for the summer, including several weeks of fieldwork in Badlands National Park, South Dakota. After making a nice collection of Miocene mammals from Viet Nam last summer, Bert Covert is back there for two months looking for more this summer! Although Judith Harris retired in June, she is busy writing a book on terrestrial paleoecology and enjoying life in Chama, New Mexico. Emily Bray is busy working on her dissertation and doing fieldwork. She has put in a lot of time during the last year working on the curation of the Karl Hirsch fossil eggshell collection at our museum. Master's student Heidi Schutz is spending the summer gathering data for her thesis. After a summer trip to Paris, Master's student Dave Daitch plans start writing his thesis, and hopes to graduate in December. Dave is excited to contribute his artistic talents as an interning artist at the Denver Museum in the fall. We welcome incoming Master's of Museum and Field Studies students Jennifer Haessig and Amy Moe, and are proud to announce the addition of invertebrate paleontologist Dena Smith from the University of Arizona to our faculty in August (Paul Murphey).

University of Wyoming, Laramie

Michael Webb successfully passed his PhD candidacy exams in April and continues his research on fluvial systems and Lancian mammals from the Lance Formation of the southwestern Bighorn Basin. Recent field efforts have focused on stratigraphic relationships between outcrops of the Lance and Meeteetse formations in the area. He was also recognized as the Outstanding PhD Student for 1999–2000 by the UW Department of Geology and Geophysics.

Kelli Trujillo continues her work on the location of the Jurassic–Cretaceous boundary in southeastern Wyoming. Brian Kraatz is working on his thesis on Simpson Ridge involving a little structure, a little mapping, and a little vertebrate paleontology.

John Burris is nearing the end of his time at the University of Wyoming. He will finish working on the collections by the end of July, at which point he will be getting married. John will be going back to school this fall, starting a PhD program with the Department of Geological Sciences at Michigan State University with Michael Gottfried.

Mike Cassiliano's note about a possible Tiffanian rodent and the Shotgun local fauna sites generated some interest. It now appears that the rodent is best viewed as a contamination. No additional specimens were found in the UW collections. This, and the lack of rodents in other Shotgun collections or other Tiffanian local faunas, suggests that the tooth somehow got into the screenwash concentrate by means unknown. Data from Craig Wood, who worked with McGrew and Patterson in the Shotgun area, clearly show that the various Shotgun localities are all from the same fossiliferous sandstone bed. Thus, the possibility that the various Shotgun localities are from different stratigraphic

levels is unfounded. This raises the even more intriguing possibility that the Shotgun local fauna records a Torrejonian–Tiffanian transition, a problem requiring further research.

The collection improvement project is nearly complete. All that remains to be done is to curate the large specimens on the oversized storage shelves. Sometime this summer the specimen catalog will be available for browsing as a Web site. Once this is completed, a notice will be posted on the SVP listserver. Now that we know what specimens we should have and what specimens are actually here, Mike is reviewing all of the outstanding loans. If you have specimens on loan from UW, you will be hearing from Mike as to the status of the loan.

Mike's manuscript correcting his 1999 Vallecito Creek biostratigraphy paper has been reviewed and revised, and is back with the *JVP*. Mike is currently revising a manuscript for publication by the San Diego Natural History Museum in which he revises the stratigraphic nomenclature of the Palm Spring Formation in southern California.

Brent Breithaupt, Thomas Adams, and Beth Southwell (UW Geological Museum) continues to work on Middle Jurassic dinosaur tracks in northern Wyoming, a series of museum exhibits on the life and times of *Allosaurus* in Wyoming, and a variety of studies dealing with the history of fossil collecting in the Rocky Mountain West. (Brent H. Breithaupt)

Utah Field House of Natural History State Park Museum, Vernal, Utah

Paleontological discoveries in the Uinta Basin have been keeping the crew at the Utah Field House busy this year. In May 1999, we hired Dee Hall (out of retirement) to prepare the McStego, a partial articulated skeleton of a stegosaur. Shortly thereafter on June 21, Evan Hall (Sue Ann Bilbey's husband) spotted dinosaur bone being thrown from a ditching unit along the Williams Rocky Mountain pipeline. With fast work and after numerous gnat bites, the Uinta Paleontological Associates, Inc., crew brought a small sauropod into the Field House for preparation on July 25. Preparation and stabilization work has been going on ever since. The skeleton of the sauropod is nearly 60% complete and appears to be a haplocanthosaurid. Lots of research remains to be done. So Sue Ann is taking a leave of absence for about a year from museum work, but not from the museum, to work with Dee, Evan, and Jack MacIntosh (when we can catch him) on this really beautiful specimen.

Other news—we have a new park manager (director in museum terminology) at the Field House. Steven Sroka joined our crew in March after leaving Lemmon, South Dakota, where he had been director of a small museum and before that at the Museum of Natural History at the University of Illinois. We are really excited to have a real museum person here with a paleontology background. So now the Vernal area has six degreed paleontologists/geologists—eat your heart out!!!

Partnerships are the name of the game and we are developing some great ones. Already we are working with Dinosaur National Monument, the Vernal Bureau of Land Management, Ashley National Forest, and Utah State University.

A region-wide group called the Dinosaur Diamond Partnership is working on a corridor management plan as well as an interpretive program for northeastern Utah and northwestern Colorado. Our Uinta Basin Chapter of the Utah Friends of Paleontology has been active in our preparation as well as field survey work. They are sponsoring the annual meeting here on May 19–21. In addition, we are developing a field program with Russ Jacobson of the Illinois Geological Survey. Things have really taken off and life is really exciting. (Steve Sroka and Sue Ann Bilbey)

Utah Geological Survey, Salt Lake City

As Jim Kirkland completes his first year as the Utah State Paleontologist, many new things are happening on the Utah vertebrate paleontology scene. Dave and Janet Gillette have been at the Museum of Northern Arizona for over a year now, but continue to pursue ongoing research projects in Utah. Also, since their departure, Dave's edited volume, "Vertebrate Paleontology in Utah," has been published. The Survey has also recently published the long-awaited *Ceratosaurus* osteology by another former Utah State Paleontologist, Jim Madsen.

Jim Kirkland has had a busy year, with his research still focused on Early Cretaceous dinosaur faunas. In addition to continued partnerships with the College of Eastern Utah Prehistoric Museum and other institutions working in the Cedar Mountain Formation, he is also developing new projects in the Cedar Mountain, as well as the Wahweap Formation in the Grand Staircase-Escalante National Monument. Alan Titus has recently come on board as the paleontologist for the GS-ENM. Alan is an invertebrate paleontologist, but is already hard at work helping to develop an active paleontological research program in the monument. His dissertation research on Mississippian ammonoids will also soon be published by the UGS.

Scott Sampson and Mike Getty, at the Utah Museum of Natural History, have put together a thriving paleontology program at the University of Utah in less than a year's time, with new students and dozens of dedicated volunteers.

Survey staff and volunteers will continue to work with the UMNH on Late Cretaceous dinosaurs from the North Horn Formation with University of Utah student Rose Difley, and on new research projects in the GS-ENM. One of our most exciting new projects involves the discovery of a dinosaur tracksite by a landowner in Saint George, Utah. Sheldon and LaVerna Johnson have hosted thousands of visitors to this tracksite in the Early Jurassic Moenave Formation. The dedication of the Johnson family to preserving the scientific and educational value of their discovery is commendable. Documentation of this site is underway, with Martin Lockley from the University of Colorado at Denver. Attention generated by this discovery has resulted in renewed interest in the tracksites of this area, including new discoveries by Zion National Park paleontological intern Josh Smith.

Paleontological inventories in many of Utah's national parks are also taking place, under the direction of Vince Santucci. The UGS has most recently been involved in a paleontological survey of Arches National Park with Vince and

others, including Ann Elder and Scott Madsen from Dinosaur National Monument.

Jim Kirkland is also continuing his collaboration with Doug Wolfe on the *Zuniceratops* project in New Mexico during his free time. And finally, Jim would like to thank the Discovery Channel, Dave Martell, Steve Hutt, Angela Milner, and Luis Rey for their hospitality during his recent visit to England. (Martha Hayden)

West Coast Region

California State University, San Bernardino

Clare McVeigh, fresh from finishing her PhD at McMaster University, arrived to help in the labs and with the nonmajors' human anatomy and physiology courses, freeing up Stuart Sumida for an upper division course for biology majors and seminars on early amniotes dinosaurs. Clare is studying dental structure in a variety of human populations.

Stuart, Dave Berman and Amy Henrici (Carnegie Museum of Natural History), and Thomas Martens (Museum der Natur, Gotha, Germany) have a paper on beautiful new specimens of *Seymouria sanjuanensis* from the German Bromacker locality that is due out any day now. Stuart and Dave continued with their National Geographic-funded work with Thomas Martens on the Lower Permian of Germany, this year with Amy and Rich Kissel. At least one specimen was produced this summer, and it may be a pelycosaur—very rare from the Bromacker. Stuart and Dave also have a paper on the sedimentology of the locality with Dave Eberth (Royal Tyrell Museum) taking the lead with contributions from Hagan Hopf of the Thüringer Geological Survey.

Stuart summarized phylogenetic arguments surrounding the origin of feathers and birds for a 1999 Society of Integrative and Comparative Biology Symposium with Chris Brochu of the Field Museum. That paper is due out soon in *American Zoologist*. Stuart also just finished a case study of vertebral evolution with Sean Modesto for another SICB symposium, "Beyond the Cladogram." Stuart will be organizing a SICB symposium for the 2001 Chicago meetings with Elizabeth Rega (now at the Western University of Health Sciences) on the integration of biological sciences with cutting-edge visual technology from the film industry.

The California State University contribution to ongoing work at the Field Museum continues for the summer of 2000. Brad Beck (Cal State Northridge) will be working with Chris Brochu this summer while Maggie Hart (Cal Poly Pomona) will be working with Lance Grande. New to the project are CSUSB grad students Ken Noriega (also working with Lance) and Natalia Wideman who will be working closely with Kathleen Devlin, the CSU Webmaster for the Sue project. Kathleen just finished up collaborating with Stuart on a contribution to the Macmillan Encyclopedia of Life Sciences on "Transitions between Major Vertebrate Groups." Speaking of encyclopedias, the Encyclopedia of Paleontology from Fitzroy Dearborne is just out. Stuart has two contributions, one on the axial skeleton, and one on amniote sister groups.

Ken recently presented his work with Elizabeth Rega on novel morphologies in baboon hands at the Southern California Academy of Sciences meetings before going on to his work in Chicago. Natalia is busily preparing and studying a partial crossopterygian specimen recovered from the Uppermost Pennsylvanian of southeastern Utah for presentation at the Mexico City meetings. Gavan Albright has just finished defending his thesis proposal on the cranial structure of the small captorhinid reptile, *Captorhinikos parvus*. He's found some unique dental features that seem to set it apart from other captorhinids, but study of the palate, braincase, and lower jaws remain before he's willing to commit to any new conclusions.

Stuart continues consulting on motion pictures and other film industry projects. Recently, he contributed to *Hollow Man*, *Stuart Little*, and the upcoming *Stuart Little II* ("The Tail Continues") for Sony Pictures Imageworks. He also provided counsel to Walt Disney Pictures for *102 Dalmatians* (canine anatomy) and to DreamWorks SKG Animation for *Spirit of the Wind* (horse anatomy and locomotion). (Stuart Sumida)

California State University, San Diego

Annalisa Berta has completed several contributions on pinnipeds, pinniped evolution, and systematics for the *Encyclopedia of Marine Mammals* (eds. W. Perrin, B. Wursig, and J. Thewissen) to be published in 2001 by Academic Press. She has also completed a paper with graduate student Peter Adam, "Evolutionary biology of pinnipeds," for the upcoming book *Secondary Adaptations of Tetrapods to Life in the Water* (eds. J.-M. Mazin and V. de Buffrenil). Annalisa and Peter presented papers at the Marine Mammal Conference last fall in Maui. Peter received the award for Best Predoctoral Oral Presentation at the conference for his paper, "Pinnipedimorphs—A total evidence phylogeny and evolution of their locomotor and feeding behavior." Peter will defend his MS thesis this fall and he has begun work on a PhD at UCLA working with Blaire van Valkenburgh. Graduate student Amanda Rychel is narrowing in on a thesis topic involving comparative morphologic study of pinniped ossicles in a phylogenetic context.

Annalisa has recently begun work in a new direction, mysticete phylogeny. She plans to incorporate morphologic as well as molecular data in a species-level study of fossil and living mysticetes. David Archibald will be in the Kyzylkum Desert, Uzbekistan, for the fourth straight year this September after a three-week stay in Saint Petersburg, Russia, to work on papers with Alexander Averianov on placental tooth replacement and mammal material collected in the Kyzylkum.

The URBAC group (Uzbek/Russian/British/American/Canadian) continued large-scale screening (20 tons last) at Dzharakuduk. The mammalian component of the fauna continues to pop out nice surprises, among other things last year—four petrosals, the snout of a zalambdalestid, and nice postcrania. Steve Diem finished his Master's last year and is now working for a geological engineering firm in the Los Angeles area. He is preparing parts of his thesis on the "Edmontonian" in northwestern Colorado for publication.

Two new graduate students last year, Eric Ekdale and Kesler Randall, are beginning thesis projects—Eric on early ungulate basicrania and Kesler on a Pleistocene biostratigraphy project in the desert near San Diego. Two new graduate students will be joining David's group this fall, Elizabeth Brusherd and Selisa Lim. (Annalisa Berta and David Archibald)

Colorado Desert District Stout Research Center, Anza-Borrego Desert State Park, Borrego Springs, California

Paleontology field activities focused on middle Irvingtonian-age strata in Beckman Wash, western Borrego Badlands. This section-sized parcel was acquired by the Anza Borrego Desert State Park several years ago and had not been previously surveyed systematically for fossil vertebrates. Significant specimens recovered include the lower jaws of *Procyon*, a complete *Myiodon* terminal phalanx, and an essentially complete articulated *Canis* foot. New sites were geo-coded and added to the GIS database.

Preparation and conservation of the *Paramyiodon* sloth "skin" collected in 1960 by Ted Downs and Harley Garbani is now finished. This 1-m² layer of dermal ossicles is the largest known and the only such layer directly associated with skeletal materials, the right innominate. George McDaniel, George Jefferson, and Greg McDonald have begun a study of the specimen. Unfortunately, McDaniel hasn't quite been the same since measuring the diameters of several thousand ossicles.

The scientific journals and technical reprint collections of G. Jefferson, George Miller, and John White—comprising over 15,500 items—have been combined, alphabetically organized, and shelved in archival containers.

Derek Ryter, doctoral student University of Oregon, spent this field season mapping the margins of the Borrego Valley. Lacustrine carbonate deposits at the northeast and southeast ends of the valley, on opposite sides of the Coyote Creek branch of the San Jacinto Fault, were selected for U/Th dating. Don Jolly, of Northern Arizona University, has finally reached the writing stage of his Master's project on the fossil chelonians from Anza-Borrego. Phil Gensler, also of NAU, has finished his fieldwork on the stratigraphy and paleontology of the Irvingtonian Ash Wash locality.

Stephanie Livingston, affiliated with the Desert Research Institute, captured stereographic images of Research Center specimens for her NSF-funded project to present 3-D paleontological information on the Internet. Eric Scott, with the San Bernardino County Museum, has been examining and measuring Anza-Borrego fossil horses in an attempt to better resolve issues concerning the relationships between *Equus scotti* and *E. enormus*.

Other visiting scientists included Larry Agenbroad, Northern Arizona University, and B. Buigues and Dick Mol of the Siberian Mammoth Project. After examining the nearly complete specimen of *Mammuthus meridionalis* from the Borrego Badlands, Dick was finally convinced that the taxon is indeed present in North America.

George McDaniel and George Jefferson presented work on the hyoid bone of *Mammuthus meridionalis* at the Desert Research Symposium at the California State University Desert Consortium field station in Zzyzx Springs. Jessie Atterholt, youngest member of the Anza-Borrego Desert State Park Paleontology Society, won the Adams Award for best student paper based on her taphonomical analyses of Irvingtonian mammoth remains from Victorville, California. (M. Guberek)

Natural History Museum of Los Angeles County

Savage Ancient Seas, the first major LACM exhibit featuring the Cretaceous North American Inland Sea, opened in late May in a newly renovated 8,000 ft² hall. This was a cooperative venture utilizing casts from Triebold Paleontology plus fossils from the LACM collections. The exhibit seems to be very popular and museum attendance is up compared to recent years. J. D. Stewart managed to find time between exhibit-planning sessions to work with Stephen Cumbaa on Cenomanian marine vertebrate faunas of Saskatchewan and Kansas. Howell Thomas, Nancy Rufenacht, and Laureano Clavero responded to a report by an interested member of the public of whale fossils in the central California coastal area of Ventura County. Their field trip to the site resulted in scrappy, but tantalizing, parts of the first toothed mysticete whales from California. Toothed mysticetes of the family Aetiocetidae, and possibly other families, have previously been reported from Japan, British Columbia, Washington, Oregon, and Baja California, so their apparent absence from California was, until now, something of an enigma.

Larry Barnes has received funding for a study trip to Japan in August and September, and this will facilitate research on fossil marine mammals with colleagues at several institutions on Honshu and Hokkaido. Larry's graduate student, Arturo Cruz of the Centro Interdisciplinario de Ciencias Marinas in La Paz, Baja California Sur, has selected as his dissertation topic the community structure and paleoecology of the Late Oligocene cetacean assemblage from the El Cien Formation. Arturo's Master's thesis described a new taxon of primitive agorophiid toothed whale from this deposit, which is exposed at San Juan de La Costa north of La Paz. Arturo and Larry Barnes have also made some preliminary announcements of odontocetes, baleen-bearing mysticetes, and tooth-bearing mysticetes from the same formation.

Luis Chiappe joined the LACM staff early in 1999. From Los Angeles, Luis continues with his project on the Late Cretaceous dinosaur nesting site of Auca Mahuevo, Patagonia, Argentina. Luis and his team worked at Auca Mahuevo in March of 1999 and 2000. Many more sauropod nests and embryos were recovered and the 1999 season resulted in the discovery of a 95% complete abelisaur theropod. Next August–September, Luis will be leading a team into the Cretaceous deposits of Xinjiang, China. Luis' current research on Mesozoic birds includes the study of new specimens from China, Mongolia, Spain, and Lebanon, as well as further research on the Late Cretaceous Malagasy *Rahonavis* (together with C. Forster). His edited volume (co-edited with L. Witmer), *Mesozoic Birds:*

Above the Heads of Dinosaurs (University of California Press) is in production. (Larry Barnes and J. D. Stewart)

Occidental College, Los Angeles, California

Don Prothero has just received grants from both NSF (to work on the paleomag of the Cowlitz Formation in Washington) and the Petroleum Research Fund (for the paleomag of the Umpqua Group in Oregon), so he's going to be doing a lot of fieldwork in the Pacific Northwest for the next two years. His ongoing research on the magnetic stratigraphy of the Pacific Coast Cenozoic is due to be published this fall in a Pacific Section *SEPM Special Publication*. Don and his student Jon Hoffman have done a lot of fieldwork on the Miocene of the Caliente Range, and will be running the samples at Caltech this summer. In addition, they completed sampling on the Paleocene San Francisquito and Pattiway formations, and will run those samples soon. Don has also been working on revising his historical geology and sedimentary geology textbooks, the hoofed mammal trade book, and numerous other writing commitments. He also spent much of the summer getting the SVP meeting program together. His eight articles for the Encyclopedia of Paleontology (R. Singer, ed., Fitzroy Dearborn Publishers, Chicago, 1999) have just appeared, along with three articles on the Web-based Encyclopedia of Life Sciences (www.els.net). (Don Prothero)

San Diego Natural History Museum

We are adding 85,000 ft² to our existing 65,000 ft² facility. Move in is scheduled for spring 2000. A recently awarded NSF collections support grant will be used to purchase new cases and a mobile storage system for the fossil collection. This grant will also fund a two-year collections management assistant.

The SDNHM now has a Web site (www.sdnhm.org) with a searchable Web version of our specimen database. Please check it out and let us know how it can be improved. Also on the Web site is a list of our available publications with price and ordering information.

The past two years saw an explosion of urban development in the San Diego coastal plain. Grading projects have cut deeply into Eocene, Oligocene, Pliocene, and Pleistocene rock units. Department staff (R. A. Cerutti, R. L. Clark, C. Herrington, R. Q. Gutzler, S. Musick, J. L. Pfanner, B. O. Riney, P. J. Sena, T. Ryan, H. M. Wagner, S. L. Walsh) have been extremely busy salvaging fossils. The early Arikarean-age Otay Formation yielded new skeletons of the leptachine oreodont *Sespia californica* and new carnivoran cranial and dental material. Grading in the Blancan-age San Diego Formation at Otay Ranch exposed the first diverse terrestrial mammal assemblage from this rock unit. In January 2000 we excavated a horse trackway site in tidal flat mudstones that interfinger with vertebrate-rich paleosol horizons that yielded a palate of *Plesippus simplicidens*. The marine portion of the San Diego Formation has yielded a nearly complete skeleton and a partial skull of *Felis rexroadensis*. Marine specimens include new skeletons and skulls of the walrus *Valenictus*

chulavistensis, a complete skull of the giant sea cow *Hydrodamalis cuestae*, several new mysticete cetaceans, and several small odontocetes.

A recent outing to the Coyote Mountains in the Imperial Valley turned up bone fragments weathering out of the previously barren Alverson Formation, and a 20-kg sample of red sandstone yielded three *Cupidinimus* teeth. The locality is interbedded with basaltic volcanics dated between 14 and 20 Ma, so the fossil locality is probably Hemingfordian or Barstovian in age.

Steve Walsh continues his work on southern California Eocene mammals and has published three papers in our in-house journal since our last report. Steve also gave a poster at the Denver SVP meeting with Bob Gutzler on the important new late Duchesnean-early Chadronian mammal assemblage from the upper member of the Pomerado Conglomerate in San Diego.

Hugh Wagner joined the department in 1998 as collections manager of fossil vertebrates and has divided his time between mitigation work and collections care. After working up the terrestrial mammals from the Blancan-correlative San Diego Formation, he reports the assemblage now totals 27 taxa including sloth, rabbit, rodent, skunk, cat, dog, bear, horse, tapir, camel, llama, and gomphothere. Hugh presented a poster at the Denver SVP meeting on a new diminutive saber-toothed creodont from late Uintan-age rocks in northern San Diego County.

Tom Deméré continues his work on pinniped phylogeny and has a paper with Annalisa Berta in press in *JVP* on cranial and postcranial anatomy of an early Miocene basal odobenid. He is describing several late Miocene odobenids from the Empire Formation and a new Pleistocene terrestrial mammalian fauna with intriguing taphonomic aspects. (Tom Deméré)

— BULLETIN BOARD —

SHARKTOOTH HILL FOUNDATION, BAKERSFIELD, CALIFORNIA

The Sharktooth Hill Foundation is a nonprofit organization established to promote, protect, and interpret the rich Middle Miocene marine Sharktooth Hill Bonebed. This bonebed, including the Sharktooth Hill National Natural Landmark, is widely exposed near Bakersfield, Kern County, in California's San Joaquin Valley. Scientific excavations and research have been carried out at this deposit for over 80 years, and major collections are housed at the Natural History Museum of Los Angeles County, University of California Museum of Paleontology, California Academy of Sciences, and the Smithsonian Institution.

Our Foundation was created by Howell W. Thomas and several persons having long-standing interests in the Sharktooth Hill Bonebed, and membership in our organization is open to the public and professional scientists. We have created a display of fossils, now on exhibit at the California Living Museum in Bakersfield. Our Web site (sharktoothhill.org) provides information about the bonebed, its fauna, organization membership, allows e-mail correspondence with our officers, and is cross-linked to some other organizations with similar interests. (Becky Bayless and Lawrence G. Barnes)

— CALENDAR OF EVENTS —

DISTRIBUTION AND MIGRATION OF TERTIARY MAMMALS IN EURASIA

This conference will be organized 17–19 May 2001 in Utrecht, the Netherlands, on the occasion of the 70th birthday of Dr. Hans de Bruijn.

We encourage a broad interpretation of the theme involving Paleogene and Neogene paleogeography, long-distance correlations, and environmental and climate changes as pertinent issues to mammal migrations. One aim is to bring experts on fossil mammals together with experts on environment and climate evolution to discuss the reasons behind the intermittent exchanges between the Eurasian mammal provinces. Another aim is to explore the relationships between the systematics and evolution of mammal taxa and the paleogeography of Eurasia.

A small number of keynote speakers will be invited to introduce paleogeography, paleoenvironments, and other general aspects of the setting of Cenozoic Eurasian mammal faunas. Each keynote is followed by short lectures and/or a poster session on the various subjects. Mammal specialists are invited to submit papers or posters related to Eurasian paleo(bio)geography. The organizing committee reserves the right to decide on the presentation of a contribution in the form of a lecture or a poster. The contributions will be published in a proceedings volume to be published shortly after the meeting.

The conference fee is approximately Dfl. 300,- p.p. (135 Euro). This will cover participation to the scientific sessions, an abstract volume, and food and beverages during the conference. The proceedings volume is an optional extra.

More information and final price, information on hotel accommodation and final registration forms will be provided in the second circular, September 2000.

The conference is organized by the IPPU (Institute for Paleoenvironments and Paleoclimate Utrecht) in association with the Natuurmuseum Rotterdam and the Department of Historical Geology/Palaeontology, University of Athens.

For more information, look at our Web site: http://www.geo.uu.nl/Research/Strat_Paleontology/Conference/conference.html. (Jan A. van Dam)

— PUBLICATIONS —

PLIO-PLEISTOCENE RODENTS OF THAILAND

This book, written by Yaowalak Chaimanee, was published in 1998 in the series of “Thai Studies in Biodiversity,” no. 3, by Biodiversity Research and Training Program. It covers the systematics, phylogeny, biochronology, paleobiogeography, and paleoenvironment of Southeast Asian rodents with 303 pages and 15 plates of fossil rodents. The cost is US \$20 plus postage and it can be obtained from: Thai Studies in Biodiversity, Biodiversity Research and Training Program, 15th Floor Gypsum Metropolitan Tower, 539/2 Sri Ayudhua Road, Rajdhevee,

MARSH'S DINOSAURS: THE COLLECTIONS FROM COMO BLUFF

In the 1870s a wealth of fossil dinosaur and Jurassic mammal bones were uncovered at Como Bluff, Wyoming, the first major discovery of such remains in the world. O. C. Marsh, then paleontologist for Yale University's Peabody Museum, managed to finance and claim the greater portion of the excavations. He reunited the bones that were excavated and had lithographs made of them. Long out of print and much sought after by dinosaur enthusiasts, Marsh's *Dinosaurs: The Collections from Como Bluff*, by John H. Ostrom and John S. McIntosh, has been reissued by Yale University Press. This classic book, first published in 1966, recounts the trials, fortunes, and misfortunes behind the collection of the fossil bones and reproduces most of the lithographs.

This edition of the book includes a new foreword by Peter Dodson that places the discovery at Como Bluff—as well as the book that describes it—in historical perspective, and a historical overview by Clifford Miles and David Hamblin that presents the current state of work at this famous site.

The book contains 416 pages and costs US \$85.00. Contact Yale University Press, P.O. Box 209040, New Haven CT 06520-9040; fax: (203) 432-2394, for ordering information.

LEONID SERGEIVICH GLICKMAN



Leonid S. Glickman, a world-famous vertebrate paleontologist and founder of modern paleoichthyology, died after a short illness in Saint Petersburg, Russia, on the evening of January 31, 2000.

Dr. Glickman was the author of the families *Cretoxyrhinidae* and *Otodontidae*, and the genera *Paraisurus*, *Pseudoisurus*, *Cretolamna*, and *Cretoxyrhina*, among others. The photograph was taken on May 28, 1991, in Dr. Glickman's home in Leningrad (now Saint Petersburg), Russia. (Gerard R. Case)

NICHOLAS HOTTON III, 1921–1999

On November 29, 1999, Nick Hotton quietly succumbed to his battle with cancer. In this past year, even when he did not have the energy to come into the museum, Nick spent time working on research and reviewing papers. Toward the end his visits to the museum became shorter and the time between them became longer. He put up a good fight and never lost his sense of humor.

Nick was born in Sault Sainte Marie, Michigan. After graduating from high school, he attended La Salle-Peru-Oglesby Junior College and then went on to the University of Chicago in 1941. In 1942, he interrupted his college education to serve in the military for four years. Upon release from the military he spent a year at Penn State and then returned to the University of Chicago where he earned his Bachelor of Science degree (1947) and PhD (1950). It was at the University of Chicago that he met and formed a lasting friendship with E. C. Olson; Ole was one of Nick's heroes and favorite people. In 1951, Nick accepted a position as instructor of anatomy at the University of Kansas and remained there until 1959 when he was offered and accepted a curatorial position at the



Smithsonian. Nick pursued his research interests at the Smithsonian up to the final weeks of his life. Ole influenced Nick's research interests toward Paleozoic tetrapods; in fact, Nick joked that anything from younger beds was part of the overburden and not "real fossils."

While at Kansas he continued his studies of tetrapods and even stooped to writing about xenacanth sharks. When he came to the Smithsonian, he obtained two NSF grants to collect and study synapsid reptiles from the Beaufort Series of South Africa. He made two trips to South Africa where he made a large collection of Permian reptiles. For the next 30 years this collection formed an important focus of Nick's research: the functional morphology and taxonomy of synapsid reptiles. The results of his research were published in 1981 (with Michael Cluver), 1986 (three papers: one with Jan and Carol Roth), 1988 (with Sankar Chatterjee), and 1991.

In 1976, Nick and Arnie Lewis started an annual tradition by heading to the Texas Permian to collect at old Romer localities; this fieldwork produced a number of important specimens, one of which Nick published with Bob Hook in 1991. After Arnie retired, Nick continued this fieldwork until 1996.

Nick served the Society of Vertebrate Paleontology as Secretary-Treasurer (1968–1969), President-elect (1970), President (1971), and the Executive Committee (1968–1973). He was a member of Sigma Xi and the Paleontological Society of Washington. He also played the part of a Smithsonian vertebrate paleontologist in the TV production of "The Enormous Egg" and taught vertebrate paleontology at George Washington University.

As a person, Nick was affable and had a great sense of humor. In the museum, he was a favorite lecturer for the docents; they were impressed with his enthusiasm, his openness to people, and his ability to make them feel at ease. His lectures were delivered with humor and patience. He would often interrupt his talk with the comment, "Oh hell! Did I say that?" One amateur collector called him "the epitome of the gentleman-scholar"; and Michael Cluver characterized him as a "fine American gentleman, a credit to the Smithsonian, and a true ambassador for his country."

Hey kiddo! We miss you! (Robert W. Purdy)

ALICK WALKER, 1925–1999

With the death of Alick Walker on December 4, 1999, Britain has lost one of its most respected vertebrate paleontologists. Alick Walker is best known for his work on Triassic fossil reptiles, particularly the basal archosaurs from Elgin in northeast Scotland, and for his later work on early crocodylomorphs. His publications were characterized by the high standard of his drawings, and by the care and insight of his detailed anatomical descriptions.

Alick Walker was born on October 25, 1925, at Skirpenbeck, just east of York. His father was a vicar of the Anglican Church, and he spent his childhood at various places



in Yorkshire, as his father moved parishes. He attended Pocklington School as a day boy, from 1936 to 1943. He began a degree course in engineering at Cambridge, but found it uncongenial, and dropped out after barely passing the first year exams, in 1944. After that, with the Second World War just finished, he had to do National Service, and was trained as a radio engineer in the Fleet Air Arm, and then enrolled as an Ordinary Seaman in the Royal Navy in 1945, becoming a Leading Radio Electrician's Mate, before being demobilized in January 1948. Then, he took up a university degree more to his liking, geology at the University of Bristol.

After taking a first-class degree in 1951, he decided to go into research. He was offered two options, a PhD position in Bristol working on Old Red Sandstone fishes, supervised by Professor F. H. Whittard, the then Head of Department, or a PhD position in Newcastle working on the fossil reptiles of the Late Triassic of Elgin, supervised by Professor Stanley Westoll. He chose the latter, and moved to Newcastle in 1951. He was appointed Lecturer in Geology in 1954, while working on his PhD. Westoll had a long-standing interest in the Old Red Sandstone of the north of Scotland, and particularly in its fishes. While based at Aberdeen University, Westoll had explored the geology of northeast Scotland, and he had examined the Old Red Sandstone fossil fish sites around Elgin. At the same time, he looked at the Permo-Triassic sites close by. In 1948, he led a major field trip of the International Geological Congress, then meeting in London, round Scotland, and the assembled geologists visited Elgin for a day. Either then, or about that time Westoll came upon some new specimens of fossil reptiles, including two fine skulls of the rhynchosaur *Hyperodapedon*, released by blasting of the sandstone at Spynie Quarry. The quarry had long since ceased full-scale operations for building stone, but was (and is still) used as a source of fine yellow facing sandstone. The Elgin reptiles had been studied extensively since the 1840s by a number of distinguished Victorian paleontologists—Louis Agassiz (who identified the first to be found, *Stagonolepis*, as a large fish), Richard Owen, Thomas Huxley, E. T. Newton—and then in the first decades of the 20th century by Friedrich von Huene. But nothing had been published since 1920, largely because quarrying had ceased and no new specimens were found. However, his interest piqued, Westoll sought a student to begin work on the Elgin reptiles again.

Alick Walker went to Newcastle knowing that he would be pretty much on his own, and he began work. Soon after, however, in 1956, Alec Panchen was appointed to a position in the Zoology Department, and so began the long and distinguished “Newcastle school” of vertebrate paleontology, now sadly ended. Walker and Panchen marked their association with a joint paper about the British Coal Measure tetrapod sites, published in 1961.

The problem with the Elgin reptiles was that the bony remains were terrible—soft mushy white fragments of bone in many cases, sometimes merely hollows in the rock. The earlier work had been done on the exposed bone, but preparators caused more damage than good when they set to work in the traditional way. The natural molds of the bones in the intensely cemented fine

sandstone were, however, superb. Newton had used plaster to make casts, and von Huene had used gutta percha. Alick Walker realized that if he could devise a new casting method, he could extract vast amounts of additional anatomical information from the specimens. In the end, he settled on PVC since it could be poured into the molds as a liquid, and cured to a tough and almost unbreakable condition. Sometimes, with a particularly tricky case, Alick Walker spent several days or weeks making a cast. He had to clean out all traces of bone and iron oxide minerals, either mechanically or with acid. He then cemented together dozens of rock fragments to reconstruct the entire block, filled holes and gaps with plasticene, poured in the PVC, put it in an oven for several hours to cure, and then began painstakingly pulling it out. This was sometimes a job for several muscular assistants who had to pull and drag the cast from the mold. The cast could stretch hugely in this process, but it was almost impossible to break (PVC is the material used in making rubber gloves—try to break one by simple pulling). Alick Walker experimented with photography of the casts, and found that a matte brown dye provided the best results. His collections of PVC casts, now in the National Museums of Scotland (= Royal Scottish Museum) in Edinburgh and in the Natural History Museum, London, look like an assemblage of bizarre chocolate confections.

Alick Walker's PhD concentrated on the aetosaur *Stagonolepis*, and it was completed in August 1957. It was published, almost in its entirety, in the *Philosophical Transactions of the Royal Society, Series B* in 1961. Three years later, Alick Walker's monograph on *Ornithosuchus* appeared in the same organ. The *Ornithosuchus* monograph included a great deal more, including an important account of Jurassic theropods, including *Eustreptospondylus*. Both monographs established Walker's name. They were a dramatic revelation of how much could be achieved, and they set new standards in detailed anatomical analysis.

By 1965, he had reexamined virtually all the Elgin reptiles, but did not publish much more on the subject. Despite this, he made an annual trek to Elgin, and lived in a caravan with his wife, Dorothy, and children, Mark, Paul, and Helen. They, and the local people, viewed the annual ritual with bemusement perhaps, but Alick Walker was able to use these visits to examine the collections in Elgin Museum (and he helped the Museum to modernize its displays). He would also putter about in the quarries, taking notes and measurements, and always hoping to find more specimens. He did uncover two or three minor specimens over the years, and located footprints in a new locality.

In the mid 1960s, Alick Walker extended his interests to the mid-Triassic reptiles of the English Midlands, and he published an account of these in 1969, focusing on the stratigraphic implications, an important topic at that time, since intense work was underway to bring sense to the complexities of the British Triassic. Walker contributed to those debates, and his work was useful in straightening out some stratigraphic tangles. Not least was the absence of the classic Germanic Muschelkalk in Britain. This had long been assumed to mean that there was a major hiatus in sedimentation in the British Isles through the

mid-Triassic. Walker proved that the rhynchosaurs and basal archosaurs from the Midlands and Devon were in fact of mid-Triassic age, and that, while the Muschelkalk was being deposited in Germany, broadly continental sedimentation continued apace in Britain.

By the late 1960s, Alick Walker had moved his attention to a broader issue, the origin of crocodylians and of birds. He studied all the Late Triassic crocodylomorphs, as well as the anomalous *Hallopus* from the Mid/Late Jurassic of North America. This he described in the *Philosophical Transactions* in 1970.

Alick's work entered a controversial phase following the publication of a 1972 *Nature* paper in which he argued for a close relationship between sphenosuchid crocodylomorphs and birds. That this hypothesis might be incorrect and based on convergent evolution was accepted in a 1985 paper following the Eichstätt conference on *Archaeopteryx* in 1984, but the similarities he documented between the otic region, in particular, of crocodylomorphs and birds had so impressed him that the possibility of a close relationship between these groups continued to form a theme running through subsequent published and unpublished work. In 1994–95 he produced an unpublished account of details of the morphology of various specimens of *Archaeopteryx*, particularly the feathers. His observations led him to return to preferring the sphenosuchid affinity hypothesis for bird origins over that of the now orthodox theropod dinosaur one. He was sensitive to criticisms of his work and was knocked back by the unfavorable response that greeted these latest ideas, and this slowed down, and reduced his enthusiasm for, his research thereafter. It is all too easy to categorize Alick Walker as someone who, according to the orthodox views of today, came to incorrect conclusions about bird origins, but it is a great credit to the quality of his work that the descriptive content of his papers have continued to be of great use even with an alternative phylogenetic viewpoint.

An important attempt to survey and interpret the evolution of the pelvis of archosaurs and birds appeared in 1977. Alick Walker retired in 1990, but never completely stopped his research. Despite bouts of ill health, he set up a fully working home laboratory and surrounded himself with an impressive osteological collection of extant reptile and bird skulls, and reprints of relevant anatomical papers. Detailed considerations of neontological data gleaned from existing literature and his own observations (including dissections) continued to inform almost all of his anatomical interpretations. He carefully mechanically prepared Elgin fossil material and the holotype of the South African crocodylomorph *Sphenosuchus acutus*, meticulously keeping notes on each step with accompanying photographs, sketches, and draft descriptions on what was revealed. The work on *Sphenosuchus* was eventually written up in a masterly monograph for the *Philosophical Transactions* in 1990. Like his other monographs, the descriptive and comparative parts of this work have been remarkably influential and will essentially be timeless.

Although no more papers appeared after his 1990 monograph, Alick Walker continued to write up descriptions and interpretations that were included in long letters to colleagues or kept on file in case future manuscripts could be com-

pleted. Until his death, Alick had been working towards writing up a reanalysis of the otic region of *Stagonolepis* based upon his ongoing preparatory work. In these retirement years, he showed his continued support for all matters Elgin by attending the one-day conference there in April 1999.

Alick Walker was an intensely private and shy man. He almost never went to conferences, and he worked largely alone. In many ways, he was an individualist. Visitors to his small office in Newcastle were always offered a cup of coffee which he would heat with a miniature immersion heater shaped like a small cigar. He did not much enjoy public speaking, and lecturing was anathema to him. He had a proper view of students: to be avoided whenever possible. Alick Walker did not attempt to build a research group, but was immensely helpful to anyone who came to him with research questions, especially young aspirants. He supervised two PhD students, Bobbie Paton (now at the National Museums of Scotland) and Mike Benton (now at the University of Bristol), but was immensely generous with his time and advice to 20 or more students around the world. A chance or slight enquiry would be answered with a lengthy letter, often pages long, and supported with hand-drawn anatomical sketches, private notes, and other information. Many students made the pilgrimage to Newcastle especially to discuss their work, and Alick and Dorothy Walker were always kind and welcoming hosts. (Mike Benton, Bristol, and David Gower, London)



**THE SOCIETY OF VERTEBRATE PALEONTOLOGY
AND THE INSTITUTO DE GEOLOGÍA
PROUDLY PRESENT**

THE EIGHTEENTH ANNUAL BENEFIT AUCTION AND SOCIAL
ASSOCIATED WITH THE 60TH ANNUAL MEETING OF THE SVP

WHEN: Friday, October 27, 2000
6:30 p.m.—11:00 p.m.

WHERE: Fiesta Americana Reforma Hotel
(SVP Annual Meeting host hotel)

SCHEDULE OF EVENTS: 6:30 p.m. — Start of silent auction
8:30 p.m. — End of silent auction
9:00 p.m. — Start of live auction
10:30 p.m. — End of live auction

Light snacks and cash bar will be available.

*****BID EARLY — BID OFTEN*****

Casts, books, artwork, and “lots of fun stuff” donated by individuals and companies from around North America.

Bids must increase in at least \$1.00 increments. Dollars, pesos, checks, and VISA/MasterCard accepted. Come enjoy the fun and support SVP.

YOUR CONTRIBUTIONS AND PARTICIPATION ARE APPRECIATED!

The Society of Vertebrate Paleontology
By-Law on Ethics

“Article 9. Statement of Ethics.

Several goals for the Society of Vertebrate Paleontology follow from its mission statement (Constitution Article 1): to discover, conserve, and protect vertebrate fossils and to foster the scientific, educational, and personal appreciation and understanding of them by amateur, student and professional paleontologists, as well as the general public. Fossil vertebrates are usually unique or rare, nonrenewable scientific and educational resources that, along with their accompanying contextual data, constitute part of our natural heritage. They provide data by which the history of vertebrate life on earth may be reconstructed and are one of the primary means of studying evolutionary patterns and processes as well as environmental change.

- ! It is the responsibility of vertebrate paleontologists to strive to ensure that vertebrate fossils are collected in a professional manner, which includes the detailed recording of pertinent contextual data (e.g., geographic, stratigraphic, sedimentologic, taphonomic).
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- ! Information about vertebrate fossils and their accompanying data should be disseminated expeditiously to both scientific community and interested general public.
- ! The barter, sale, or purchase of scientifically significant vertebrate fossils is not condoned unless it brings them into, or keeps them within, a public trust. Any other trade or commerce in scientifically significant vertebrate fossils is inconsistent with the foregoing, in that it deprives both the public and professionals of important specimens, which are part of our natural heritage.”

SVP Sponsors
As of July 24, 2000

The following individuals sponsor one or more SVP members by generously paying for their annual dues. If you are interested in becoming an SVP sponsor, please complete the sponsorship application on the following page.

Larry Agenbroad, Claudia Berreto, William Bartels, Kenneth Carpenter, Robert Carroll, Judd Case, Ralph Chapman, Mary Dawson, Eric Delson, Peter Dodson,, Robert Emry, Richard Fox, James Goedert, Gavin Hanke, John Harris, Joseph Hartman, Robert Hunt, Farish Jenkins, David Krause, Everett Lindsay, Donald Lofgren, Spencer Lucas, Ernest Lundelius, Bruce MacFadden, Jim Mead, Kevin Padian, Adele Panofsky, Charles Repenning, Patricia Rich, Bruce Rothschild, Robert Rushforth, Jeffrey Saunders, Judith Schiebout, Holmes Semken, George Shkurkin, William H. Straight, Hans-Dieter Sues, Gary Takeuchi, Mark Terry, Andrea Tintori, Yukimitsu Tomida, Loren Toohey, Mahito Watabe, S. David Webb, David Weishampel, Michael Woodburne.

Sponsorship Application

Society of Vertebrate Paleontology

33552 Treasury Center

Chicago IL 60694-3500 USA

Tel. (847) 480-9095; fax (847) 480-9282; e-mail svp@sherwood-group.com

This application is for a current SVP member who would like to pay the membership fee of another SVP member. The applicant must sign the SVP Ethics Statement on the reverse side of this form.

Sponsor, please complete the following:

Name: _____ Date: _____

Address & Phone No.: _____

Signature: _____

I would like to sponsor the following individual for membership in SVP:

Title: Dr. _____ Mr. _____ Mrs. _____ Ms. _____

Name: _____

Address: _____

City, State, Zip: _____

Country: _____ Phone No.: _____ Fax: _____

E-mail Address: _____

Date of Birth: _____

Degrees with Dates & Schools: _____

C In what kind of institution does the proposed member work?
 University or College Museum None (Student/retired) Other

C In that institution, what is his/her occupation? _____

C How long has he/she been associated with the institution?
 One year or less 2-5 years 6-10 years 11-20 years More than 20 years

C How many SVP Annual Meetings has he/she attended?
 None One meeting 2-5 meetings 6-10 meetings 11-20 meetings More than 20 meetings

C What are his/her areas of interest in vertebrate paleontology? (Taxonomy, biogeography, biostratigraphy, functional morphology, etc.)

Please specify groups, areas, and geologic time periods when relevant

C Does he/she hold membership in any other professional societies? If yes, please list all below.

Please complete reverse side of this form.

Membership Options

- C Associate membership includes receipt of *SVP News Bulletin* and member rates on the *Journal of Vertebrate Paleontology*, *SVP Memoirs*; no voting rights.
- C All other categories include receipt of the *SVP News Bulletin* and *Journal of Vertebrate Paleontology*; member rates on the *Journal of Vertebrate Paleontology*, *SVP Memoirs*; voting rights.
- C Students must submit a copy of a valid university or college identification card.

Please check the appropriate category below. If the individual you are sponsoring is approved for membership in the Society, you will receive a letter indicating this, as well as an invoice for his/her membership dues. The new member will receive a letter welcoming him/her into the Society.

- 9 Regular (\$80.00)
- 9 Student (with ID) (\$45.00)
- 9 Associate (\$30.00)

- 9 For faster delivery of the News Bulletin, you may pay an **optional** air postage of \$20.00 per year for overseas delivery.

NOTE: The minimum age requirement for membership is 18 years.

Signature of Applicant

Upon approval of my membership to the SVP, I agree to abide by the Society of Vertebrate Paleontology's Ethics Statement provided below.

Applicant signature: _____ Date: _____

*Article 9. Statement of Ethics.

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SOCIETY OF VERTEBRATE PALEONTOLOGY - ORDER FORM

PRODUCT	PRICE	QUANTITY	SUBTOTAL
<i>Bibliography of Fossil Vertebrates (BFV)</i>			
1978 Volume(s):	Member Rate	\$55.00	
	Nonmember Rate	\$100.00	
1980-1983 Volume(s):	Member Rate	\$65.00	
	Nonmember Rate	\$120.00	
1984-1993 Volume(s)	Member Rate	\$70.00	
	Nonmember Rate	\$135.00	
<i>Journal of Vertebrate Paleontology Past Issues (excluding 18-1):</i>			
Full Volume Set (4 issues). Volume number(s):	Member Rate	\$60.00	
	Nonmember Rate	\$210.00	
Individual Past Issues. Volume #: Issue #:	Member Rate	\$25.00	
	Nonmember Rate	\$55.00	
<i>Journal of Vertebrate Paleontology Memoirs (Supplements to JVP):</i>			
Individual Past Issue Memoirs (other than #4 and #6)	Member Rate	\$25.00	
	Nonmember Rate	\$55.00	
Individual Past Issue Memoirs #4 (New Reduced Price)	Member and Nonmember Rate	\$49.00	
Individual Past Issue Memoirs #6 with CD-ROM	Member Rate	\$25.00	
	Nonmember Rate	\$35.00	
Subscriptions:			
Journal of Vertebrate Paleontology (Volume 20, #1–Volume 20, #4)		\$210.00	
SVP News Bulletin (2000)		\$25.00	
Overseas Airmail (News Bulletin only)		\$20.00	
SVP Merchandise:			
SVP Logo Commemorative Lapel Pin (Sterling Silver)		\$30.00	
SVP '96 Annual Meeting Lapel Pin		\$5.00	
SVP '97 Annual Meeting Lapel Pin		\$5.00	
SVP '98 Annual Meeting Lapel Pin		\$5.00	
SVP '99 Annual Meeting Lapel Pin		\$5.00	
Scale Bars		\$3.00	
* Please add \$2.00 shipping charge for the Annual Meeting Pin & Silver Commemorative Pin; Journal/Memoirs prices include shipping		Shipping*	
		Total Due:	

Please complete reverse side of this form.

SOCIETY OF VERTEBRATE PALEONTOLOGY
33552 Treasury Center
Chicago IL 60694-3500 USA

Payment and Shipping Information - SHIP TO (print or type):

Name: _____

Address: _____

City, State/Province, Zip/Postal Code: _____

Phone: _____ Fax: _____ E-mail: _____

Products will be sent upon payment. We accept checks, money orders, Visa, MasterCard, and American Express payments and wire transfers. Checks and money orders must be in **US currency only**, made payable to:

Society of Vertebrate Paleontology
33552 Treasury Center
Chicago IL 60694-3500 USA

METHOD OF PAYMENT (SVP does not accept purchase orders)

FORM MUST ACCOMPANY PAYMENT

Check A check in the amount of US\$_____ is enclosed.

MasterCard Visa American Express

Please charge \$_____ to account # _____

Signature _____ Exp. Date _____

For credit card orders and wire transfers, please fax this form to (847) 480-9282. If you have any questions, please contact headquarters at (847) 480-9095. Send wire transfers to Harris Trust and Savings - Account # 412-101-8, ABA # 071 000 288.

Wire transfer sent on: _____

For Business Office use only:

Batch # _____ Order Placed _____ Intls _____ Notes _____



**Society of Vertebrate Paleontology
Membership Application**

(Membership for the period 1 October to 30 September)
33552 Treasury Center, Chicago IL 60694-3500

Tel. (847) 480-9095; fax (847) 480-9282; e-mail: svp@sherwood-group.com

Please type or print the following:

Title: Dr. _____ Mr. _____ Mrs. _____ Ms. _____

Name: _____

Address: _____

City, State, Zip: _____

Country: _____ Phone No. _____ Fax No. _____

E-mail Address: _____

Date of Birth: _____

Degrees with Dates and Schools: _____

C In what kind of institution do you work?

University or College Museum None (student/retired) Other

C In that institution, what is your occupation? _____

C How long have you been associated with your institution?

One year or less 2-5 years 6-10 years 11-20 years More than 20 years

C How many SVP Annual Meetings have you attended?

None One meeting 2-5 meetings 6-10 meetings 11-20 meetings >20 meetings

C What are your areas of interest in vertebrate paleontology (taxonomy, biogeography, biostratigraphy, functional morphology, etc.)? Please specify groups, areas, and geologic time periods when relevant.

C Do you hold membership in any other professional societies? If yes, please list all below.

Nominator

NOMINATIONS are required for membership acceptance. Your nominator must be a current SVP member. (If you need a contact in your area, please contact the SVP Business Office at the number listed on the top of this form).

Nominated by: _____ Date _____

Nominator's Address & Phone Number: _____

Nominator's Signature: _____

Please complete the reverse side of this form

Advisor: If *Student* applicant, include advisor's name and signature below. All student applicants must submit a copy of valid university or college identification card.

Advisor: _____

Advisor Signature: _____

Membership Options:

- C Associate membership includes *SVP News Bulletin* and member rates on books, journals, etc.; no voting rights.
- C All other categories include receipt of the *SVP News Bulletin*, *Journal of Vertebrate Paleontology*, and voting rights.
- C Students must submit a copy of a valid university or college identification card as well as an advisor's and/or authorized academic official's signature for approval of membership.

Please check the appropriate category below. Once your application is approved, you will receive an acceptance letter and invoice for membership dues. DO NOT REMIT PAYMENT AT THIS TIME. You will be billed upon your acceptance to the Society.

- | | |
|--|---------------------------------------|
| 9 Regular (\$80.00) | 9 Sustaining (\$200–\$499) |
| 9 Student (with ID) (\$45.00) | 9 Sustaining "500 Club" (\$500–\$999) |
| 9 Associate (\$30.00) | 9 Sustaining Patron (\$1000 or more) |

- 9 For faster delivery of the *News Bulletin*, you may pay an **optional** air postage of \$20.00 per year for overseas delivery.

NOTE: The minimum age requirement for membership is 18 years along with a nomination.

Signature

Upon approval of my membership to the SVP, I agree to abide by the Society of Vertebrate Paleontology's Ethics Statement provided below.

Applicant Signature: _____

The Society of Vertebrate Paleontology By-Laws on Ethics

"Article 9. Statement of Ethics.

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**Contributions to the Endowment and Dedicated Funds
Society of Vertebrate Paleontology
1999–2000
As of July 24, 2000**

In 1986, the Society established an Endowment Fund to meet the urgent needs of the science as determined annually by the Executive Committee. Initially, the income was applied largely to support the Bibliography of Fossil Vertebrates. In recent years, endowment funds have also been used to support other strategic initiatives of the Society. Currently members may support the dedicated funds of the Society (Patterson, Skinner, Estes, and Romer) in addition to supporting the endowment.

The following list includes contributors to the general endowment fund as well as contributions made to one or more of the Society's dedicated funds for the 1999–2000 fiscal year based on funds and/or written pledges received through July 24, 2000.

PATRON MEMBERS (\$1,000 or more)

Robert L. Carroll, Joseph F. Chance, Philip Currie, Mary R. Dawson, Nicholas Hotton III, Farish A. Jenkins, David W. Krause, Fobes Maner, John S. McIntosh, Bobb Schaeffer, Thompson and Eunice Stout, William D. Turnbull

"500 CLUB" SUSTAINING MEMBERS (\$500–\$999)

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