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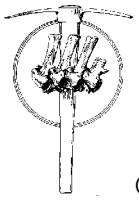

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- OFFICIAL BUSINESS -

New Regional Editors

The editorship has changed for both the Midwest and Southeast regions. We would like to welcome Glenn Storrs of the Cincinnati Museum of Natural History and Science, who replaces Russ Graham as the Midwest Regional Editor, and Richard Hulbert of Georgia Southern University in Statesboro, who replaces Bill Wall. It was a pleasure to work with Russ and Bill and we are sincerely grateful for their time and efforts on behalf of the *News Bulletin.*

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- **NEWS FROM MEMBERS** -

CANADA

Research Casting International, Oakville, Ontario

Our last six months were filled with variety: we mounted several skeletons including a mastodon, hump-backed whale, *Tyrannosaurus rex* and *Triceratops,* sculpted fleshed-out animals, and created a number of land peels including one which contained a mosasaur. We would like to thank the Museum of New Zealand, New Brunswick Museum, London Children's Museum, LACM, and AMNH for a very busy and exciting winter. We would like to offer special thanks to John Harris and Michael Stokes in LA for making our installations go so smoothly; it was a pleasure working with your crew. Again many thanks to Kevin Seymour, Ian Morrison, and Hans Sues at the ROM, and Dick Tedford and John Alexander at the AMNH for lending us mastodon material. (Peter May).

Royal Ontario Museum, Department of Palaeobiology

It's official: the departments of invertebrate and vertebrate palaeontology have now been amalgamated into the Department of Palaeobiology. Hans Sues spent the better part of April and May excavating in Germany, while Chris McGowan and Ryosuke Motani

traveled to Nevada to examine ichthyosaur material. Ian Morrison, Chris, and Ryosuke will visit Williston Lake to collect Triassic ichthyosaurs again this spring. Kevin Seymour (and co-editor Kathy Stewart from the Canadian Museum of Nature) are very pleased to report that the Churcher festschrift entitled "Palaeoecology and Palaeoenvironments of Late Cenozoic Mammals" has been published by the University of Toronto Press. There are 30 papers contributed by 53 authors and co-authors and it's 675 pages long! We hope it is a suitable tribute to Rufus' career. (Kevin Seymour)

Royal Saskatchewan Museum and Eastend Fossil Research Station

Most of our efforts have shifted to the museum's satellite facility, the Eastend Fossil Research Station. The focus is currently on the *T. rex* skeleton which was excavated in 1994 and 1995. Of the five large blocks, the skull block has received most of the attention from Don Stoffregen, our main preparator, and the number of volunteers we are lucky to have. More of the disarticulated skull has been discovered in the block and should be almost complete. After spending two summers almost entirely focused on the excavation of this beast, we hope to prospect a little more intensely in the Frenchman (Late Cretaceous) and Ravenscrag formations (early Tertiary). Several potential *Triceratops* skeletons appear to be our quarry work for the summer.

Tim Tokaryk has been writing a short note on some very small *Triceratops* orbital horncores found in the Frenchman Formation, as well as some new mid-Tertiary bird bones which a local collector brought in. Karen Chin (California) is still working on a large, Late Cretaceous coprolite also from the Frenchman Formation.

In Regina, John Storer has left us for the Yukon; we wish him the best. The lab in Regina is still very active with Melanie Vovchuk and a number of volunteers preparing the large mosasaur that was collected last year from the Bearpaw Formation. We hope it will be finished by the end of August. (Tim Tokaryk).

Royal Tyrrell Museum of Palaeontology

Betsy Nicholls continues working in the marine Triassic of British Columbia, recovering ichthyosaurs, thalattosaurs, and primitive sauropterygians from the Pardonet and Sulphur Mountain formations. A new marine archosauromorph of unknown affinities was collected from the Pardonet Formation. Preparation continues on a complete, beautifully preserved *Leptocleidus* from the Albian of northern Alberta. Magically, Betsy has also found time to edit the marine reptile volume for Academic Press.

Don Brinkman continues his long-term project examining microvertebrate communities through the Judith River and Oldman formations of Alberta, and will again be at Devil's Coulee in an ongoing investigation of dinosaur nesting sites.

Xiao-chun Wu continues his postdoctoral work jointly with the University of Calgary. Wu found our prairie winter a productive time, completing papers on a plant-eating crocodile (*Chimaerasuchus paradoxus*) with Hans Sues; a new protosuchian from

Sichuan (*Sichuanosuchus shuhanensis*) with Hans Sues and Dong Zhiming; Upper Cretaceous amphisbaenids from Inner Mongolia; and *Sunosuchus,* a new species from the Late Jurassic of Xinjiang, with Don Brinkman and Tony Russell. Papers on systematics and functional morphology for the "Dinosaur Encyclopedia" edited by Phil Currie continue, and work has begun on undescribed specimens referable to *Leidyosuchus*.

Painstaking preparation continues of two largely complete, articulated ornithomimids with beautifully uncrushed skulls. One specimen was found by Dennis Braman and Kevin Aulenback, while using a jackhammer to excavate a leaf impression locality in Dinosaur Provincial Park (DPP). The second was collected in the Drumheller Valley, 17 km from the museum's back door. Initial evidence indicates these are the most complete ornithomimids collected from the Upper Cretaceous of North America. A nearly complete skeleton and skull of *Albertosaurus* is being panel-mounted by Darren Tanke and Fred Orosz in time for exhibition this summer.

Phil Currie has been editing the upcoming "Dinosaur Encyclopedia" for Academic Press, writing a monograph on *Albertosaurus,* describing a new genus of dromaeosaurid with David Varricchio, describing a new caenagnathid, completing a paper on serrated bird teeth with Clive Coy, and publishing a description of a tyrannosaurid furcula with Peter Makovicky. Leon Claessens, a student from the University of Utrecht, Holland, is here working on a master's thesis dealing with the function of gastralia and how they relate to breathing in theropods.

The museum's highly successful public participation program, "Field Experience," is running again this year. Excavation of another monogeneric ceratopsian bone bed, as well as careful examination of a multigeneric bone bed are planned. This combined research/public participation program will be investigating the occurrence and significance of apparent mass mortalities in the Dinosaur Park and Oldman formations of DPP.

Continuing his University of Alberta connections, Bruce Naylor is helping Dick Fox's investigations of Late Cretaceous mammals and working with Jim Gardner on articulated Late Jurassic salamanders kindly lent by Dan Chure. (Clive Coy and Bruce Naylor)

University of Guelph, Guelph, Ontario

Jeff Thomason is making great strides in analyzing the mechanical design of the equid hoof, although the paleontological applicability of this work is limited. On the other hand his continuing analyses of bone and stress distribution in the mammalian skull is certainly helping elucidate its functional design, and will have application to interpreting cranial evolution in mammals. He is working in three areas: (1) with Norm Macleod of the Natural History Museum in London, England, on an eigenshape analysis of bone distribution; (2) on continuing finite element analyses of palatal mechanics; and (3) on bone strain in vivo in sheep to complement and validate the finite element models. Not a real fossil in sight, but this work has definite application to VP. (Jeff Thomason)

University of Toronto

Grant Hurlburt (Zoology) has successfully defended his Ph.D. thesis entitled "Relative Brain Size in Recent and Extinct Amniotes: Determination and Interpretation" and is preparing a publication on "Encephalization quotient formula from Recent amniotes for use with extinct amniotes." Gerry De Iuliis (Zoology) also successfully defended his dissertation entitled "A Systematic Revision of the Megatheriinae."

Rufus Churcher (Zoology) returned to Dakhleh Oasis, Egypt, for six weeks in late January and February. An additional sample of small elements of aquatic vertebrates was obtained from the Late Cretaceous Quesir (= Mut) Formation deltaic shales. Among these were some heavy scales of a *Lepidotes* -like fish and teeth of a pycnodont, neither of which could be matched with specimens in the BM(NH).

After some 15 years of searching for a Cenozoic vertebrate fossil locality, Rufus and Drs. Maxine Kleindienst (Anthropology) and Marcia Wisemen (Anthropology) located several outcrops of a calcareous marly deposit which contained fresh-water snails, casts of plant stems, and vertebrates tentatively identified as including a large bovid, hartebeeste, two antelopes, camel, probably a rhino, and a small bird. An Early Middle Stone Age date was suggested from lithic fragments also collected mainly from the surface. It is hoped that further excavation will be possible in the 1997 field season.

Mario Gagnon (Anthropology) and two graduate students, Bill Moore (Anthropology) and Chris Rancourt (Geology) will be collecting fossils in Wyoming this coming July. They will join Bob Anemone (Anthropology) and Jeff Over (Geology) from SUNY at Geneseo and Dana Cope (Anthropology) from the College of Charleston and a bunch of their students for a three-week expedition in the Great Divide Basin. The team intends to concentrate mainly on sediments straddling the Paleocene/Eocene boundary. The expedition is part of a geology and paleontology field school from SUNY at Geneseo and the College of Charleston. (Rufus Churcher, Grant Hurlburt, and Mario Gagnon)

University of Victoria, British Columbia

Lee McAnally and Rufus Churcher have applied for a Parks Canada permit to survey for and collect marine mammal fossils (Oligocene and Miocene) from the Hesquiat and Sooke formations on the west coast of Vancouver Island (Pacific Rim National Park). We plan to do reconnaissance work in June or July and then return in September or October to make collections, once the heavy hiking traffic on the West Coast Trail has diminished! (Lee McAnally).

Heritage Branch, Department of Tourism, Yukon Government

The Yukon Government has begun exhibit design and architectural planning for a new Yukon Beringia Interpretive Centre in Whitehorse. Its first phase is to open in May 1997. This series of exhibits will tell the story of the eastern end of the Mammoth Steppe in the late Pleistocene, illustrating the mammalian fauna, the landscape and vegetation, and the

First Nations people who were the first to enter North America. There will be an accompanying film and interactive exhibits.

I am planning field excursions to the Pleistocene of Dawson and Old Crow, the Eocene at Whitehorse and Kluane, and possibly some Cretaceous beds. In March I visited colleagues at the University of Alaska, Fairbanks. Many thanks to Dale Guthrie, Paul Matheus, Roland Gangloff, and the Mammalogy Program at the University of Alaska Museum. UAF is producing a tremendous amount of research, and I hope the new Yukon program can arrange some collaborative ventures. (John Storer)

FRANCE

Laboratoire de Paléontologie des Vertébrés, Université Paris 6

Jean-Claude Rage is trying to carry on with his own projects while working on ongoing or recently initiated joint projects. Among papers published during the past year are a study of amphibians and squamates from the Maastrichtian of Naskal, India, with G. V. R. Prasad (*Cretaceous Research*), an update on the age of the India/Asia contact with J. J. Jaeger (*Systematic Biology*), and a paper with M. Augé on the amphibians and reptiles from the Middle Oligocene of Garouillas, France, which is part of a monograph on that locality (*Palaeontographica*). Papers in press or soon to be submitted include a description of the madtsiid snakes from the Maastrichtian of Spain (Lano), which are the only Madtsoiidae to be known outside Gondwana. Jean-Claude also took part in a meeting on the Biogeography of Madasgacar at which he presented a hypothesis on the paleobiogeographical history of the Malagasy iguanids and boids. At a syumposium on "some problems of biological evolution and their philosophy," he discussed the problem of mandibular suspension in the Macrostomata (snakes). The comprehensive study of the Early Eocene herpetofauna from Prémontré, in the Paris Basin, which was started some time ago, is nearing completion (in collaboration with M. Augé, S. Duffaud, F. de Lapparent, and D. Vasse). The very rich squamate fauna and the amphibians will be studied in more detail at a later date. More long-term projects include research on the Cretaceous of Africa, with a study on snakes from Sudan (with C. Werner) and on pipid frogs from Niger (with A. Baez). The second part (Boidae) of the study of the Paleocene snakes from Itaborai (Brazil) is going on slowly. Several joint projects on amphibians with Z. Rocek are also under way. Other projects are progressing(?) in a more chaotic way, depending on the available time (or on the time available to collaborating colleagues).

Marc Augé is more and more interested in BMRs (basal metabolic rates) and the relationships and competitions between faunas. The end of his thesis on Paleogene lizards is getting closer. He also published a paper on Eocene Helodermatidae (*Bull. Inst. roy. Sc. nat. Belgique*).

Sylvain Duffaud took part in the studies on the Early Eocene amphibians from Prémontré, and on those from a new Eocene locality discovered by colleagues from Montpellier. He is currently interested in urodeles from the Maastrichtian of France. He

will soon be starting work on Eocene pelodytid anurans, and on a batrachosauroidid salamander from the French Maastrichtian; later, he also plans to tackle the Pelobatidae.

Sébastian Steyer is beginning to work on eryopoid amphibians from the Permian locality of Buxières-les-Mines, in central France, currently being excavated by François Escuillié and his team.

Gilles Cuny has published five papers issuing from his thesis on the European vertebrate faunas at the Triassic-Jurassic boundary, including an article for the general public in *Pour la Science* (the French edition of *Scientific American*). A synthesis of the main results of his work has appeared in *Paleo3*. Among the microremains from the uppermost Triassic of Lons-le-Saunier (in eastern France), a tooth may indicate the presence of the oldest ornithischian dinosaur from Europe; it is being studied by Gilles, Adrian Hunt (University of Denver), and Jean-Michel Mazin (University of Poitiers). Gilles is also still working on Cenomanian shark teeth from the Baches Noires cliffs in Normandy and Lussan in southwestern France. He organized an exhibition on the fossils from the Baches Noires at Villers-sur-Mer during the summer of 1995, and hopes that a new paleontological museum will soon be opened at this seaside resort on the Normandy coast. With Laurent Barbieri, Gilles is also preparing an expedition to the Permian and Triassic of Madagascar, funded by the Singer-Polignac Foundation. Last, but not least, Gilles has left Eric's team at the beginning of 1996, to join Mike Benton for two years at the University of Bristol, where he will carry on his work on the Triassic-Jurassic faunal turnover. He thanks all the members of the Paris team for their kindness and their help during the six years he spent among them.

Stéphane Hua is going on with his thesis on marine mesosuchians, with special emphasis, at the moment, on the Pholidosauridae and Dryosauridae. After a reexamination of the latter, he has proposed a new paleoecological and paleobiogeographical interpretation of that family, to be published in the *Bulletin de l'Institut royal de Sciences naturelles de Belgique.* On the thalattosuchian front, the histological study carried out with Vivian de Buffrénil is now completed, and has been submitted to the *JVP*. Some of its results were presented at the Copenhagen vertebrate paleontology meeting in May. Stéphane also described (with F. Atrops, Lyon) the oldest representative of the primitive metriorhynchid *Teleidosaurus,* from the Bajocian of southeastern France (*Bull. Soc. géol. France*). With Nathalie Bardet, Stéphane showed that a jaw fragment from Ethiopia formerly referred to the sauropterygian *Simolestes* is in fact the first record of the teleosaurid *Machimosaurus* from Africa. Together with Eric Buffetaut, Stéphane has written a short review of marine crocodilians, to be published by Academic Press in the book edited by Betsy Nicholls, "Sea Dragons of the Past." Stéphane's plans also include a possible visit to Russia with Eric, to examine Jurassic and Cretaceous reptile remains collected in the Volga valley by V. Efimov.

Eric Buffetaut, as usual, has split his research activity between the Mesozoic vertebrates of Thailand and those of France. He was in Thailand twice in 1995, and once in 1996. A large part of that time was spent at the new dinosaur locality at Wat Sakawan, at which several more or less complete, partly articulated sauropod skeletons were found by

Varavudh Suteethorn and his team (preliminary description published in *C. R. Acad. Sc. Paris* in 1995). Most of the specimens apparently belong to the recently described *Phuwiangosaurus,* but some remains, including large spoon-shaped teeth, are clearly from a second sauropod (perhaps a brachiosaurid?). The Wat Sakawan dinosaurs come from the Sao Khua Formation, which was long considered as Late Jurassic in age, but has now been shown to belong to the Early Cretaceous, on palynological grounds. The Sao Khua Formation has yielded the richest dinosaur fauna hitherto found in Thailand, including, in addition to sauropods, a small ornithomimosaur (to be described soon), and a large theropod, on which Eric spent a long time during a visit to Thailand in November. That animal is known from a fragmentary skeleton, and seems to show affinities with tyrannosaurids. The Sao Khua Formation being now placed in the Cretaceous, there was no longer any record of Jurassic dinosaurs in Thailand. This unfortunate situation was remedied in March 1996, when Eric, Varavudh, Haiyan Tong, and Somchai Triamwichanon discovered a new vertebrate locality in the Jurassic Phu Kradung Formation in Kalasin Province, which yielded turtle plates and teeth of lungfish, crocodiles, and sauropods. The sauropod teeth are spoon-shaped, completely unlike those of *Phuwiangosaurus,* and rather similar to those of some Jurassic euhelopodids from China. The only older dinosaur presently known from Thailand is the late Triassic prosauropod from the Nam Phong Formation recently described in the *Geol. Mag.*

Eric's work on Thai dinosaurs led him to various institutions for comparative purposes. He attended the Sixth Symposium on Mesozoic Terrestrial Ecosystems and Biota, held in August in Haiyan's native city, Beijing. This gave him the opportunity to study remains of *Archaeornithomimus* at the IVPP. A search through the collections also brought to light a tibia from the Lower Cretaceous of Xinjiang referred (with some doubts) by Young (1964) to an ornithurine. As will be shown in a paper now in press (*Cretaceous Research*), the specimen actually belongs to a dsungaripterid pterosaur. Eric also made a short trip to Ulan Bator, where Rinchen Barsbold made the collection of early ornithomimosaurs available for study. This was also an opportunity for observations on *Tarbosaurus*. Eric's comparisons finally took him to New York, where he spent a week in an almost deserted American Museum (it was during the SVP meeting in Pittsburgh) working on ornithomimosaurs and tyrannosaurs (and on *Diatryma* : see below).

Eric's work in southern France, together with Jean Le Loeuff's group at the Dinosaur Museum in Espéranza, was marked by unexpected discoveries at the Early Maastrichtian Bellevue locality, including pterosur bones and a good part of the pelvis of a very large bird. This confirmed the occurrence of giant birds in the Upper Cretaceous of southern France, already announced in *Nature* by Eric, Jean, Patrick Mechin, and Annie Mechin-Salessy, on the basis of a synsacrum fragment from Provence. The pelvis from Bellevue apparently belongs to a large ground bird, with some similarities (which may or may not indicate relationships) with *Diatryma.* Eric's interest in giant birds was further aroused when he obtained some hitherto undescribed *Gastornis* bones from the Paleocene of eastern France kept at the University of Reims. He is now planning a detailed comparative study of *Gastornis* and *Diatryma* (which appear to be closely related) with Allison Andors of the AMNH.

Finally, Eric's continuing interest in pterosaurs resulted in the description of the first pterosaur from the terminal Maastrichtian of France. This is based on a bone fragment from southern France, which was identified partly by histological means (with the help of Jane Clarke). Eric used the specimen as a basis for a review of terminal Cretaceous pterosaurs, which led him to doubt the widely accepted idea of a marked decline of the group during the last million years of the Cretaceous.

Although Haiyan Tong is still involved in work on rodents (including a seemingly endless paper on *Acomys* with J. J. Jaeger), turtles are now her main interest. She published a description of a new pleurodiran (*Hamadachelys escuilliei*) from the Cenomanian of southern Morocco (*Neues Jahrbuch,* 1996), as well as a preliminary description of what may be the elusive skull of *Polysternon provinciale* from the Campanian of Villeveyrac in southern France (in a multi-authored paper on the Villeveyrac fauna in the *Neues Jahrbuch*). Besides her research on various Late Cretaceous and Tertiary specimens (both shells and skulls) from southern France, she is also working on Mesozoic and Eocene turtles from Thailand. During a visit to southern Thailand in March 1996, she collected additional material from the Jurassic of Mab Ching, and is preparing a description of a new taxon, reminiscent of the Chengyuchelyidae from China. In October, Haiyan spent a very pleasant week in New York, enjoying Gene Gaffney's hospitality and browsing at leisure through his magnificent turtle collection. Joint work with Gene on *Hamadachelys* is planned.

Nathalie Bardet has focussed her research this year on Upper Cretaceous marine reptiles, especially from Europe. A synthetic revision (systematics and stratigraphy) on this subject (with X. Pereda) has appeared in *Revista Espanola de Paleontologia*. A paper concerning the extinction and survival patterns of marine reptiles was presented during the Fourth International Workshop on Impact Cratering and Evolution of Planet Earth in Ancona. Concerning mosasaurs, a historical review of *Mosasaurus hoffmanni,* the "Grand animal fossile de Maastricht," was presented at the 43rd Symposium of Vertebrate Palaeontology and Anatomy in Newcastle, and a paper written with J. W. Jagt (Maastricht) will soon appear in *Bull. Mus. Nat. Hist. Nat.* Another mosasaur, *Prognathodon giganteus,* has been described for the first time from the Campanian of Champagne, in collaboration with V. Barbin and M. Laurain (Reims); the description will be published in *C. R. Acad. Sc. Paris.* Finally, prospections were conducted in the Upper Cretaceous of the Basque Country, where mosasaur remains have recently been found and will be studied in collaboration with X. Pereda and C. Corral (Vitoria). Concerning turtles, a primitive chelonioid from the Turanian of Touraine (France) has been described in *Bull. Soc. géol. France* (with X. Pereda and G. Badillet). Concerning plesiosaurs, a description of elasmosaurs from the Upper Cretaceous of Egypt was done with C. Werner (Berlin) and should appear in *N. Jb. Geol. Paläont.* Finally, Nathalie's thesis on evolution and extinction of Mesozoic marine reptiles has now been published in *Palaeovertebrata.*

Xabier Pereda Suberbiola was lucky enough to obtain a two-year contract with the University of the Basque Country in Bilbao, within a research program of the Ministry of Education and Science in Madrid. Xabier will now be working on Miocene reptile faunas from the northwestern part of the Ebro basin, which include crocodiles, turtles, and

lizards. This research will be conducted in collaboration with Humberto Astyibia and Xabier Murelaga (Bilbao), as well as other colleagues from Zaragoza, Sabadell, Madrid, and Paris. During the summer of 1995, Xabier took part in excavations at the Miocene locality of Tarazona d'Aragon, and prospections were carried out in the Tertiary of Alava and Navarra. A preliminary paper on the Miocene vertebrate fauna from the Bardenas of Navarra was presented during the XI Jornadas de Paleontologia held in October in Tremp (Catalonia). Nevertheless, Xabier will not abandon dinosaurs, and several papers issuing from his thesis on European ankylosaurs are being prepared. With Zulma Gasparini and Ralph Molnar, Xabier presented new data about the ankylosaur from the Antarctic Peninsula at the 43rd VPCA Symposium in Newcastle, and a paper on that topic will soon appear in the *Memoirs of the Queensland Museum.* With Lourdes Casanovas and José V. Santafé (Sabadell), Xabier co-authored the description of new stegosaur material from the Lower Cretaceous of Valencia (*Paleontologia i Evolucio*). A preliminary description of remains of the ornithopod *Rhabdodon* from Lano was presented at the Tremp meeting. Excavations at the rich Late Cretaceous Lano locality, in the northwestern Iberian peninsula, were continued with funding from the Museum of Natural Sciences of Alava. A week of field work in July led to the discovery of abundant reptile remains, including a partially articulated incomplete ankylosaur skeleton and two fairly complete specimens of a new pleurodiran turtle. A monograph on the Lano locality is underway.

With the publication of the last part of Emmanuel Gheerbrant's monograph on the Thanetian mammal fauna from Adrar Mgorn, Morocco (*Palaeontographica,* A, 1995, 237, 1-4, 39-132), it looked like the picture of African Paleocene mammals provided by this fauna, with its Laurasian elements, would remain basically unchanged for some time, given the rarity of Paleocene mammals, especially in Africa. This picture, however, has just been changed by the very unexpected and welcome discovery of the oldest known proboscidean in the Paleocene phosphates of Morocco! This new taxon, based on specimens obtained by F. Escuillié and studied in collaboration with J. Sudre and H. Cappetta from Montpellier, is described in a paper submitted to *Nature*. It is very close to *Numidotherium koholense* in its dental morphology, but its size is diminutive, with an estimated weight range of 10-15 kg. It sheds new light on the position of the enigmatic genus *Khamsaconus* from the N'Tagourt 2 locality.

The study of the Oligopithecine primates from Taqah (Oligocene of Oman) is well underway. An overview was presented in a poster displayed at the 43rd VPCA Symposium in Newcastle. The new species *Oligopithecus rogeri,* which is the commonest primate at that locality, has been published in *C. R. Acad. Sc. Paris* (1995, IIa, 321, 425-432. Except for the incisors, it has been possible to reconstruct most of the dentition. It displays a notable variability and a sexual dimorphism in P^3 and the canines. This species supports the idea of striking differences between oligopithecines and propliopithecines, which may be significant at the family level.

The study of the mammalian faunule from the Thanetian of Campo in the Spanish Pyrenees is nearing completion and should be published in 1996. A preliminary report on Emmanuel's prospections, with Claude Abrial in the French Petites Pyrenees which

resulted in the discovery of several Late Cretaceous microvertebrate localities, is being prepared, and will be submitted to the special volume of *Geobios* dedicated to Claude Babin. During the summer of 1995, Emmanuel spent one month in Romania, together with S. Sen, L. de Bonis, and C. Abrial, to take part in a joint French-Romanian exploratory field study. The first part of the work was in collaboration with colleagues from Babes-Bolyai University at Cluj, especially Vlad Codrea and Alex Hosu. It was focussed on the Paleocene/Early Eocene continental beds of Transylvania, where prospections led to the discovery of several microvertebrate localities containing mammals, some of which may be promising. This has resulted in a research program involving a formal cooperation between University Paris 6 and Babes-Bolyai University. The second part of the Romanian trip was in collaboration with the Bucharest Institute of Speleology, especially with C. Radulescu's team, and concerned the Early Miocene mammal-bearing levels of Romanian Moldavia, including excavations at the Reghiu locality.

Sevket Sen spent half the year in the field (Turkey, Romania, Nepal) to hunt small and occasionally large mammals. The Miocene Sinap Project (Turkey) now has in its program a memoir on the Neogene stratigraphy and mammal faunas of the Ankara area. Sevket's contribution will be on rodents and lagomorphs. In Romania, a field campaign he organized last July prospected some areas of the Neogene Moldavian platform. Some Late Miocene localities yielded interesting faunas. The work will go on in 1996. In Nepal, prospection in the Mustang basin with Michel Colchen (Poitiers) was unsuccessful as far as mammals are concerned. As the fish and terrestrial invertebrates are useless for dating purposes, the age of the continental formations of Mustang remains unknown. Sevket has now moved to the Institut de Paléontologie of the Paris Museum since January 1996. (Eric Buffetaut)

GERMANY

Institute of Paleontology, University of Bonn

Since our last contribution to the *News Bulletin* in the fall of 1994, the vertebrate research group in the Bonn Institute has been very busy and there were many guests who worked in our collection.

Besides some administrative work as the head of the department, Wighart v. Koenigswald tries to continue with his work on enamel structures. He currently concentrates on comparing Lagomorpha with Rodentia since the good old textbook assumption that lagomorph incisor enamel is one-layered and therefore primitive was very easy to falsify. Ochotonids have a multilayered incisor enamel which seems to be more primitive than the one-layered enamel of leporids. This sheds some light on the *Glires* concept (see *Neues Jahrbuch Geologie Paläontologie, Monatshefte,* 1995(10):605-613).

With Ashok Sahni from Chandigarh (India) whom we had the pleasure to have as a guest in Bonn, Wighart worked on whale enamel using fossil and extant material Ashok

brought from India. Cases of enamel structure reduction arouse special interest. All examples of reduction found so far are related to general reduction of the tooth or at least to the reduction of enamel thickness. Otherwise structural reductions-even if postulated as parsimonious in cladistic analyses-were not found so far. Wighart worked on major papers on the variability of enamel structures among placental mammals and on trends in enamel evolution. Parallel evolution seems to be a very common phenomenon. Both papers are part of the proceedings of the Andernach enamel workshop held in 1994. The volume is edited jointly by Wighart and Martin Sander and should be available by the end of this year.

A further project was devoted to the comparison of the enamel of Australian marsupials with that of placentals. Marsupialia were able to decussate the interprismatic material and the prisms at a fairly early stage in their evolution. This decussations formed a perfect plywood structure sufficient for most biomechanical demands. Only exceptionally, decussation of prism layers (Hunter-Schreger bands) were evolved. Placental evolution took a detour in almost all lineages. Placentals decussate prisms as Hunter-Schreger bands upon reaching a threshold body size, and only later in their evolution several lineages oriented the interprismatic matrix at an angle to the prisms as well. This results in very different frequencies of the various enamel types in both groups (*Berliner Geowissenschaftliche Abhandlung, Krebs Festschrift,* A13:45-81).

On the enamel microstructure research front, Martin Sander has completed a paper on the origin of mammalian enamel prisms, which is to be published in the Andernach enamel volume he is editing together with Wighart. Martin has his problems with the published models of prism origin and will propose his own, based on a more complete understanding of nonmammalian synapsid enamel than what entered the previous models.

Martin's research on marine reptiles has lately focussed on the enigmatic sauropterygian he and Olivier Rieppel had collected in the Middle Triassic of Nevada two years ago and which informally was dubbed "Scraposaurus." After preparation in Chicago, it became apparent that the animal is closely related to the enigmatic *Pistosaurus* from the German Muschelkalk.

Bits and pieces of certain Triassic ichthyosaur taxa continue to crop up in unlikely places. Most noteworthy of these are the humerus of the durophagous *Omphalosaurus* from the Muschelkalk and a tooth of the equally durophagous *Tholodus* in a Middle Triassic bonebed in Nevada. *Tholodus* so far was exclusively known from the Muschelkalk and *Omphalosaurus* primarily from Nevada and Spitsbergen. This together with the occurrence of a pistosaurid in Nevada tell the same story: Triassic marine reptiles are much less provincial than generally assumed. There still is a lot of collecting to be done in this area.

Another one of these finds, the partial skeleton of *Omphalosaurus* from the northern Alps of Austria or Germany, was recently described by Gottfried Tichy of Salzburg as the sole author, despite collaboration agreements with Christiane Faber of Vienna and Martin.

Ioannis Michelis just started his Ph.D. thesis on the taphonomy of the Howe-Stephens quarry in Wyoming. This quarry yields a Morrison dinosaur fauna and has been worked in the summer seasons by a Swiss team (Saurier Museum Aathal) since 1990. They found numerous isolated bones but associated skeletons are common, too. The most spectacular fossil is a juvenile camarasuar skeleton missing the tail. It was unearthed with its excellently preserved skull still in place. Ioannis' task this summer will be to record sedimentological and taphonomical data at this site during the excavation. His thesis is part of a program initiated by Martin Sander. The aim is to research aspects of sauropod paleobiology. Also part of this DFG-funded program are projects on sauropod egg sites in Spain (Christian Peitz) and on the vertebrate fauna accompanying sauropod tracks in the northwest German Bückeburg Formation (Sabine Peitz).

For her Ph.D. thesis, Sabine Peitz is working on the vertebrates of the Bückeburg Formation (Wealden, lower Berriasian) in northern Germany. Almost all the material was unearthed at the end of the last century and beginning of this century by private collectors. The rich material has been described only very incompletely. Sabine is aiming at a complete revision of the most important taxa. The final goal is a biogeographic reconstruction and the comparison of the German and the English Wealden.

Christian Peitz is writing his Ph.D. thesis about dinosaur egg occurrences in the Maastrichtian of northeastern Spain. He spent three months in the field mapping more than 400 eggs in five outcrops. He also studied several egg clutches in detail, measured stratigraphic sections, and took samples of the sediments. Christian is now analyzing the material in the laboratory using thin sections, SEM, and computed tomography.

The most important news from Thomas Mörs is that he has defended his Ph.D. thesis in 1994 and that he will become Wighart's assistant this year. His thesis on the upper Oligocene fossillagerstätte Rott near Bonn (see *SVP News Bulletin*, no. 162) has just been published in the *Courier Forschunginstitut Senckenberg,* 187 (1995). The oil shale of Rott is also the topic of a paper Thomas presented at a symposium on the Enspel locality, another fossilferous Oligocene oil shale deposit. The proceedings of the meeting are in press, also with the *Courier*. As a third contribution, a survey on the mammals of Rott, is in press in *Decheniana,* vol. 149.

Thomas' new project, a Miocene vertebrate fauna from the Hambach lignite mine near Cologne, becomes ever more extensive: washing and sieving of tons of sediment has produced a rich association of small mammals. Up to now, he identified 59 mammal species and many interesting lower vertebrates. Together with the two discoverers, the mining company's geologists Bertram Wutzler and Fritz von der Hocht, Thomas is preparing a first overview of the Hambach fauna. A more detailed description of Hambach material will deal with the discoglossid frog *Latonia* and is being prepared by Zybnek Rocek (Prague) and Thomas.

The Pliocene deposits of this coal mine have also produced a vertebrate fauna which will be studied by Thomas, Wighart, and Fritz.

Thekla Pfeiffer has finished her master's thesis about the fossil *Dama* population of Neumark-Nord (Thuringia) in 1994. A first description of this large *Dama* -form is given in *Zeitschrift für Jagdwissenschaft,* vol. 41, 1995. Sponsored by the Deutsche Forschungsgemeinschaft, Thekla is now working on her Ph.D. thesis about the phylogeny of *Dama.* The well-preserved material of about 70 cervid skeletons from Neumark-Nord provides extensive morphological data as well as data on ontogeny, variability, antler development, and sexual dimorphism. Against this background, Thekla is now comparing cervid remains from different localities in Germany, Great Britain, France, and Italy. A study of middle and late Pleistocene *Dama mesopotamica* from Israel will be her next aim.

For his master's thesis, Dieter Schreiber is investigating the morphometric variability in the postcranial skeleton of *Stephanorhinus hundscheimensis.* This taxon is one of four rhinos occurring in the interglacials of the European Pleistocene. Dieter's material basis is a rich sample of rhino bones from the Mauer locality near Heidelberg, Germany.

In 1995, Elke Knipping began working on her Ph.D. thesis about the amelogenesis in mammals and reptiles. Her aim is to find out how complex enamel types like prism decussations are built by ameloblasts. In a further step, Elke will try to transfer her results from Recent material to fossil teeth.

Rodent incisors are now very interesting for Daniela Kalthoff. In the fall, she started her Ph.D. thesis about the enamel microstructure of cricetids and related families such as arvicolids, murids, rhizomyids, and spalacids. As incisor schmelzmusters turned out to be a reliable tool in phylogenetic and systematic studies, she hopes to contribute to hamster systematics and phylogeny. Of course, she would like to include as many fossil and Recent species as possible. So if anyone can spare identified incisor material of these families, Dany would be very pleased if you can send them to her at Bonn. Every contribution will be helpful and greatly appreciated!

In the summer of 1995, Dany worked on some respectable remains of *Mammuthus primigenius* and other big mammals which were found in 1875 in Weichselian terrace deposits of the Mosel River, Germany. Most exciting is a (partially reconstructed) mammoth skull with lower jaws, now exhibited in the Goldfuss Museum of the Institute of Paleontology in Bonn. A first description will be published in a chronicle of the village of Nittel where the specimens came from.

Since September 1994, Silvana Condemi from the Centre National de la Recherche Scientifique in Paris has been a member of our laboratory thanks to a grant from the Alexander von Humboldt Foundation. A specialist in paleoanthropology and particularly in Neanderthal evolution, Silvana's previous work has addressed the variability of Neanderthal populations in Italy and Francy. She is currently working in Germany on the ancient human fossils discovered in German soil and is preparing a comparative study on western and central European paleolithic human fossils.

Wilfried Rosendahl joined the Bonn institute in February. He is responsible for the data collection and management of the EUQUAM-databank which aims at a complete inventory of Upper Pleistocene mammalian faunas from Europe. The databank sponsored by the European Science Foundation is making good progress.

After passing his Habilitation with great acclaim, Ulli Pfretzschner left for the University of Tübingen to take up a research position there. We are very sorry to see him go and wish him all the best.

On the collections front, Martin reports that our holdings from the latest Oligocene of Rott near Bonn as usual attracted the greatest number of vertebrate paleontologists visiting Bonn. Both Zbynek Rocek (Prague) and Amy Henrici (Pittsburgh) paid homage to the amphibians, while Madelaine Böhme (Leipzig) studied the fishes. (Daniela C. Kalthoff)

NEW ZEALAND

North Island Vertebrate Palaeontologists

It is about three years since we last appeared in the *News Bulletin,* but this has been largely due to "heads down and tails up" hunting for vertebrates. 1994 to 1996 have been the years when New Zealand's two most senior vertebrate paleontologists have received recognition for their outstanding contribution to vertebrate paleontology in New Zealand. First was Joan Wiffen, New Zealand's expert on dinosaurs and marine reptiles, who was awarded an honorary D.Sc. by Massey University (1994) in recognition of her discovery and pioneering work on New Zealand dinosaurs and extensive studies on Cretaceous marine reptiles. This was followed by a CBE (Commander of the Order of the British Empire) in the 1995 Queen's New Year's Honours List for her services to science in New Zealand. The 1996 Queen's New Year's Honours List saw Ron Scarlett awarded an MBE (Member of the Order of the British Empire) for his services to science in New Zealand. Ron Scarlett has had a long and distinguished career in avian paleontology with the Canterbury Museum (Christchurch) working on fossil and subfossil birds (Moas and other extinct birds) from dune, cave, and swamp deposits. Ron also made a significant contribution in the identification of birds, etc., from midden and archaeological sites throughout New Zealand. All of us younger vertebrate paleontologists here in New Zealand have at some time or another in our paleontological studies been helped, encouraged, and inspired by Joan and Ron.

Joan Wiffen, Mike Daniels, and Joseph McKee continue searching the Late Cretaceous Mangahouanga Stream locality for dinosaurs and marine reptiles. Recent finds have been mainly marine reptiles (turtles, mosasaurs, etc.) some which will be new species for the New Zealand fossil record. A long-term interest of Joan's has been differences in the bone histology between adult and juvenile mosasaurs and plesiosaurs from the Mangahouanga locality. Joan teamed up with de Buffrenil, de Ricqles, and Mazin to produce the recent plesiosaur bone histology paper on the New Zealand material (*Geobios*, 28:625-640, 1995). Joseph has been busy tracking down turtle material to

compare with the Mangahouanga turtles (many thanks for the help from Gene Gaffney, Ed Hooks, and David Parris). Joseph has also started processing sediment from this site for microvertebrates based on a system developed by David Ward in the UK.

When the weather and access have precluded work in the Late Cretaceous, Joseph McKee has spent time searching the Neogene for vertebrates. Most of the recent discoveries have been more Pliocene dolphin and whale material as well as another phocid seal skull, and some new penguin and other marine bird bones. A Late Miocene site has produced a number of probable deep-water fish species, as well as some dolphin and larger cetacean bones. The site is made up of turbidite deposits, and it appears that the fish and some of the invertebrates were killed and preserved by the turbidite flows. Joseph has been able to escape from New Zealand to attend meetings and to visit museums to have a look at the fossil collections (many thanks to Angela Milner, Sandra, Jerry Hooker, Colin Patterson, Mike Taylor, Neil Clark, David Ward, Bruce Crowley, and, last but not least, James Goedert and Larry Barnes for a super time on the Olympic Peninsula field trip).

Mike Daniels has been finishing off some of his Quaternary fossil bat work with a paper due out soon in the *New Zealand Journal of Zoology* on fossil mystacinid bat material with Trevor Worthy of Palaeofaunal Surveys (Nelson). (Joseph McKee)

UNITED STATES OF AMERICA

Northeast Region

Joint News from Brown University/University of Rhode Island

Dave Fastovsky (URI) is delighted with the recent publication of his book, "Evolution and Extinction of the Dinosaurs" (coauthored with Dave Weishampel). Another SVP member, Brian Regal, did the art work for the book (Brian is also doing a large chunk of the art work for the "Tertiary Mammals of North America" book-mere coincidence??). With the book finally out, Dave is now able to devote himself to other projects. He is continuing to work in the Gobi Desert with the Japanese Mongolian expeditions: for the past few summers this work has concentrated on the western Gobi, but this summer Dave and colleagues will be working in the eastern Gobi, dealing with dinosaurs like *Iguanodon orientalis* rather than *Protoceratops*. Dave is also continuing to work on studies concerning the K/T boundary and the issue of whether the dinosaur data can demonstrate abrupt or gradual extinction, in conjunction with Peter Sheehan, Kirk Johnson, Dean Person, Ray Hoffman, and Doug Nichols, and will be joining Kirk this summer to work up further data from the North Dakota section.

Here at Brown, we have been delighted to welcome Steve Gatesy to the morphology program (Steve replaces Dave Carrier, who is now at the University of Utah). Steve has been keeping busy teaching human morphology, getting his new lab set up and running, and finishing up older projects on theropod wing, leg, and tail function.

Kevin Middleton, who accompanied Steve as his technician in their move from Wake Forest University, will be joining the graduate program here this fall. Kevin is interested in the aerial and terrestrial abilities of pterosaurs and birds. In the meantime, he and Steve are analyzing dinosaur footprints from Greenland and attempting to describe the evolution of theropod diversity. Trisha Wilhelm has been working as an adjunct professor for the past couple of years, teaching courses in comparative anatomy and mammal diversity. Tracy Popowics was away last year on a Fulbright scholarship in Helsinki, working with Mikael Fortelius. She has been finishing up her thesis on mammalian dental form and development, and hopes to defend this summer.

Christine Janis has been teaching a new lower-level undergraduate course in vertebrate evolution, which has been fun but also demanding of time and emotional energy. She is delighted to announce that the final chapter for the "Tertiary Mammals of North America" volume has at last been received: with the exception of a few outstanding final figures and other sundry items, the book is now essentially complete. It is her fervent hope that, by the time you read this, the completed project will have been in the hands of the publishers for some time. (Christine Janis)

Howard University, Washington DC

Daryl Domning, with support from the National Geographic Society, undertook another field season in western Jamaica in February. Together with Roger Portell (Florida Museum of Natural History), Steve Donovan (University of the West Indies), and Kevin Schindler (Lowell Observatory, Arizona), he quarried additional remains referable to *Prorastomas,* the most primitive sirenian. This four-legged, pig-sized Early-Middle Eocene beast is now represented by most major elements of the girdles and limbs as well as ribs, vertebrae, teeth, and skull parts from this quarry. Many jackets are still unopened, and probably contain still other elements. The material may represent a new species distinct from *P. sirenoides.* Its degree and style of aquatic adaptation seem comparable to those of *Rodhocetus* and *Ambulocetus* : the pelvis is connected to unfused sacral vertebrae, and the tail is apparently not enlarged.

The season was marred, however, by the sudden collapse of the ditch bank under which Roger was working. He suffered a broken pelvis; it could easily have been worse. Fortunately he is now off crutches and fully readapted to terrestrial locomotion, but this should serve as a sobering reminder of the need for caution in the field at all times. Most VPers tend to get blasé about steep or overhanging banks, and all of our crew had been working under this one in the hour preceding the collapse. Moral: when in doubt, remove more overburden.

In April, Daryl joined Larry Barnes, Sam McLeod, and Louise Kearin from the LA County Museum and Mexican graduate students David Olivera, Gerardo Rivas, and Joel Ortega for a very different field experience in Yucatan. They visited the type locality of the Pliocene sirenian *Corvstosiren varguezi* (which Daryl described in *JVP* in 1990) in order to collect a second skull of the same beast, discovered when the holotypic skull was collected in 1986. Without such a large and highly motivated crew (plus the LACM rock

saw), we could not have succeeded in this deceptively modest quest. No threatening overburden here; the only thing overhead was a blazing sun. Below, however, was recrystallized limestone that consumed three days and 16 carborundum saw blades before letting go of this one specimen. It is the second-best fossil sirenian skull from Mexico (after the type of *Metaxytherium arctodites*), and will reside permanently at the Instituto de Geologia, UNAM, Mexico City.

Last summer Irina Koretsky joined Bob Emry (Smithsonian) in the field in Kazakhstan for six weeks, and then made a grand tour of European museums to examine fossil seals. She reports that the best collection of these in Europe is in fact a private collection! The museum in Bratislava, however, possesses an undescribed early Miocene skull that represents the most primitive known phocid, and will probably require a new subfamily. In December, she and Bob made a special trip back to Bratislava to borrow and hand-carry this jewel to Washington. Irina will describe it in collaboration with its discoverer, Peter Holec (University of Kamenskogo), and she and Bob plan to develop a joint project with the University of Kamenskogo to reopen the locality (Devinska Nova Ves), which produces terrestrial as well as marine mammals.

In March of this year, Taseer Hussain and Hans Thewissen led a team of paleontologists and geologists to work in the Eocene deposits of Attock District, Pakistan. The fieldwork was carried out in collaboration with the Geological Survey of Pakistan. The field season was very productive and the group found several remains of *Ambulocetus* and *Anthracobune*. These specimens need to be prepared before our findings can be reported in more detail.

Ray Bernor and Miranda Armour-Chelu have been busy finishing a number of projects in preparation for their year-long sabbatical leave scheduled to commence July 1, 1996. Ray has been busy editing the Schloss Reisensberg volume on the evolution of western Eurasian Neogene faunas, due to be on the shelf October 1996 (Columbia University Press). Miranda has been busy with some taphonomy projects at the Virginia Museum of Natural History and Rutgers University with Sal Capaldo. Ray and Miranda have completed two papers on African hipparionine horses, one for Terry Harrison's book on the Manonga Valley faunas, and the other one, with an ecomorphological bent, for the Malawi Wenner-Gren conference. Ray and Miranda have a full plate next year working on European hipparions and pigs, the extensive Sinap (Turkey) hipparion fauna, and completing a volume on the Rudabanya fauna with Laszlo Kordos and several European and American colleagues. (Daryl Domning, Taseer Hussain, Ray Bernor)

The Johns Hopkins University School of Medicine, Baltimore, Maryland

Ken Rose and Tom Bown have completed their description of a new genus and species of plesiadapiform from the Willwood Formation (Bighorn Basin, Wyoming), which will be published later this summer in *Annals of Carnegie Museum.* The same quarry that produced the plesiadapiform yielded many other exquisite jaws last field season, including an extremely small insectivore, also new, identical to one described by Jonathan Block (University of Michigan) at the 1995 SVP meeting. Ken spent a few days

at Michigan in March collaborating with Jon on these specimens. In February Ken gave a short course at the Denver Museum on mammalian postcranial anatomy, with emphasis on Eocene mammals.

Now that his book with Dave Fastovsky is out (Fastovsky and Weishampel: The Evolution and Extinction of Dinosaurs) and another is to appear imminently (Weishampel and Young: The Dinosaurs of the East Coast), Dave Weishampel is turning his attentions to his work on European island biogeography during the Late Cretaceous and to iguanodontian systematics. Thanks to funding from NGS and the Dinosaur Society, last summer's field research in Transylvania with Dan Grigorescu and students from the University of Bucharest went exceptionally well, as did museum research with Coralia-Maria Jianu of Muzeul Civilizatiei Dacice si Romane Deva. The latter effort included the rediscovery of pterosaur material originally noted but never described by Nopcsa. Asian research, funded by the Hayashibara Museum of Natural Sciences, continued work begun in 1993 with colleagues from Ulan Bator, Okayama, and Beijing. This summer emphasized not only the systematics of sub-euhadrosaurian iguanodontians, including new ornithopod material, but also an extraordinary grouping of neonatal *Protoceratops,* all of which had been collected by the Joint Mongolian Academy-Hayashibara Museum of Natural Sciences paleontological expeditions.

Since returning last September, Dave has been director of the human anatomy course here at Johns Hopkins, a task that has taken a good bit of his time. In the interstices, he has begun collecting archival material for a study he is doing with Cora Jianu on Franz Baron Nopcsa and the emergence of the European school of paleobiology (funded by NSF). Ultimately, Dave and Cora hope that this work will result in a full-length Nopcsa biography.

Maureen O'Leary is defending her thesis on notharctine evolution in early May and has a paper with Mary Maas on enamel microstructure in notharctines appearing soon in *Journal of Human Evolution.* (Mary T. Silcox)

National Museum of Natural History, Washington DC

These have been incredibly hectic times for the NMNH. We have had long furloughs during the past year due to the budget stalemate. We have also been going crazy with two major meetings, SAPE (Society for Avian Paleontology and Evolution) and NAPC, both held here in June. There are many last-minute arrangements to be made and everyone is hustling to get things done in time, including some research. We look forward to see everyone in June and at SVP in October.

Fred Grady has completed work on the Island Ford Cave, Virginia, *Arctodus* site. Most of a skeleton was recovered. Fred is working a small cave in the eastern panhandle of West Virginia which is producing osteoderms and other parts of *Dasypus bellus.*

Ralph Chapman has been very busy with a series of projects, not surprisingly, with a morphometric theme. He presented three talks at DinoFest for himself and his co-authors,

including David Weishampel, Diego Rasskin-Gutman, Jose Luis Sanz, and Jose J. Moratalla. These were on the analysis of shapes of dinosaurs, sexual dimorphism in dinosaurs, and the morphological analysis of tridactyl footprints. He is part of five presentations at NAPC on dinosaur biogeography (with Weishampel), taphonomy (with Alan Cutler and Kay Behrensmeyer), two on trilobite morphometrics with Eugene Hunt and Nigel Hughes, and one on theoretical morphospace concepts. He also will be one of the chairs of the morphospace symposium at NAPC along with Matt Wills and Diego Rasskin-Gutman. Ralph also is presenting a paper at SAPE, again with Weishampel and Rasskin, on doing morphometric analyses on very incomplete data matrices. He also had one paper come out with Nigel Hughes in *Lethaia* on three-dimensional digitization and scanning for use with morphological modeling and the generation of nondestructive casts. This research is being done with a returning research intern, Eugene Hunt, and Diego Rasskin, with additional input from Richard Benson and David Weishampel.

Diego Rasskin-Gutman is now here for a couple of years thanks to a postdoctoral fellowship granted by the Spanish Government. He defended his Ph.D. successfully at the Universidad Autonoma de Madrid, Spain, and is assembling his dissertation research for publication in addition to a bunch of other projects (see above). He will be presenting a paper at NAPC on the pelvic girdle of archosaurs and how it can be studied using morphospace concepts. He also has a paper in press in the next NATO morphometrics volume on his program for morphological modeling and comparison, D'ARCYGRAPH. One major project is with Ralph Chapman, Jose Luis Sanz, and Jose J. Moratalla on analyzing the shapes of tridactyl footprints. The main thrust of his current research is in the three-dimensional modelling of archosaurian pelvic girdles and its relationship with the postcranial skeleton. (Ralph Chapman)

New Jersey State Museum, Trenton NJ

All of us are looking forward to seeing many of you this October on the field trip to New Jersey fossil sites which we are busily preparing for you at the SVP meeting. We hope that while you're just up the line in New York you can stop in and visit our collections, too.

Bill Gallagher and Barbara Grandstaff continue working on the Dinosaur Society grant, some results of which Bill presented at DinoFest in Arizona. Bob Denton also spoke at that meeting. He didn't have far to travel, and he has been working (and visiting outcrops) in Arizona. Dave Parris and Barbara have been examining a Cretaceous turtle (*Adocus*) from the Chronister site in Missouri loaned to us by Buy Darrough. The specimen, largely collected and prepared by Mike Fix, includes shell and nonshell postcranials. The three of us are preparing a poster on the specimen for SVP. Dave's time lately is mostly taken up with the continuing struggle to get the Great Russian Dinosaurs exhibit for the museum this fall. The coin is still in the air on that one at the time of this writing, and none of us have any fingernails left to bite.

Bill Gallagher wishes to announce that his book on New Jersey dinosaurs ("When Dinosaurs Roamed New Jersey") has gone to press. It will be available from Rutgers University Press by the end of the year. (Barbara Grandstaff)

Peabody Museum of Natural History, New Haven CT

Dan Brinkman is presently back in New Haven working on his various research projects on captorhinids, tenontosaurs, and an Oklahoman dromaeosaur; and is giving lectures on the geology of Connecticut for the Peabody Museum's Public Education Division. In September Dan will return to the Oklahoma Museum of Natural History in the capacity of a visiting research associate for the fall semester to finish some of his work there. (Gerry Parisi)

Providence College

C. B. Wood participated in another January field season in the Mesozoic section of the Ethiopian Plateau this year. Many thanks go to Bill Clemens, principle investigator on the project, and to Dr. Kasaye Begashaw, Assefa Tewodros, and all the others in Ethiopia who participated in fieldwork and helped as well to pull us out of a difficult spot or two. The group recovered more late Jurassic/early Cretaceous vertebrates from Blue Nile tributaries, including identifiable dinosaur material. The "difficult spot" came during an excursion to Tigray Province, north of the Blue Nile region. Mark Goodwin received broken bones in a Land Rover roll-over caused by the sudden appearance of domestic animals in the road. Being young and resilient, Mark seems to be on the speedy road to recovery now; but in the desolate stretches of open country in Tigray we were amazed and overwhelmed with the empathy, helpfulness, and efficiency with which everyone acted there to get us back to Addis Ababa so that Mark could fly home and get the treatment that he needed. Of course we are already talking over strategies for mounting the next expedition, especially with regard to who's drivin'!

Back home, Providence College was delighted this spring to have an excellent lecture presented in the Biology Department Speakers Series by Professor A. W. Crompton of Harvard University. The talk was on "Dinosaur Endothermy: A Critique of Jurassic Park." It was very well received by students and faculty alike. (C. B. Wood)

SUNY at Stony Brook

Dave Krause and Cathy Forster are busy planning this summer's field work in the Late Cretaceous of Madagascar. Returning with them this year will be intrepid dinosaur hunter Scott Sampson and stratigrapher Joe Hartman. Also slated to join the crew this summer are Peter Dodson, Ray Rogers, Nancy Stevens, and Pat O'Connor. We are all looking forward to another great field season under the blue Malagasy skies, as well as another seven weeks of rice and beans, bluegrass music, and attempting to speak Malagasy. Nancy will also spend time in Madagascar prior to the field season chasing lemurs through the rain forest.

Work on last year's haul from Madagascar is well underway. Our new titanosaurid sauropod, as well as ample crocodile material, are being swiftly prepared at the Field Museum in Chicago. All small theropod and bird specimens have been prepared at Stony Brook. Virginia Heisey and undergrad assistant Michael Helmuch have done a great job with preparing and organizing these fossils. A description of our first bird specimen (completed with the able help of Luis Chiappe) will appear in *Nature* this spring. Greg Buckley and Chris Brochu are also nearing completion of a manuscript on some of the beautiful Malagasy crocodile material. When not busy with SVP work, Dave Krause can be spotted hunkering over his microscope, chuckling with glee, preparing a manuscript on our new Malagasy mammal fauna. Callum Ross will return to Botswana in June, assisted by Pat O'Connor, to continue tracking down and excavating Pleistocene cave faunas. Callum, Cathy, and Scott continue to work on iguanodontian and sphenodontian material they collected in South Africa last summer (with Billy DeKlerk and Anusuya Chinsamy). Scott, Callum, and Cathy also recently received funding to begin work in the Cretaceous of Zimbabwe. John Hunter is nearing the completion of his dissertation, while continuing a study with Jukka Jernvall and Mikael Fortelius on the evolution of ungulate molar crown types. Rob Asher will join the Carnegie Museum crew this summer in the Washakie Basin. In their spare time, Cathy Forster and Scott Sampson are collaborating on a tome on ceratopsid phylogeny. Spare time? What are we thinking! (Cathy Forster)

Southeast Region

Columbus College, Georgia

Since last report, several Late Cretaceous projects have been either completed or nearly so. A paper on scavenging by species of the selachian genus *Squalicorax* is in press (*Palaios*), coauthored by David Schwimmer, J. D. Stewart, and Dent Williams, scheduled to appear in early '97. Also, a manuscript describing/revising taxonomy of the teleost *Xiphactinus vetus,* with the same authorship, is complete and will (hopefully) be in review by the time this appears.

David spoke on "East-West Late Cretaceous marine vertebrate provincialism: Evidence of biogeography or artifact of parasynchrony?" at the Symposium on Coastal Plain vertebrates at the Geological Society of America meeting in October '95 (abstract is *GSA Abstracts* vol. 27(6):A387). "Parasynchrony" is a coinage meaning things happen at nearly but not quite the same time.

The current focus of work in our laboratory is southeastern Cretaceous crocodiles, especially *Deinosuchus rugosus.* We are finding quite an abundance of new specimens, including a large right jaw from western Georgia, complete from articular to approximately the middentary. This specimen is probably the oldest deinosuchid known (basal Campanian), and the size (fulllength extrapolated to about 1.2 m) and morphology matches and complements a previous right jaw collected from younger strata in western Alabama. The size match implies these were mature individuals (about 10 m overall, extrapolated from *Crocodylus* sp.). The abundance of these very large crocodiles is surprising, but we are beginning to compile evidence that the food web was fed primarily

by marine turtles. Several turtle specimens from the region have been collected with obvious crocodile bite marks.

Serendipitously, a lostthenfound specimen of the toxochelyid *Peritresius ornatus* was rediscovered this past February (lurking in the State Capitol Museum in Atlanta). The first thing evident was a clear crocodile bite mark on the neurals along the elevated keel of the carapace. Another bite mark is less evident on the right fourth and fifth costals. We are planning to pursue the distribution, detailed osteology, and habits of *Deinosuchus rugosus* in the future with aims to find out if the turtlefeeding and population abundance patterns observed locally hold up in other parts of the eastern Coastal Plain. (David Schwimmer)

Florida Museum of Natural History, University of Florida

The rapid rise of a new facility for natural history exhibits and education at the cultural center of the University of Florida has kept curators Dave Webb and Bruce MacFadden busy. Florida's faunal succession will be chronicled by a major new hall that will be completed before the end of the millennium.

The organizing committee for Paleofest96 is already busy planning for this statewide conference on Florida paleontology. This will be held in Gainesville on November 8-9, 1996. Inquiries may be made to our Paleofest email address: paleofest96@flmnh.ufl.edu

During the first quarter of 1996 Bruce MacFadden was busy teaching a new course (for advanced undergraduates and graduate students) entitled "Vertebrate Macroevolution." Bruce also continues his work on carbon isotopes and ancient herbivores. He is working on a paper (with Bruce Shockey) on the Tarija fauna from the Pleistocene of Bolivia as well as another study on latitudinal gradients of C^3/C^4 photosynthesis interpreted from fossil *Equus.* Bruce is also in the beginning stages of planning an online fossil horse exhibit for our museum's www site (http://flmnh.ufl.edu), which already includes a searchable database of portions of our VP collection.

Bruce has accepted two new students to work with him, Jay O'Sullivan, a zoology Ph.D., who will work on heterochrony, isotopes, and dwarfing in fossil Equidae, and Dennis Ruez, a geology M.S., who will work on the rich Irvingtonian Inglis site from Florida.

Dave Webb enjoyed collaborating with two UF graduates, Drs. Richard Hulbert and David Lambert, to produce "Climatic Implications of LargeHerbivore Distributions in the Miocene of North America" in the new book "Paleoclimate and Evolution with Emphasis on Human Origins," edited by Elisabeth Vrba and others, Yale University Press. The Aucilla River Prehistory Project continues to delve and dredge into late Pleistocene sediments. The latest discoveries include antler atlatls, bone fish hooks, and early hearths which are discussed in this year's 32-page issue of the *Aucilla River Times.*

Dr. Webb's new graduate students, Phil DiGirolamo and Bricky Way, returned to a nearby Blancan locality and excavated more giant sloth (*Eremotherium*), turtles, tapir, and alligators.

One of our graduates, Steve Emslie of Western State College in Gunnison, Colorado, returned to the area to conduct field work. Steve and a crew of volunteers and museum staff excavated several early Pleistocene fissure fills in Citrus County. They found enough birds to keep Steve occupied for some time. One of Steve's students from Western State College, Jenna Boyles, uncovered an exceedingly well-preserved skull of *Holmesina* (a large pampatheriid armadillo).

Please note that our area code has changed from 904 to 352. (Bruce Shockey)

Georgia Southern University

Ann Pratt and Richard Hulbert completed their collaborative study of the Pleistocene Isle of Hope site. Actually we ended up expanding the project to include several smaller sites of similar age also from the Savannah region. Combined, they total 99 vertebrate taxa of which 15 are extinct and about threequarters are reported for the first time as fossils from coastal Georgia. A new Pleistocene site has turned up on the Georgia coast, this time on Skidaway Island, less than a kilometer from the famous 1820s "Fossilossa" discovery. While giving us a much better handle on regional stratigraphy and geochronology, vertebrates are scarce at this site. It does have a well-preserved, diverse marine/estuarine molluscan fauna. Multidisciplinary research on this new quarry is planned with GSU palynologist Fred Rich, USGS geologists, and John Wehmiller (University of Delaware).

Several visitors have managed to find their way to Statesboro over the last six months or so. Last fall, Al Saunders (Charleston Museum) and John Geisler (now at AMNH) brought their South Carolina protocetid for a face-to-face encounter with our Georgia specimen. The two proved to be quite distinct, indicating that the diversity of North American protocetid cetaceans is much greater than realized. C. R. Harington (Canadian Museum of Nature) visited us last January, when he and Richard began a joint study of a partial skull of a Pliocene equid collected in 1995 north of the Arctic Circle. Their results will be reported at this year's SVP meeting.

The past year has been a profitable one for Ann in a number of ways. She was promoted to associate professor, won a campuswide research award, and got engaged to fellow biology faculty member Kelly McLain. They will be married this June. (Richard Hulbert).

LSU Museum of Natural Science

Judith Schiebout continues her studies of the Fort Polk Miocene sites from western Louisiana, which now include remains from over 20 species of mammals. She is working on identification of lower vertebrates as well, which is a new emphasis for her. She reported on facets of the project at SVP, GCAGS, the Texas Academy of Science

meeting, and the symposium entitled "Gulf and Atlantic Coast Vertebrate Paleontology, Including Multidisciplinary Approaches to Vertebrate Localities," held on November 9 at the 1995 GSA meetings in New Orleans. This summer, she looks forward to teaching her "Dinosaurs, Catastrophes, and Extinctions" class again. She is also looking into the possibility of using medical imaging techniques on some early Tertiary fossils. Suyin Ting and Butch and Brett Dooley are all also busy on aspects of the Fort Polk Miocene project. Butch has revamped the procedures in the bulk acid and washing lab. Butch and Brett Dooley are proud to announce the arrival of baby Timothy on February 7, 1996. Butch will speak at NAPC in June on his squalodont research.

Suyin Ting (now Dr. Ting) is a Research Associate at the LSU Museum of Natural Science. She has presented at last fall's SVP and submitted for publication in the Carnegie Museum Symposium volume some of the most important conclusions of her dissertation in a paper entitled "Paleocene and early Eocene Land Mammal Ages of Asia." She was host for Dr. Meemann Chang from IVPP, who visited us in April. We really enjoyed showing Dr. Chang our Miocene fish material.

Julia Sankey did field work in Big Bend National Park, Texas, this year over Christmas and Easter. Dr. Schiebout joined her on the Easter trip to orient her to previously collected sites. We enjoyed a brief visit with Barbara Standhardt at Lajitas. Julia is working on some very fossiliferous, carbonatecemented, caliche and limestone pebble conglomerates from the upper Aguja Formation (Late Cretaceous). A new and exciting Judithian fauna is being produced from these "concretelike" rocks by dissolving and screening, including fish, shark, amphibian, lizard, croc, and mammals. Julia is also entering our extensive LSU Museum of Natural Science vertebrate paleontology collection onto a museumwide computer system (using Mac Curator). She has also organized and supervised a mammoth group of volunteers, who last summer prepared a partial mastodon excavated from the grounds of Angola prison. She prepared mini exhibits on the dig for the museum and the prison.

We look forward to the arrival of new graduate student David Hinds from England. He will spend the summer mapping in the Miocene of Fort Polk. (Judith Schiebout)

Midwest Region

Cincinnati Museum of Natural History and Science

Development at the Geier Collections and Research Center continues apace. This year a new paleo prep lab has been constructed, cabinets purchased, and a four-wheel-drive field vehicle acquired through grants from the Dinosaur Society and the Whirlpool Foundation, with generous contributions from Proctor and Gamble Corporation, and several local individuals. The Dinosaur Society grant will facilitate preparation of undescribed material of the basal sauropodomorph, *Thecodontosaurus*.

Ms. Tamaki Sato has set to work preparing her Japanese plesiosaur and expects to have a preliminary description readied by autumn. Ken Ford and Al Holman (MSU) published

in *Michigan Academician* an analysis of the Rancholabrean fishes from the Sheridan Pit. Al Adamson and Fred Moore deserve special praise for their assistance in constructing our lab, and a corps of volunteers is making good progress sorting and cataloguing Sheridan Pit fossils. Glenn Storrs completed four manuscripts of the Mesozoic tetrapod faunas of northern Eurasia (primarily Russia and Mongolia) and the British Rhaetian bone-beds. These will appear in edited volumes by a host of Russian and English workers, primarily in Moscow and Bristol, respectively. He continues numerous projects on Liassic and Late Cretaceous plesiosaurs.

Slightly tangential, the Cincinnati Fossil Festival, celebrating 450 million years of local Ordovician splendor, was a tremendous success. At the Festival, which was organized by Nigel Hughes and sponsored in part by the Paleo Society, hundreds of visitors enjoyed popular talks by professional paleontologists, local collector exhibits, ID tables, and field trips. Even with the IP emphasis, several vertebrates from around the country were brought in for identification, and Bill and Kevin Weichel of Castalia, Ohio, donated several slabs of *Onychodus sigmoides* from the Devonian of the Sandusky area. They found out about our program via our new website (URL: http://www.uc.edu/~storrsgw/) and we thank them.

We also thank Rainer Zangerl for the recent donation of his reprint library, and ask that colleagues send their new papers to us for inclusion in our library.

From 1 May 1996, Cincinnati is the new Midwest regional editorial office for the *SVP News Bulletin*. All Midwest institutions are asked to direct their news to Glenn Storrs, Cincinnati Museum of Natural History and Science, Geier Collections and Research Center, 1720 Gilbert Avenue, Cincinnati, OH 45202-1401. For the next issue, please have your contributions to us by 31 July. (Glenn Storrs)

Illinois State Museum

Russ Graham has been busy writing this winter. He completed a manuscript on "Spatial response of mammals to Quaternary climate change" which will be published as part of a NATO workshop on Past and Future Rapid Environmental Changes: The Spatial and Evolutionary Responses of Terrestrial Biota. Paul Parmalee and Russ have submitted a manuscript on "Additional records of the giant beaver (*Castoroides*) from the midsouth: Alabama, Tennessee, and South Carolina" in which they include a description of a skull of *Castoroides leiseyensis*. Russ has submitted a manuscript on "Paleoecology and taphonomy of the first record of caribou from Missouri" to *Quaternary Research*. The FAUNMAP Working Group will publish a quantitative analysis of the FAUNMAP database ("Spatial response of mammals to Quaternary environmental fluctuations") in *Science*. Russ, Jim Farlow, and Jim Vandike have published a description of *Panthera atrox* tracks in a Missouri cave in "Paleoecology and Paleoenvironments of Late Cenozoic Mammals-Tributes to the Career of C. S. (Rufus) Churcher." Russ extends a hearty congratulations of Kathy Stewart and Kevin Seymour for editing this outstanding volume and wishes the best to Rufus in his "retirement."

Tom Stafford, Holmes Semken, and Russ have been working on several manuscripts on dating the contemporaneity of allopatric species (today) in nonanalog late Pleistocene mammal faunas. They, along with Walter Klippel, hope to submit one manuscript to *Nature* soon.

This summer Russ will be moving to Denver to assume the position of Curator and Head of Earth Sciences at the Denver Museum of Natural History. After 18 years at the Illinois State Museum, it will be hard to leave colleagues and friends, but Russ and his family are looking forward to new challenges and opportunities in Denver. Russ will complete analyses and write-ups of his research in the Midwest, but he will start new field projects, and actually pick up on old ones, next year in the western US. (Russ Graham)

Michigan State University

Al Holman received a contract from the Oxford University Press to do a book entitled "Pleistocene Amphibians and Reptiles in Britain and Europe." It will be a companion volume to the book "Pleistocene Amphibians and Reptiles in North America" that is currently available through the Oxford University Press, New York.

Holman will go on "consultantship year" starting August 1, 1996, and will officially retire from Michigan State University on July 31, 1997. A search for Holman's replacement will begin in the spring of 1997, hopefully to have the new VP person here by fall term 1997. Announcements should be forthcoming in the fall of 1996. Holman will maintain an office for research at MSU and may be a member, but not a chairperson of graduate committees.

There is nothing new to report about graduate students here as all work appears to be proceeding rather slowly. All are engaged in the same projects as have been previously reported in the *SVP News Bulletin*. (Al Holman)

Ohio University

Ohio University made a (perhaps unwitting) commitment to vertebrate paleontology in the fall of 1995 when they hired three new permanent faculty-Bob Carr, Ron Heinrich, and Larry Witmer-all of whom have primary research interests in VP. Although Ohio lost Jeff Thomason a few years ago to Guelph, these three joined a diverse faculty that still was very strong in not just organismal biology and softrock geology, but also VP. For example, Audrone Biknevicius, in conjunction with her biomechanical analyses of extant vertebrates, has worked on extinct mammalian carnivores (creodonts, dire wolves, sabertooth cats), Paleogene primates, as well as her recent projects described below. Furthermore, Joe Eastman, whose major research is on the evolutionary morphology of extant Antarctic notothenioid fishes, has published with Lance Grande (Field Museum) on fossil Antarctic fishes, and Scott Moody has published on Cretaceous lizards from Mongolia. The geology and botany departments are also paleontologically oriented, with Royal Mapes (Geology, Chair) working on ammonoids and nautiloids, Greg Nadon (Geology) working on the geology of fluvial systems and dinosaur trackways with Martin

Lockley, Gar Rothwell (Botany) working on reconstructing whole plant fossils for use in systematic studies, and Gene Mapes (Botany) working on Upper Paleozoic conifers. Ohio also has a diverse group of organismal functional morphologists and ecologists, including Steve Reilly, Willem Roosenburg, and Don Miles. Finally, Ohio University should be considered an exciting place to do graduate studies (both M.S. and Ph.D.), with good funding and training through an interesting variety of teaching assistantships and a stimulating intellectual environment. So much for the brochure. On to news of members.

Audrone Biknevicius has been dividing her research time between two fields: functional morphology of the masticatory apparatus in carnivorans and locomotor biodynamics in tetrapods. Her paper (coauthored with Blaire Van Valkenburgh at UCLA and Jeff Walker at FMNH) on incisor form and function in sabertooth cats and living carnivorans has been accepted in *JVP* and should be out soon. The study continues, however, with an analysis of differential lengths of the anterior dentition and their functional significance in carnivorans. Her fascination with giant rodents continues with a study of the ecomorphology of the Pleistocene giant beaver, *Casteroides ohioensis* (together with mammalogist Jerry Svendsen at Ohio U.). But most of Audrone's ongoing studies focus on growth and development of the facial and appendicular skeleton of carnivores, work in collaboration with Mark Spencer (Duke U.) and our own Ron Heinrich. Finally, for a refreshing change from mammals, Audrone will be "running" terrestrial and aquatic turtles on her forceplate this summer.

Bob Carr is continuing his field work in Michigan evaluating the intra and interbasinal patterns of gnathostome diversity in the Middle and Late Devonian. He is still teaching "Geology and Paleontology of Michigan: A Field Course Exploring the Natural Environment," a continuing education course offered through Wayne State University. A similar course is in planning for the geology of Ohio. Bob's work on placoderm diversification continues, and he recently published papers in *Bulletin de le Museum d'Histoire Naturelle de Paris* (1995), *Geobios, Special Memoir* (1995, vol. 19; 2 papers, one with W. J. Hlavin), and *Kirtlandia* (1996).

Ron Heinrich, with the completion of a fairly detailed analysis on the postcranial morphology of the early Eocene carnivorans *Vulpavus* and *Didymictis* (coauthored with Ken Rose), has turned his attention to the systematic relationships of early Tertiary miacids. An analysis attempting to sort out the phylogenetic position of " *Miacis* " *jepseni* is in review, and a larger more detailed analysis of the Bighorn and Clark's Fork Basin miacid material is in the works.

Larry Witmer has been involved in a varied group of projects, not least of which involved setting up his lab and developing new anatomy curriculum for the medical school. In the meantime, he's been preparing the revisions and final illustrations for his *SVP Memoir* on archosaur facial evolution. He submitted an NSF proposal (with Scott Sampson of NYCOM) in January that, if funded, will involve a lot of work on the narial regions of dinosaurs and a variety of extant vertebrates. Larry also has been working on his chapters (origin of birds, origin of flight, skull evolution) for the Chiappe/Witmer-edited volume on Mesozoic birds. Finally, with Des Maxwell (also of NYCOM), Larry has been

working on a very exciting project on the skull of *Deinonychus* based on all of the known material, which we hope will be ready for submission by summer's end (illustration always seems to be the ratelimiting step). With regard to students, Mike Papp is beginning a master's thesis project in the geology department, working with Larry on aspects of skull mechanics in ceratopsid dinosaurs. Furthermore, we're pleased to report that Thomas Carr, fresh from completing a master's under Hans Sues in Toronto, will join the doctoral program here at Ohio in the fall of 1996; Thomas plans on continuing his research on tyrannosaurid theropod dinosaurs. (Larry Witmer)

University of Chicago

Jim Hopson reports that his paper with Guillermo Rougier and John Wible on the ear region of the triconodontid *Piracodon fruitaensis* should shortly be in press in *American Museum Novitates*. Jim is now preparing a redescription of the skull of the Paleocene multituberculate *Ptilodus montanus,* based on the material described by Simpson in 1937. Reinterpretation of *Ptilodus* skull morphology is now possible due to new preparation of the original material aided by a great increase of our understanding of multituberculate skull morphology from Chinese and Mongolian taeniolabidoids.

Eric Lombard and John Bolt (FMNH) were pleased to see the description of *Whatcheeria* come out in *Palaeontology*. This is the first of at least four new early tetrapod taxa from the Mississippian of Iowa and Illinois that have been under preparation. Eric and John will host Jenny Clack (Cambridge), along with graduate students Brad Wright and Robin O'Keefe, on a field trip to the Illinois site in June. A previous trip last spring turned up only the lungfish *Tranodis* (boo, hiss) but surely that difficult-to-reach exposure unquarried on previous trips, will produce the best finds of all. After the field trip, Eric, John, and Jenny will spend a week on detailed planning to further the WWW site for Paleozoic tetrapod fossils, PRESERVE. Next up is complete reprogramming of the interface and enhanced functionality along with acquisition of all the data currently in the literature.

With *Deltadromeus* and *Carcharodontosaurus* described in a report in *Science,* Paul Sereno and team (graduate students Jeff Wilson, Hans Larsson, and Chris Sidor; David Varricchio; French colleague Didier Dutheil; and Moroccan colleague Mohamed Iaraochene) now begin work on other dinosaur remains from Morocco, microfossils, and the stratigraphy of the Kem Kem region. A monograph on *Eoraptor* with Argentine colleagues Ricardo Martinez and Oscar Alcober is now submitted to the *Journal of Vertebrate Paleontology*. Paul and his field team will join Ricardo and Oscar this fall to work in Late Cretaceous beds in northern Patagonia (Mendoza) in hopes of continuing their success at populating southern continents with new dinosaurs.

Rick Blob has finally gotten some papers into press-one with Tony Fiorillo on microfossil taphonomy which will appear in *Paleobiology* in the fall, and another on hydrodynamic sorting of nonmammalian skeletons which will come out in *Palaios* next year. He'll be spending the next few months wrestling with alligators for the experimental portion of his thesis on therapsid locomotion and posture.

Matt Carrano is working on his thesis, an attempt to discern relative locomotor biomechanics and abilities in birds, mammals, and dinosaurs. He will be visiting the fossil collections of several museums in Argentina and Europe over the coming months, but is first concentrating on understanding the limb mechanics of extant animals. He and Rick Blob have been continuing to pick through several tons of sediment collected in 1994 from the Judith River Formation, with that work finally turning to identification and tallying of the various microfossil specimens. The generous assistance of volunteers from the Field Museum have speeded this task, just in time for a return to the JRF this summer to collect a few hundred more pounds. The mammalian fauna has proven interesting, with the notable presence of at least two Campanian "cimolestoid" taxa in a sample of only modest size.

Darin Croft has just finished describing a cave deposit fauna, probably of Late Pleistocene age, from Copan, Honduras. Most of the small mammals occur today in Honduras, although the studies of the shrew material he is undertaking with Neal Woodman suggest the presence of a possibly undescribed species or subspecies of *Cryptotis*. The age of the material has still not been determined. The fauna and bone preservation are suggestive of owl pellet deposition.

Hans Larsson has completed the initial phase of his dissertation. This involves a cladistic analysis of all extant alligatorid species and the correlation of dermatocranial character ontogenies in *Alligator mississippiensis* with the first appearances of these characters within alligatorid, crocodylomorphan, and, finally, crurotarsan phylogeny. Hans plans to present his work of the remarkable braincase anatomy of *Carcharodontosaurus saharicus* at this year's SVP meeting.

Laura Panko is the happy recipient of a Sigma Xi Grant-in-Aid of Research and an NSF Doctoral Dissertation Improvement Grant. In February, she traveled to Arizona to study the synapsid fossils of the "Great Russian Dinosaurs" exhibit at the Mesa Southwest Museum. She is currently collecting data on vertebral morphology from the Field Museum collections, and is also building an apparatus to test the mechanical properties of intact intervertebral joints.

Chris Sidor's prelim project, initially concerning only caseid pelycosaurs, has grown to encompass a phylogenetic analysis of all Permo-Carboniferous genera of "pelycosaur-grade" synapsids. He plans to present these results at the SVP meeting in New York. Along with Jim Hopson, the reevaluation of Olson's prototherapsids from the San Angelo Formation of Texas should be completed by the end of this summer. Despite his apparent synapsidaphilia, Chris remains undecided on a dissertation topic.

Jeff Wilson and Paul Sereno are completing work on their monograph on the basal relationships of sauropod dinosaurs. Jeff's thesis will build on this project and explore the lower-level relationships and evolution of sauropod dinosaurs. After a short field season in South America this August, Jeff will travel to Europe and Asia to study sauropod collections and add to a growing database of phylogenetic characters for his thesis project. Currently, he is comparing new material on the sauropod *Amphicoellas* from

Montana with other Morrison sauropods in eastern US museums as part of a project sponsored by the American Museum and the University of Chicago Hinds Fund. (Jim Hopson).

University of Kansas

The Institute for Tertiary-Quarternary Studies Symposium was held at the end of February in Lawrence. It was quite successful, and ceremonies included the first presentation of the Schultz-Othmer medal, named in honor of Bertrand Schultz and Marian Othmer for their contributions to our understanding of the Cenozoic and the establishment of TER-QUA. The honoree was Dr. Grant Kocharov, head of the Astrophysical Department of the Russian Academy of Sciences, who was recognized for his pioneering work in paleoastrophysics.

This summer, Craig Sundell will be in Wyoming and South Dakota continuing studies of Oligocene mammal burrows and rodent longevity as evidenced by cheek tooth wear. A trip to Florissant, Colorado, to collect Chadronian plants and insects is also planned. Chris Fielitz has been working on a morphometric study of *Enchodus palatines* of North America and is planning on doing field work in the Niobrara Chalk of western Kansas this summer.

Larry Martin, Alan Feduccia, Zonghe Zhou, and Lianhai Hou continue their collaboration on early bird evolution and have new support for a basic dichotomy in Mesozoic birds. They intend to report on Mesozoic birds from China at the SAPE Meetings in Washington, D.C., in June. Larry Martin and Virginia Naples are deep into the functional morphology of saber-toothed carnivores and the interative evolution of ecomorphs. There seems to be a surge in public interest in these animals and plenty of new information to maintain it. Larry is looking for new *Eusmilus* material this summer and would like to hear of any skeletal material that might be available. (T. J. Meehan)

University of Michigan, Museum of Paleontology

Bill Sanders recently presented a paper at the American Association of Physical Anthropology meetings on the functional morphology of the lower spine in australopithecines and plans to study new australopithecine vertebral material in South Africa later this year. Bill is currently working on proboscidean fossils from the Sinap Formation, Turkey, and will present his results in a volume edited by J. Kappelman, M. Fortelius, and B. Alpagut on the paleontology and geology of that region. Bill also reports that work continues on a vast amount of new fossil archaeocete material from Pakistan-part of Phil Gingerich's "whale-of-the-week" club. Phil has recovered from the initial shock of the arrival of his and Holly Smith's twin boys and is now coming back up to speed on research.

Jennifer Moerman continues her work on reconstructing and mounting a complete skeleton of the archaeocete whale *Dorudon* for the UM Exhibit Museum. A reconstruction and mounting of a group of *Sinonyx* (Chinese mesonychids) is well

underway also. We are grateful for the help Dr. Bill Lunk, retired former director of the Exhibit Museum, has provided on this project. Two of our lab assistants, Jason Anderson and Laurie Stein, will be leaving for greener pastures in the near future and we wish them both well. Jason will begin his graduate career at McGill University in the fall and Laurie will be moving to Los Angeles in search of an exhibit preparator position.

Mark Uhen successfully defended his thesis on archaeocetes from Egypt in early April. Mark, along with Will Clyde and Jonathon Bloch will travel to Louisiana later this month in search of protocetid whales. Will continues to sort out the McCullough Peaks vertebrate faunas from the Bighorn Basin in Wyoming. Will's summer will be spent teaching geology field camp at UM's Camp Davis near Jackson Hole. Jon has completed a manuscript on carpolestid phylogeny and continues to work on tiny insectivores from the Clarks Fork Basin with Ken Rose.

Gregg Gunnell has spent the winter trying to sort out "Bridger A" mammals and a manuscript is nearly finished on the results of this work. Gregg was the juniorest of junior authors on a paper (co-authored with Hezy Shoshani, Colin Groves, and Elwyn Simons) concerning primate phylogeny recently published in a special issue of *Molecular Phylogenetics and Evolution* honoring Morris Goodman. Gregg continues to work on a paper dealing with anthropoid origins and is contemplating an attempt at figuring out the mess that is Bridgerian miacid carnivores. Hopefully, this summer's field work at Oregon Buttes and Fossil Butte with Bill Bartels will bring him to his senses and he will leave those carnivores alone. Gregg also is continuing to work on the Kazakhstan faunas collected last fall from the Aral Sea region. Papers co-authored with Elena Kordikova, Yuri Kovrizhnykh, and David Polly are in preparation. (Gregg F. Gunnell)

University of South Dakota

Tim Heaton received a research grant from the National Geographic Society and will be conducting several excavations on Prince of Wales Island with the help of Fred Grady and others during June and July. The focus of the research has moved from the early postglacial cave deposits to those that date to the peak of late Wisconsin glaciation and before. Recent fossil discoveries suggest that the islands of southeast Alaska were not completely glaciated, but that coastal refugia were home to bears and perhaps other terrestrial mammals throughout the Wisconsin glaciation. Genetic studies on living brown bears of the Alexander Archipelago also suggest this. This work is of special interest to archaeologists such as Jim Dixon who are interested in the possibility that humans may have entered North America by the coastal route rather than through the ice-free corridor.

Gary Johnson has been busy with administrative duties and also with seeking funds to conduct field work in China. Our earth science program was threatened this year by state budget cuts, and our department lost a faculty position and part of its support staff. (Timothy H. Heaton)

Southwest Region

Department of Geology and the Quaternary Studies Program, Northern Arizona University

Larry Agenbroad is busy on his spring semester sabbatical leave. Numerous "typical-sized" and "pygmysized" mammoths are being found and recovered on Santa Rosa Island of the California Channel Islands. When he returns, Larry should have much more news for all. Larry was on TV as part of the show "Mammoths," which aired on The Learning Channel as part of the program PaleoWorld. This May 19-22 the American Quaternary Association biannual meeting is being held at our institution. Dave Elliott is on a teaching exchange in England.

Chris Bell (University of California, Berkeley), Jim Mead, and Les Fay published their Neogene history and osteology of the legless lizard *Anniella* in *Copeia,* 1995(3). Jim and Chris are continuing to work on various Miocene, Pliocene, and Pleistocene herp faunas from the arid west in addition to continued work on the Cathedral Cave fauna from Nevada. Work is continuing by Jim on early bovids. Jim and Fred Grady (Smithsonian Institution) **finally** got their article out: " *Ochotona* (Lagomorpha) from late Quaternary cave deposits in eastern North America"; *Quaternary Research,* 45. Jim and graduate students Blaine Schubert and Larry Coats are continuing the exploratory work for faunal remains in Kartchner Caverns-now part of the Arizona State Parks system east of Tucson.

Blaine is continuing his thesis on the Rancholabrean mammals from Little Beaver Cave, Missouri (with help from Russ Graham); completion is set for fall semester. Blaine and Jim will work on the herps and mollusks from the cave this summer. Al Pajak will complete his thesis next fall on the Irvingtonian fauna from Temecula, California. Larry Coats will complete his thesis in the fall about the flora and fauna from caves in remote portions of the Grand Canyon. Marla Spry will continue to work on her thesis about mammals from an Alabama cave. Cathy Adams will probably work on the Rancholabrean canids from Snake Creek Burial Cave, Nevada, for her thesis. New students are active: Chris Jass will work on the packrat middens from the Black Hills, South Dakota (with help from the Mammoth Site, Hot Springs); Joni Osterhaudt will work with the lagomorphs from Snake Burial Cave. (Jim I. Mead)

Vertebrate Paleontology Lab, University of Texas, Austin

Ernest Lundelius continues to work on Pleistocene faunas from Texas. Ernie, Russ Graham, and the FAUNMAP working group have a paper in press dealing with the faunal changes from the Pleistocene through the Holocene using the FAUNMAP database. Ernie also is collaborating with Ken Aplin and Alex Baynes of the Western Australian Museum on some Pliocene or Pleistocene faunas from fissure fills on Barrow Island. Work also continues on the faunas from Madura Cave in Western Australia.

Wann Langston feels overworked. He and Sam Welles are working on a detailed description of the braincase of *Acrocanthosaurus*. A paper with Tom Lehman on the stratigraphy, habitat, and behavior of *Quetzalcoatlus* is on track for a poster at the SVP pterosaur symposium in New York. A description of the axial skeleton of *Quetzalcoatlus*

awaits completion of illustrations by Mike Nichol in Lubbock. An account of the skull and jaw of *Quetzalcoatlus* with senior author Alex Kellner is in press with *JVP* -due out this summer. Also expected off the press possibly this year is a paper on Miocene crocodilians (mainly *Gryposuchus*) from Colombia, with Zulma Gasparini. The long-awaited chapter on the Paleocene dryosaur *Rhabdognathus* from Saudi Arabia (*USGS Bulletin* 2093f) has now appeared and reprints will be mailed in due course.

The Windows version of Tim Rowe's CDROM entitled " *Thrinaxodon* : Digital Atlas of the Skull" was released in December by the University of Texas Press. This software requires a 80386 or higher PC, a mouse or other pointing device, a CDROM drive, and Windows 3.x. Parts of the disk (the animations and a serial section tutorial guide to *Thrinaxodon*) also can be run on any Mac II (or higher) computer with a CDROM drive. The disk sells for about $35 and all royalties go to the Vertebrate Paleontology Lab's endowment fund.

Tim also is very happy to announce that we have been successful in securing funding for a highresolution Xray CT scanner, which will be installed in the Department of Geological Sciences at the University of Texas sometime in 1996. The scanner will be designed with small specimens in mind and is expected to be able to achieve two orders of magnitude finer resolution than conventional medical scanners. Once the machine is operational, a cost schedule will be developed to make scanner time available to the earth science community at large, at a reasonable rate. We also are working to establish an electronic publication channel for fossil vertebrates, built along the lines of our prototype CDROM on *Thrinaxodon*.

On the collection management front, Melissa Winans has been hard at work on a major revamping of the lab's computer system. This fall, a very generous grant from the dean of the College of Natural Sciences funded the installation of hardware and wiring for a VP Lab LAN, with direct access to Internet, and we now are working on finding funds to upgrade the lab's computer hardware and software to to meet the increased speed and storage demands of the network. All of the lab's databases were moved to the LAN from their former mainframe home, and Melissa is in the process of restructuring them and recreating screens, menus, and procedures in the new database language. The lab now has a World Wide Web address (http://www.utexas.edu/research/vprl), and plans for the future include a direct connection to the specimen and site databases for searching and browsing.

Chris Brochu spent much of the summer of 1995, as well as this past January, staring at crocodilians in museums in the US, Canada, Germany, Sweden, Belgium, England, and France. He encountered nothing but kindness and courtesy everywhere he went; in return, he can only hope he didn't damage too many holotypes. He also obtained highresolution CT images for three modern crocs and one Cretaceous relative; pulling information from them is like sipping from a fire hose, but they're answering many questions. Writing is going slowly, but he anticipates being done and defended by the beginning of the fall.

Mary Stewart Miller is working on a description of the squamates from the Terlingua Local Fauna (upper Cretaceous of West Texas), which appear to include taxa that are different from those found at the same time in areas north of Texas (i.e., San Juan Basin, Wyoming, Montana, Alberta).

Pamela Owen continues her research on the phylogeny of badgers and the evolution of the "badger ecomorph." She is currently an assistant instructor in the Department of Geological Sciences, lecturing for the physical geology course. Pamela and Chris Sagebiel had the distinct pleasure of butchering a deceased black rhino at the Gladys Porter Zoo. They found this to be an effective way to cut down on their red meat consumption (at least for a few weeks)!

Chris Sagebiel is studying the Rancholabrean mammalian fauna from Zesch Cave, Mason County, Texas. In March he presented a preliminary report on this work to the South Central Section meeting of the GSA. (Melissa C. Winans)

Rocky Mountain Region

Denver Museum of Natural History

Russell Graham has been chosen to be the new department head of earth sciences and curator of vertebrate paleontology. He is leaving his position at the Illinois State Museum and will begin in July. We are pleased to have him join us and look forward to the ways his experience and interests will shape the future of this department.

The field season is fast upon us and will take us all in different directions. Bryan Small is working on a Triassic locality in Eagle County, Colorado. Ken Carpenter will be back in Canyon City, and will also teach this year's field collections course in the Piceance Basin (both in Colorado). Logan Ivy and Richard Stucky will be in Badlands National Park, South Dakota. Richard also hopes to continue his work in the Bridger Basin, Wyoming. And Lisa Torick will be working in Pawnee National Grasslands as part of a grant from the National Forest Service. (Lisa Torick)

Garden Park Paleontology Society, Cañon City, Colorado

The Society has been very busy keeping the Dinosaur Depot up and running for the year and is now gearing up for the summer tourist season. At this point we have about 40 active volunteers and four full- and part-time staff. Progress on the *Stegosaurus* discovered in 1992 continues and another Jurassic mammal jaw fragment has been found in the micro site contained within the dinosaur body jacket. A Jurassic turtle specimen, found in the Garden Park Fossil Area in the 1950s is on loan to us for a one-year period from the Cleveland Museum of Natural History. Work also continues on our historic research and archives and additional books are being acquired for the library. Soon to be released by the Society is a book by Kenneth Carpenter about the "Dinosaurs of Garden Park" and this will be available in our educational store. If you are interested in additional information about any of the above, you may now call us toll free at 1-800-987-6379.

Beginning May 15, we will be open seven days a week through mid-September. We may also be reached at Dinosaur Depot, 330 Royal Gorge Boulevard, Cañon City CO 81212. (Pat Monaco)

Hagerman Fossil Beds National Monument, Idaho

Preparation continues on our peccary blocks (*Platygonus pearcei*) collected at the end of last summer. At least one associated skull and jaw is present plus lots of postcranials. So far it looks like at least three individuals were present in the original accumulation.

Chris Force has been doing some work outside of Hagerman. Part of his outside activities include a trip to South Dakota to work with Rachel Benton at Badlands on some mitigation work related to road construction. As you can imagine a few fossils showed up. Back in Idaho, during a survey for Craters of the Moon, one of Chris' field crew discovered mammoth bones in an old dump! At first, we thought they may have been discarded there, but the number of bones found suggests that we may have a specimen in situ. We plan to visit the site this June and conduct a preliminary excavation to determine if the dump mammoth represents a primary or secondary depositional event.

Not to be outdone in the traveling department, Greg McDonald made a trip to Oregon Caves National Monument to check out reports of bones in various passageways. Bears had been previously reported from the cave and both grizzly and black bear showed up. A sample of grizzly was submitted for dating and came back with an age of greater than 46,000 BP. This was totally unexpected and the question is: is it really grizzly or a really big black bear? More work is needed to settle this question. However, the big find of the trip was a complete jaguar skeleton. Parts of the skeleton were removed to confirm its identification (courtesy of Kevin Seymour) and plans are underway for a return visit to complete its documentation and excavation. Lots of small animal bone is also present so it looks like this may turn into a major project.

On the international front, Hagerman Fossil Beds was recently awarded a grant from the American Association of Museums to support an exchange with the Goeldi Museum in Belem, Brazil. During the month of May we will be hosting Antonio Soares and then later Greg McDonald will spend a month at Belem. The goal of the project is to develop different interpretive materials on the Great American Biotic Interchange related to Hagerman and the Amazonian Basin. Bet you didn't realize that Hagerman had so much in common with the Amazonian rain forest. (Greg McDonald)

Museum of the Rockies, Montana State University, Bozeman

Jack Horner has been researching numerous new discoveries of dinosaurs, dinosaur babies, dinosaur eggs, and nests. Jack's field work this year will encompass the entire Cretaceous from top to bottom with plans to concentrate more in the Hell Creek and Two Medicine formations.

Pat Leiggi is close to finishing a design project for a new research and collections wing at the MOR. The project is being conducted in collaboration with the US Army Corps of Engineers. Pat and Peter May continue to work on volume two of "Vertebrate Paleontological Techniques," (Cambridge). Pat will be conducting a survey for the US Fish and Wildlife Service over the summer. He has obviously been busy with killing HR 2943, the Johnson commercially-oriented fossil bill.

In December 1995, Bob Harmon completed the preparation, molding, and casting of "Big Al," the *Allosaurus* skeleton recovered from BLM (public) lands by MOR in 1991. Bob also mounted a cast skeleton for the University of Wyoming Geological Museum where it now stands on display. Bob is currently preparing sauropod material collected from a quarry adjacent to Big Al.

Carrie Ancell continues to prepare specimens from various quarries. She has been playing catch up by going through a backlog of unprepared material from previous years that includes some embryonic specimens from Egg Mountain. When time permits, she has been assisting Bob in molding and casting a variety of specimens.

Ellen Lamm has been working in the histology laboratory preparing thin sections of an *Allosaurus* growth series of specimens collected from the Cleveland Lloyd Quarry. All of these elements are being studied by Paul Bybee, a Ph.D. candidate at BYU. Ellen has also been working on a number of smaller histology projects that include *Coelophysis,* moas, alligator (extant), a Pleistocene alligator, and multituberculates.

Pat Druckenmiller is currently studying a short-necked plesiosaur and associated vertebrates from the early Cretaceous Thermopolis Shale of south-central Montana as part of his master's degree. Little is known of early Cretaceous marine vertebrates, and it is hoped that this research will shed light on vertebrate distributions during the earliest expansions of the Cretaceous Interior Seaway.

Yoshi Katsura traveled to major museums and universities in the US and Canada last fall and early this year to study champsosaur material. His examination of numerous specimens yielded enough data for his study, ontogeny, and sexual dimorphism of champsosaur limb bones. He plans to present his findings at SVP in New York. Yoshi would like to thank everyone at the institutions he visited for their warm hospitality and for the use of their collections.

Rebecca Laws is currently working toward the completion of a master's in earth sciencees (geology) degree at Montana State University-Bozeman. Her thesis is entitled "Paleopathological analysis of a sub-adult *Allosaurus fragilis* (MOR 693) from Big Horn County, Wyoming." Affected skeletal elements include five dorsal ribs, dorsal vertebra 3, gastralia, scapula, manus phalanx I-1, pes phalanx III-1, metatarsal V, metatarsal III, pes ungal, and ilium. The study will provide a description and interpretation of the 14 pathologic skeletal elements in the subadult known as "Big Al," a reference chart of pathologic allosaur bone morphology, and a better understanding of how allosaur bones reacted to infection, disease, and trauma. Rebecca is also working with Steve Hasiotis on

a taphonomic evaluation of traces present on several bones of the skeleton, and with Des Maxwell on a description and interpretation of some pathologic *Deinonychus antirrhopus* elements.

MSU master's student Beverly Eschberger has been working on normal endochondral bone growth in the ostrich. She is currently preparing thin sections for histological analysis. The purpose of the research is to establish the manner in which bone growth occurs in the ostrich, with the intention that this information may be used as a model for bone growth in bipedal dinosaurs. Beverly is also examining the gross morphological and histological effects on bone in chickens fed a lysine-deficient diet in a separate study. The purpose of this study is to gain a better understanding of the role of lysine in bone growth.

Kristi Curry's time has been spent mostly in the histology lab working on a sauropod ontohistogenetic series to determine osteogenic patterns in the diplodocids. Sections have been made from nine bones, all of variable juvenile ontogenetic stages. Scapulae, radii, and ulnae were embedded, sectioned, and examined histologically. It appears that sauropods grew similarly to modern ungulates, which is more interesting when considering the huge sizes they attained during their adult life. Kristi spent the majority of the winter break in Paris with Armand deRicqles learning bone histology. She plans to finish up her histology work and prepare some adult sauropod material to determine the upper limit of osteogenic features. Excavation of a sauropod bonebed that was opened last summer will resume this year.

Frankie Jackson took on several illustration projects this spring, including a Dinosaur Society grant to draw the hypsilophodon and *Zephryosaurus* material for Rod Sheetz's thesis. She is also drawing Pleistocene mammals for MOR archaeologists. She is currently working on a paper with David Varricchio on dinosaur eggs and nests.

Rod Sheetz is finishing up a paper on *Zephryosaurus* and continues to work on the description of *Orodromeus makelai* for his dissertation. Rod plans to finish and defend his dissertation next fall. (Paleontology Staff and Students)

Sheridan College

This has been a busy spring season, 1996. Work continues on the remodelling of our fossil prep lab; new air venting/dust collection system, and more space.

The northern Powder River Basin and northeastern Big Horn Basin continue to provide exciting new vertebrate paleontological material. Of foremost importance, a partial skeleton of a *Ceratosaurus* was located at the close of the 1995 field season from the upper Morrison Formation east of the Big Horn Mountains. Mike Flynn is nearing completion of his inventory of fossil localities along the western Powder River Basin, and with student help continues biostratigraphic and paleogeographic research within the Cloverly and Morrison formations, northern Big Horn Basin. Pete Wilson, Dan Olson,

and Sueann Ecerhart continue to locate, excavate, and examine vertebrate faunas spanning the K-T boundary in the Hell Creek Formation of southeastern Montana.

Mike will continue to supervise mapping and maintian the new Global Positioning System interfaced with Geographical Informational System in the updating of fossil localities within the Hell Creek Formation of southeastern Montana, and the Cloverly and Morrison formations of northern Wyoming and southern Montana. The new mapping/cataloguing data collection system offers the field paleontologist a complete GIS data collection solution from planning, through output-location site maps (downloading/field laptop) to your GIS (Arc/Info or AutoCAD). Saves hundreds of field hours in the developing of a mapping database for field sites. (Mike Flynn)

University of Wyoming, Geological Museum and Department of Geology and Geophysics

Jay Lillegraven reports that his sabbatical leave, dedicated principally to geology and paleontology of the Hanna Basin, has been successful-scarred only by locally induced administrative bloodletting. He presented the annual Dorr Lecture at The University of Michigan in March, and participated in the symposium on High Plains/Rocky Mountain stratigraphy associated with the Rocky Mountain GSA meeting in April. Jay oversaw completion of Jaelyn Eberle's dissertation (on the Puercan of the Hanna Basin) and Ross Secord's thesis (on mammalian faunas of the Carbon Basin). Anton Wroblewski's thesis (on lower vertebrates of the Cretaceous/

Paleocene Ferris Formation) awaits scrutiny. In his spare time, Jay has been reevaluating *Ankylodon* 's role in insectivore phylogeny, with Malcolm McKenna. Jay will be co-leading (with structural geologist Arthur W. Snoke) an extended GSA field trip (prior to the national meeting in Denver, and after SVP) to the northern Hanna Basin and adjacent uplands. Those interested in the interplay of vertebrate-based biostratigraphy and tectonics in the heart of the Rocky Mountain belt of Laramide-style deformation might like to join us on this trip (October 24-27). We welcome John Burris to Wyoming as a new student in VP, from Miami University of Ohio.

In April of this year, Jaelyn Eberle successfully defended her dissertation, entitled "Lancian and Puercan mammalian biostratigraphy, systematics, and evolution in the western Hanna Basin, south-central Wyoming," and graduates this spring with a Ph.D. in geology. In June, Jaelyn will be moving to Houston with her husband David Taylor, who accepted employment with Chevron.

Both Jaelyn and Anton presented papers at this year's Rocky Mountain Section GSA meeting in Rapid City, South Dakota. Jaelyn's presentation, entitled "Mammalian biostratigraphy as a means of calculating earliest Paleocene rates of sedimentation and basin subsidence in the western Hanna Basin, Wyoming," was awarded best student paper in paleontology at the Rapid City meeting. Anton was second author on this paper.

As Jay Lillegraven's sabbatical replacement, Jaelyn thoroughly enjoyed teaching "Principles of Paleontology" at UW during the spring semester.

Ross Secord successfully defended his thesis in March and will graduate this May. Ross also gave a rousing presentation at the Rocky Mountain GSA meeting in Rapid City in April on the Paleocene mammalian biostratigraphy of the Carbon Basin, and its importance to the tectonic history of the Carbon and Hanna basins.

Anton Wroblewski *finally* finished typing his master's thesis in March and will defend in the fall. Several papers based on his work on the K-T section in the Hanna Basin are near completion and will be submitted for publication by early fall. Looking to the future, Anton is planning theater-wide tactical assault on the stratigraphy and sedimentology of Lancian strata throughout the Western Interior. He also anticipates exploring the Popo Agie (Carnian) and Cloverly (Aptian-Albian) formations.

Having designed and programmed what he likes to think is a flawless(?!) database, Jean-Pierre Cavigelli is almost ready to begin the data-entry phase of the VP catalogue computerization. Along with other UW faculty and staffers, he has also been planning the move to our new building, which is set to begin in August. This includes the more enjoyable task of planning a new prep lab and storage facilities. J-P has had the opportunity to visit a handful of other museums in search of hints and ideas for the new building, and would like to thank all the good folks who have taken the time to host his visits. In his spare time, J-P has recently completed preparing some small South African dinosaur specimens for Cathy Forster (SUNY, Stony Brook).

Penny Higgins was awarded an NSF Graduate Research Fellowship for her doctoral research in the northeastern Hanna Basin. This past semester, she has been doing in-depth petrographic research on the Hanna Formation using X-ray diffraction and scanning electron microscopy (including spectral analysis). This research has been enlightening toward the explanation of unusual patterns of fossil occurrences within the Hanna Formation.

Brent Breithaupt (UW Geological Museum) continues to revamp the museum's exhibit hall and develop new public/education programs, as well as work on various projects dealing with the history of vertebrate paleontology in Wyoming and Mesozoic and Early Cenozoic lower vertebrate faunas. The exhibit of "Big Al" the *Allosaurus* (part of a cooperative effort by the BLM, Museum of the Rockies, and the University of Wyoming) has "eaten up" much of his time so far this year. Brent would like to thank all of the people who have been involved with this project since the discovery of this dinosaur in 1991. Visits by Rebecca Laws and Kristi Curry (Museum of the Rockies) and trips to Arizona (DinoFest) and Utah (WAVP) were some of the early highlights of 1996. (Brent Breithaupt)

Utah Geological Survey

The Utah Geological Survey will move across town to new quarters in May. The collections in the old Rio Grande Building have been deposited at various institutions, mainly the Utah Museum of Natural History. Anyone who has outstanding loans from the Division of State History (our former home) or the Utah Geological Survey should contact Dave Gillette or Martha Hayden to transfer paperwork to the proper institution. In addition, our prep lab in the Rio Grande Building will be dismantled by October, and will be installed in a new building a year from now. The Survey has initiated a technical publication series in paleontology. The inaugural volume will be a monograph on Ordovician echinoderms from northern Utah by Gary Webster (Washington State University); soon thereafter we hope to get the osteology of *Ceratosaurus* monograph by Jim Madsen and Sam Welles into print. Robin Kolb (Washington State University) has completed her master's thesis on the allosaurid material from the Green River site. We expect to launch a new assault on field sites this summer, after two years of minimal field activity: resumption of excavation at the type locality of the poorly known sauropod *Dystrophaeus viaemalae* in the Tidwell Member of the Morrison Formation; excavation of a small, articulated dinosaur skeleton in the Salt Wash Member of the Morrison; and selected sites in the Upper Cretaceous North Horn Formation. The annual meeting of the Society of Vertebrate Paleontology will be held in Salt Lake City, September 30-October 2, 1998, at the Snowbird Ski Lodge, deep in the Wasatch Mountains. We expect to offer lots of field excursions both before and after, so plan ahead! (Dave Gillette)

West Coast Region

Occidental College, Los Angeles, California

After additional delays by the publisher, "The Terrestrial Eocene- Oligocene Transition in North America" finally went to the printer and appeared in late May (it was supposed to be out at SVP time last year). It came to almost 700 pages, but Cambridge University Press is pricing it around $75 with the meeting discount. I'll be sending out discount order forms with my next reprint mailing, or write me if you want to get it at that price before the next SVP. At least it came out in time for the MAPC6 at the Smithsonian in June!

With the remaining part of his sabbatical, Don Prothero worked on yet another textbook, which he hopes to finish early this summer now that classes are finally over. Field season has begun, so we're out collecting paleomag samples in the Cuyama Badlands, and in the marine Eocene-Oligocene of the Temblor Range and western San Joaquin Valley. Quite a few papers are in press this summer, so the next reprint mailing will be a big one! If there's time left this summer, Don has two other book projects to complete, and then maybe he'll wrap up the long-delayed rhino monograph that was essentially completed in 1984. (Don Prothero)

Section of Earth Sciences, San Bernardino County Museum, Redlands, California

Bob Reynolds, Earth Science Curator, attended the WAVP meeting in Vernal, Utah, in March. The Utah Field House host committee put on an exceptionally pleasant, well-organized program and field trips. Many of the talks were on new museum exhibits in the

western United States as well as on vertebrate trackways, both dinosaurian and mammalian, from the western states. Several Utah organizations provided poster and replica exhibits. In keeping with the goals of the SVP Outreach Committee, volunteers from SBCM sent and exhibited five poster and replica exhibits demonstrating their work in the Mojave Desert and southern Nevada. Paleontologic societies with volunteers from Utah and Colorado were present en masse and appeared to be very well organized. It is important to note that these volunteer groups are doing all they can to campaign against the Johnson Bill which will allow commercial collecting and sales of our national paleontologic heritage.

The 1996 field season got off to a great start as our "Camel Caravan" headed to northeastern Nevada for a camel dig. We were joined by Pat Monaco of Dinosaur Depot for a seven-day catered feast. Bob Reynolds won her services at the Pittsburgh SVP meeting auction, and our waistlines will never be the same!! In addition to her wonderful fare, she also dug in with the rest of us and shoveled, hoed, and plastered. We want to thank her for a wonderful time.

SBCM held the 10th Annual Desert Research Symposium April 26-29. During the Friday and Saturday symposium, 26 talks and 11 poster/paper exhibits were presented, including topics covering paleontology, biology, archaeology, anthropology, and geology. Saturday afternoon found us on our way to the Mojave Desert for the two-day road guide trip examining late Miocene extensional tectonics and detachment faults in the Halloran Hills. We visited California's only dinosaur tracks and Miocene and Pleistocene vertebrate fossil deposits in lakes and caves. The field guide and volume is available through SBCM. As usual, it was a huge success and we look forward to seeing old friends at next year's event.

The Museum's Paleontologic Resource Assessment Program (PRAP) has recently been involved in perhaps its most exciting project ever. Under the direction of Principal Investigator/Project Manager Kathleen B. Springer, PRAP has been contracted by the Metropolitan Water District of Southern California to provide paleontologic mitigation services for the massive Eastside Reservoir Project outside of Hemet in Riverside County. Preliminary excavation associated with this project started in mid-1993; fossils recovered during this period were discussed at the 1994 SVP meetings in Seattle, Washington. Since that time, excavation for dam emplacement and construction has begun in earnest (and is expected to continue through mid-1999). So far, nearly 500 discrete localities and over 2,000 fossils have been recovered. Numerous well-preserved remains of mastodon, mammoth, Harlan's and Jefferson's ground sloths, western horse, ancient and long-horned bison, camel, and Columbian mammoth have been identified from the project; specimens representing single individuals of dire wolf, coyote, and North American lion have also been found. In October of 1995, a partial (9% complete) skeleton of an American mastodon was recovered from the project; this massive animal, which probably stood ±10 ft high at the shoulder, was represented by a complete skull with the lower jaw and teeth, one complete tusk and another partial tusk, and numerous ribs and vertebrae. An infant mastodon humerus was also recovered with this find. The "new" fossils have garnered international attention (Kathleen had to stay up late in order

to be interviewed by London Radio!) and have excited local interest. A temporary exhibit displaying some of the new finds will open at the museum on 1 June 1996.

When she's not running the mitigation program, Kathleen is busy with a variety of outside interests. She recently published her research with Michael Murphy of the University of California-Davis on punctuated stasis and collateral evolution in the Devonian graptolite *Monograptus hercynicus.* Her primary focus these days, however, is her most recent project with her husband, Mark-the birth of Samuel John Springer, their new son, in 1995. The young lad is growing fast, smiling all the way, and everybody at the SBCM wishes the whole family well.

Field supervisor Eric Scott published his short manuscript on small Pleistocene horses from Valley Wells in San Bernardino County, and is moving on to a description of small horses throughout southern California which he hopes to have out later this year. He has also submitted a short paper on *Equus conversidens* from the Bitter Springs paleontologic site at Fort Irwin in the Mojave Desert, which has been accepted and will probably be out by the time this *News Bulletin* is published. With Al Pajak of Northern Arizona University and Chris Bell of the Department of Integrative Biology at Berkeley, Eric has submitted a manuscript detailing the biochronology of the Murrieta/Temecula area in Riverside County to *PaleoBios.* He and Kathleen are currently studying a new, relatively complete tapir skull from Temecula. In addition to all of this, Eric also has his own new focus on the home front, and is looking forward eagerly to his upcoming marriage to UCLA paleontology student Kim Cooper later this year in July. (Mary A. Aruta and Eric Scott)

San Diego Natural History Museum

Steve Walsh has been busy preparing a manuscript describing a new species of dormaeliid insectivore from the early Uintan of San Diego County and new material of *Protrixoides davisi* from the late Uintan. Steve's two contributions to the "Terrestrial Eocene-Oligocene Transition in North America" volume should be out by the time this note is published. His paper on the Wasatchian through late Uintan mammals from San Diego provides a thorough summary of these important assemblages and includes a review of the Eocene stratigraphy of this area. Steve and Brad Riney (SDNHM) collaborated with Tab Rasmussen and Myron Shekelle (Washington University) in a paper (*Journal of Human Evolution,* 29:301-320) describing a nearly complete dentition of the late Uintan omomyid *Dyseolemur pacificus.* Steve would be interested in trading casts of San Diego Eocene insectivores primates and rodents for casts of similar Eocene taxa from the Western Interior.

Tom Deméré and research associate Annalisa Berta (SDSU) travelled to Japan in April for a two-week trip to examine important specimens of Miocene and Pliocene pinnipeds. Dr. Naoki Kohno (National Science Museum, Tokyo) was a gracious host and travelled with Tom and Annalisa to various museums, universities, and community centers around Honshu. During the trip the three developed plans for future collaborative research projects. Thanks are extended to the many individuals (too numerous to mention) who

helped make this research trip so productive. Tom and Annalisa are completing a manuscript on the early middle Miocene pinniped *Desmatophoca oregonensis* from the Astoria Formation of Oregon. This report includes a phylogenetic analysis of desmatophocid pinnipeds (*Desmatophoca* + *Allodesmus*) and a review of character evolution in this relatively diverse clade. Preparation of the Emlong odobenids (USNM) from the upper Miocene Empire Formation of Oregon is continuing under the direction of Fritz Clark. Tom co-authored a paper (*Journal of Paleontology,* 70:311-326) with Walter Coombs (Western New England College) describing a nodosaur skeleton collected several years ago from upper Cretaceous marine rocks in San Diego County. This specimen, which is too incomplete to assign to generic or species level taxa, does preserve important aspects of the dermal armor and represents still another example of a nodosaur found in marine deposits. Importantly, this specimen is associated with diverse marine molluscan and calcareous nannofossil assemblages that allow correlation with marine biostratigraphies, specifically the base of the *Quadrum trifidum* Zone (CC 22), late Campanian, approximately 75.5 Ma.

Sally Shelton continues to teach the geological conservation courses developed in San Diego with the International Academic Projects of London and the Geological Conservation Unit of Cambridge University. The general course, plus a new advanced course, were offered at Yellowstone National Park in May, and several SVP members and others participated as both students and instructors. In August, Sally and Cambridge colleague Chris Collins will take a special version of these courses to the Museum of Geology and Paleontology in Novosibirsk, Russia. Sally is also compiling the next Outreach newsletter and the Outreach Opportunities brochure with the help of Outreach Committee members. In April, Sally was notified that she is the new president-elect of the Society for the Preservation of Natural History Collections. (Tom Deméré)

University of California Museum of Paleontology, Berkeley

UCMP has been through a significant phase of growth and change during the last year. Some of these changes have been in our physical layout. Offices, labs, and finally the collections and exhibitry were moved from the Earth Sciences Building into the newly renovated Valley Life Sciences Building in spurts over a six-month period beginning almost a year ago. Physical redesign of lab, visitor, and meeting spaces continues, with work progressing at the typical university pace. There have also been significant changes in personnel: Tony Barnosky has taken a two-year leave of absence to head the Mountain Research Institute; Tony Fiorillo left to join the Dallas Museum of Natural History; Pat Holroyd was hired as the new museum scientist for vertebrate paleontology; Diane Erwin has been hired to take charge of the paleobotany collections (and is helping integrate our VP and paleobotanical data); Tim White and F. Clark Howell joined our group as faculty curators; and Don Savage is planning his return to Berkeley in the fall.

The museum's preparator position remains open. Please contact Mark Goodwin (markg@ucmp1.berkeley.edu) for more information. Prior applicants need not apply again; their applications will still be considered with the rest. Mark's long absence from the museum dictated that we take another look before filling the opening. The collections

officially reopened after the SVP meeting in Pittsburgh, and there has been a steady stream of visitors ever since. Unpacking and minor reorganization continues with the help of paleo grad students and enthusiastic volunteers recruited from undergraduate paleontology classes. We encourage people to visit the new facility; however, please call ahead. Layout space is still in limited supply pending scheduled renovations, and VP shares visitor space with both invertebrates and plants.

Another significant change on the horizon is in the virtual realm. UCMP's old collections database management system (that some of you out there are using) has been inadequate for our needs lately, and Jessica Theodor is writing a new system for the entire museum in coordination with the staff. The system uses Paradox and Delphi for Windows for structure and interface and is being designed to permit easy access via the campus network. Once the programming is finished, she and Rob Guralnick will be upgrading our World Wide Web access to the collections data, so that you can check our holdings yourselves instead of asking Pat Holroyd. If you are interested in how this system will work, Jess is planning to have a poster at the SVP meeting giving more details, and the data model will (or may already!) appear on the UCMP WWW site.

In the midst of all these changes, a lot of good work continues to get done. In September 1995 Mark Goodwin and his crew completed the mounting and installation of a cast of the MOR *Tyrannosaurus* skeleton in the three-story atrium outside the museum's entrance. If that wasn't enough to do over 3½ months in the midst of a move, a full-scale cast of *Pteradon ingens* was assembled and glides above *T. rex* from the third floor. The new display has generated a great deal of attention and directs many visitors to our new location. Mark thanks Peter May and Matt Smith for their early advice and consultation and the hard-working crew of UC undergraduate Tina Trakados, Industrial Light and Magic artists Bob Cooper and Mark Siegel, and Mark Songey. A weekend opening for the many contributors to the museum's "Own a Piece of the Rex" campaign was highlighted by a talk and visit by Jack Horner, who gave the mount his official seal of approval. Only then would museum director Jere Lipps "sign off" on the project, and stop asking Mark if he was sure he knew what he was doing.

Kevin Padian has been pursuing various projects involving pterosaur taxonomy, dinosaur taphonomy, paleohistology, and history of science. He is looking forward to his sabbatical in the fall of 1996 as the opportunity to catch up. Meanwhile Jim Parham will be joining Kevin's lab as a new graduate student in the fall. Almost a year has elapsed since Bill Clemens and his students moved into their new digs and almost everything has been unpacked. In the past couple of months, Bill has completed and submitted two manuscripts. He joined Yehoshua Kolodny, Boaz Luz, and Martin Sander in preparing a study of the pitfalls in interpretation of physiological attributes of vertebrates known from apatitic fossils. Also, he completed a paper on "Characterization of enamel microstructure: Terminology and applications in systematic analysis," which is a contribution to the volume of papers stemming from a symposium organized by Wighart von Koenigswald and Martin Sander.

In January Bill joined Mark Goodwin, Chuck Schaff, and C. B. Wood for field work in the Mesozoic strata of Ethiopia. The work in the Blue Nile Gorge went well (see our poster at the SVP meetings). Bill had to leave to return to teach but Mark, Chuck, and C. B. were able to set off for another intriguing set of Mesozoic exposures. Unfortunately, on the second day of their trip, they were involved in an automobile accident. Chuck and C. B. received some nasty cuts and bruises but were able to walk away from the remains of the Landrover. Mark was not as fortunate and broke his left femur and several other bones. A special vote of thanks goes out to Chuck, C. B., and many Ethiopian friends who worked wonders and were able to get Mark out of the field and back to Berkeley within a week of the accident. Mark's recovery is going very well, and he was able to return to the museum at the beginning of April.

This summer, thanks to grants from NSF, Carl Swisher, Lowell Dingus, Don Lofgren, Harley Garbani, and Bill Clemens will be able to return to Garfield County, Montana. Carl, Lowell, and Bob Butler have shown that ashes preserved in the lignites of the Tullock Formation in the valley of Hell Creek provide Ar/Ar age determinations (see their article in *Canadian Journal of Earth Sciences,* 30:1981-1996). One goal of the field work will be to develop similarly dated sections in other parts of Garfield and McCone counties and correlate our many Puercan fossil localities. Last summer Harley Garbani discovered the skull of a small, young *Triceratops*. We shall definitely be checking to see if more of the skeleton of this beast is still in the bank.

Since getting back to work, Mark Goodwin has picked up where he left off in the fall, with his research on pachycephalosauriids, particularly *Stygimoloch*. Mark, Rolf Johnson, and Emily Giffen are describing the most complete *Stygimoloch* skull yet known. Mark is also looking at the histology and structure of the dome in *Stegoceras* from a functional and bioengineering viewpoint to test his idea that pachycephalosaurs, at least the more derived domed forms, did not head-butt.

Finally getting her own moving boxes unpacked following her timely departure from the diminishing US Geological Survey, Pat Holroyd has been trying to get UCMP's VP collections and associated paperwork unpacked and reorganized. As a break, she and colleague Russ Ciochon (University of Iowa) spent three weeks in Myanmar (Burma) revisiting Barnum Brown's Eocene localities in the Pondaung Hills and mapping out newly discovered vertebrate and plant localities. The trip turned up some new records of mammals and a variety of lower vertebrates not previously known from the Southeast Asian Eocene.

Howard Hutchison is enjoying his retirement by scouring the Cretaceous and Eocene outcrops of south-central Utah, scooping up turtles throughout Wyoming, and bringing his finds back to Berkeley. Howard has been working on a small *Parasaurolophus* he found in the Campanian Kaiparowitx Formation and lower vertebrates from the Eocene of Burma. He also has various papers on chelonians in press and as chapters in edited volumes, but don't ask him when they will actually appear. Sam Welles is actively pursuing two of his favorite research interests: plesiosaurs and dinosaur brains. Sam has a

manuscript in press in *Paleobios* describing *Alzadosaurus* material and is working on problems of homology in the structures of dinosaur braincases with Jim Madsen.

Graduate students affiliated with UCMP continue to pursue diverse and fruitful lines of inquiry and provide tremendous service to the museum. Chris Bell continues his work on the biochronology and biostratigraphy of microtine rodents in North America (review paper in press in GSA special paper). He is also working on scincomorph lizard phylogeny with Jacques Gauthier and writing up a description of fossil Emydoidea from Nebraska with Howard Hutchison. In between, Chris also managed to coordinate the move of the entire UCMP collections (vertebrates, invertebrates, and plants) over a three-month period last summer.

John R. Hutchinson has begun work on computer modeling of theropod locomotion and biomechanics, and is preparing an update on the problematic *Segisaurus halli* from the UCMP collections. Joe Skulan will be working on biological fractionation of stable calcium isotopes following interesting preliminary results and will be continuing his work into the origins of the amniote egg.

Anne Weil has come to the end of a busy year as editor of *PaleoBios,* the journal of the UCMP. Working toward Museum goals of improving journal quality and recognition, she found a new printer, instituted improvements in format, and began efforts to raise the journal's profile in the paleontology community. Make sure to check out the *PaleoBios* web page! Anne also served as editor and graphic designer for three issues of *UCMP News,* an eight-page quarterly newsletter written for a popular audience, emphaisizing new research and public outreach. Infinitely relieved to have recently handed off all these editorial duties, Anne is now focusing on publishing her own work and finishing her thesis. With the aid of a Sigma Xi grant, an Annie Alexander fellowship from the UCMP, and a NST Dissertation Improvement grant; all she needs is for those darned multituberculates to be more cooperative.

Jessica Theodor might as well be handcuffed to her computer-she's busy writing up her dissertation on the phylogenetic relationships of the Artiodactyla, focussing on the information that can be gleaned from the postcranium, and upgrading UCMP's collections database system. (Pat Holroyd)

- CALENDAR OF EVENTS -

Fifth International Congress of Vertebrate Morphology

The Fifth Congress of the International Society for Vertebrate Morphologists will be held at the University of Bristol, UK, 12-17 July 1997. All those interested in vertebrate morphology and related areas are invited to attend. The Congress aims to bring together all those with an interest in vertebrate morphology and related subjects. It will be a meeting place for professional zoologists, morphologists, and anatomists from throughout the globe. Suitable topics for discussion at the meeting include all aspects of vertebrate morphology, such as anatomy, evolution, development, biomechanics and locomotion,

vertebrate paleontology, ecological morphology, morphological aspects of behavior, cell structure and function, neurobiology and neuroanatomy, and morphometric and other methods.

The call for papers and details of booking arrangements and costs will be published in September 1996; the closing date for submission of papers will be 16 December 1996. For further information, contact: Professor J. M. V. Rayner, School of Biological Sciences, University of Bristol, Woodland Road, Bristol BS8 1UG, UK; fax +44 117 925 7374; e-mail ICVM97@bristol.ac.uk; www http://www.bio.bris.ac.uk/icvm.html. (J. V. M. Rayner)

- **OBITUARIES** -

Dirk Hooijer, 1919-1993

The memory of Dirk Hooijer, vertebrate paleontologist and mammalian specialist, was honored at the time of his death in an obituary which appeared in the Newsletter of the *Koninklijk Nederlands Geologisch en Mijnbouwkundig Genootschap,* 1994, Nr. 1. Here it is translated and slightly modified with the author's permission. In his later years Dirk often visited Britain to indulge his two great loves-attendance at the VP and CA meetings and the Beatles! Just before I went to live in Australia, he suggested to me seriously that I should search for dwarf elephants in northern Australia-an idea that stemmed from his fascinating work on the fossil elephants of Asia and Indonesia (e.g., *Genetica,* v. 38)-and which sadly I have not been able to follow through. Maybe this is for some future intrepid soul. (Sue Turner)

In Memorium Dr. D. A. Hooijer

Dirk Albert Hooijer was born in Medan (Sumatra's Ooskust, a province of the former Dutch East Indies, not Indonesia) on May 30, 1919, and died in Leiden on November 26, 1993. He was one of the foremost mammal paleontologists of The Netherlands and the world.

From 1937 to 1945 Hooijer studied geology in Leiden. In 1941 he was entrusted with the responsibility for the Dubois collection in the Rijksmuseum van Natuurlijke Historie in Leiden. His first scientific publication dates from that year. Hooijer intended to undertake his doctoral thesis on Cainozoic stratigraphy under Prof. Dr. C. M. Van der Vlerk but war circumstances prevented this. Instead, Hooijer took his degree under zoologist Prof. Dr. H. Boschma, director of the museum where he was an assistant. The rector was the geologist Prof. Dr. B. G. Escher. The thesis dealt with fossil *Rhinoceros* in the Dubois collection. Important to him were the years 1950-51, when he worked in the USA as Rockefeller Fellow in the natural sciences. In 1970 he acted as Regent's Professor at the University of California, Irvine. In 1971 Hooijer received the Akzo Award for his

research in the field of Pleistocene mammals. His Staring Lecture at the Hague for the Koninklijk Nederlands Geologisch en Mijnbouwkundig Genootschap dealt with the past and present of the rhino, his old love.

In 1978 Hooijer had to lay down his museum function for reasons of health. He continued to work, however, to the best of his abilities; a number of manuscripts by him are still in press. Hooijer's publication list comprises more than 270 items. By far the greater part of these deal with young Tertiary and Quaternary mammals from The Netherlands, Indonesia, the Antilles, and also the Near East, China, India, and Kenya. He made numerous study trips. Hooijer, moreover, worked on the Middle Triassic tetrapods from Winterswijk.

Dirk Hooijer was an excellent paleontologist, an enthusiastic expert who aimed at perfection. His intense commitment and sensitive nature sometimes made him sharp and fierce. Hooijer was often difficult for younger colleagues. This isolated him to a certain extent and his life was not easy, partly for this reason. Those who knew him well enjoyed his fabulous erudition and will remember him as a passionate scientist. (Prof. Dr. G. J. Boekschoten-

translated by J. M. J. Vergoossen, University of Groningen with updated information from Prof. Boekschoten)

Minchen Chow (Zhou Min-zhen), 1918-1996

Minchen was born in Shanghai on November 9, 1918, the eve of the May Fourth Movement in 1919 that marked the beginning of a turbulent modern Chinese history. Consequently, that history has profoundly shaped the course of his life. Minchen was born into a well-to-do family with well-educated parents. He attended the best western-styled elementary and secondary schools China had to offer at that time. During the Japanese occupation of Shanghai, he fled to Chungking, the wartime capitol, and enrolled in the geology department of Chungking University, studying paleontology under a distinguished roster of faculty among which were included J. S. Lee ande C. C. Young.

Minchen graduated from Chungking University in 1943 and worked briefly first for the Szechuan Geological Survey and then at his alma mater before taking up a job at the Taiwan Geological Survey upon the Japanese surrender. In 1947 Minchen sailed across the Pacific to continue his advanced education in the US. In the following four years, he earned an M.A. at Miami University, Ohio, and a Ph.D. in geology at Lehigh University. And on Bobb Schaffer's recommendation, he then pursued postdoctoral study with Glen Jepsen at Princeton University. His fascination and life-long love affair with mammalian fossils started in the Bighorn Basin, Wyoming, where he spent the summer of 1950 with Jepsen's Princeton field crew. Symbolically, it marked the take-off point of his remarkable career, for a year later he returned to China, pregnant with youthful idealism, patriotism, and ambitions.

Minchen taught at Shandong University for less than a year before the late C. C. Young invited him to help build up an institute for study of vertebrate and hominid fossils (later known as the IVPP in Beijing in 1952. From then on until his final days, he contributed all his talent and energy to the well-being and progress of the IVPP. Therefore, the ups and downs of the IVPP, as inevitably dictated by the fate of his native country, unmistakably reflected Minchen's personal triumphs, trials, and tribulations.

Thanks to C. C. Young's acclaimed academic reputation and powerful political connections, the IVPP had a glorious start. Through the 50s and early 60s, Minchen enjoyed a successful early career, a simple but comfortable life, and fast-rising status among his peers. He quickly earned Young's support, trust, and sometimes even political protections. He co-founded *Vertebrata PalAsiatica* with Young in 1957. He was the mastermind behind the IVPP long-range research planning and the organizer and leader (or co-leader) of numerous field expeditions to many parts of China, including the Sino-Soviet expeditions to China's far northwestern provinces. Within about a decade, he single-handedly built from scratch a strong research program in paleomammalogy in China by gathering around him a small group of extremely talented and dedicated young scholars, both home-grown and Russian-trained. Minchen, often in collaboration with those students, published over 100 research papers and five monographs, dealing with systematic vertebrate paleontology, vertebrate biostratigraphy, Quaternary geology, paleobiogeography, and paleoclimatology.

Against the backdrop of Minchen's successes in scientific pursuits, his constant struggles for an inward peace during the "golden age" of the People's Republic were often overlooked. An idealistic young man full of liberalism and individualism, Minchen experienced a real cultural shock upon returning to his motherland. Having just come from a country he was so fond of, Minchen soon found himself living in a sea of hatred and incomprehension of that country. However strong the pull of the new vision of a socialist paradise was to the other returned students, it was definitely not yet strong enough to resist atavism of Minchen's deep-seated conscience and common sense. As a result, Minchen was always treated by the regime as a piece of "pickled tofu" (which, according to the Chinese, smells bad but tastes good), metaphorically meaning academically invaluable but politically invidious.

At the peak of Minchen's productive research career, the Cultural Revolution started in 1966 and lasted for over a decade. Minchen's research activities came to a swift halt. Like many Chinese intellectual elites, Minchen immediately became the Revolution's easy target and sure victim. He lost a favorite son and ten years of his precious time. Despite the hardship he had to endure through those years, he came out of it becoming even more optimistic about the future, more committed to paleontological research, and more determined to bring the IVPP to world preeminence. He accomplished all these with incredible conviction, political acumen, and aplomb and wit-he was truly a survivor and conqueror of the improbable! Even more incredible is the fact that during a brief political relaxation toward the end of the Cultural Revolution, Minchen launched a series of field expeditions to South China and collected a tremendous amount of unknown, bizarre, and

endemic Paleocene and Eocene mammals, revealing a true beginning of the Age of Mammals in Asia.

Minchen was elected a member of the Chinese Academy of Sciences in 1980 and succeeded Young as director of the IVPP soon after. He immediately seized the opportunity created by Deng's open-door policy and led the IVPP to rejoin the world paleontological community. He boldly promoted international exchanges, visits, and joint expeditions, and actively sought opportunities for his associates and students to further their studies in the West.

Under Minchen's stewardship, people at the IVPP were judged by their worth but not by their birth, by their ability not their seniority, and by their performance not their subservience. In a system that traditionally breeds the latter elements, Minchen was not always deeply appreciated, nor overly popular. He had a disconcerting habit of expressing unrelated ideas in rapid succession and incomplete sentences. He once confessed to me that he was often misunderstood even by some of his closest associates. In response, I told him what R. W. Emerson had to say about that: "To be great is to be misunderstood." He grinned with mixed feelings.

Minchen was a man of wide-ranging interests, and by avocation a student of literature, history, and philosophy. He was extremely well read. He was among the first Chinese scholars to introduce into China the new developments such as plate tectonics, cladistics, and the ideas of Karl Popper and Thomas Kuhn. Among his many invaluable assets were his profound learning, near-photographic memory, and genuine willingness to share his knowledge and opinions with his impressionable and articualte associates. He will be remembered not only as an eminent vertebrate paleontologist but also as a passionate humanist and a great *Homo sapiens.* (Desui Miao)

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