

**SOCIETY OF AVIAN  
PALEONTOLOGY AND EVOLUTION**  
INFORMATION LETTER  
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**In Memoriam: Paul BÜHLER**

When we met in Washington at the SAPE-symposium we did not know that we met for the last time. Paul BÜHLER died unexpectedly on July 16th 1996, only three weeks after his 60th birthday.

He was born on June 21st 1936 at Freudenstadt, a small town in the Black Forest, Germany. His father came from Württemberg, his mother was Danish.

Paul studied biology, chemistry, and geology at Stuttgart and, for one term, at Copenhagen. He obtained his doctor's degree in 1969 at the University of Hohenheim after submitting a thesis analyzing morphology and kinetics of the caprimulgid jaw apparatus. This thesis already revealed Paul BÜHLER's outstanding ability to detect and describe complex organismic structures.

The following years he spent as a zoologist at the University of Hohenheim. He interrupted his academic career in 1992 when he decided to live as a free-lance scientist. This left him more time for his studies, and he felt happy. He was interested in the early evolution of birds, in functional and eco-morphology. In the last years he was deeply impressed by the richness of tropical life and he got engaged in projects for the protection of these natural treasures.

Paul BÜHLER was a passionate and perspicacious researcher. But he was also an aesthete, fascinated by the beauty of nature. He was a good musician and at home in the fine arts. It was a pleasure to talk with him about such topics as architecture or the styles of baroque composers. His life filled with so many interests ended abruptly. We lost a friend and we offer our sympathies to his wife Brigitte. Paul BÜHLER was among the founder members of the SAPE. We shall keep him in lasting remembrance.

D. Stefan PETERS

**4TH INTERNATIONAL MEETING OF  
THE SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION,  
WASHINGTON D. C., 4-7 JUNE 1996**

We thank Storrs OLSON and Helen JAMES for the organization of this wonderful meeting. The list of papers and posters presented is as follows:

ALVARENGA H. M. F. - A fossil screamer (Anseriformes: Anhimidae) from the Middle Tertiary of southern Brazil (Poster).

- BOLES W. E. and IVISON T. J. - A new genus of dwarf megapode (Aves: Galliformes: Megapodiidae) from the Miocene of Central Australia.
- BOYLE J. and EMSLIE S. - Inglis 1C: a new late Pliocene site in Florida (Poster).
- CAMPBELL K., SCOTT E. and SPRINGER K. B. - A new genus and species of giant teratorn (Aves: Teratornithidae) from California.
- CHAPMAN R., RASSKIN-GUTMAN D. and WEISHAMPEL D. B. - Morphometric approaches useful for analyzing population and taphonomic structure, sexual dimorphism and allometry in fossil birds given incomplete data matrices.
- CHATTERJEE S. - Origin and early evolution of birds and their flight.
- COOPER A. and PENNY D. - Radiation of modern bird orders predates the K-T boundary.
- COOPER J. - Late Pleistocene avifaunas of Gibraltar (Poster).
- DZERZHINSKY F. - Implications on avian evolution from cranial morphology of paleognaths.
- ELZANOWSKI A. - A comparison of jaws and palate in the theropods and birds.
- EMSLIE S. D. - New records of Plio-Pleistocene birds from Florida and Arizona: paleoecologic and paleobiogeographic implications.
- ERICSON P. - Osteological differentiation between the early Tertiary *Juncitarsus* (Phoenicopteriformes) and Presbyornithidae (Anseriformes) (Poster).
- FORSTER C. A., CHIAPPE L. M., KRAUSE D. W. and SAMPSON S. D. - The first Mesozoic bird from Madagascar.
- GOSLOW G. E., OSTROM J. H. and POORE S. O. - The beginnings of flapping bird flight (pronation, supination and rotation).
- HAARHOFF P. J. - Langebaanweg: a brief update on the early Pliocene site in the South Western Cape, South Africa.
- HERTEL F., CAMPBELL K. and ALBURO A. - The antitrochanter and its relation to hindlimb function in birds.
- HOPE S. - The shoulder girdle in early modern birds.
- HOU LIANHAI - Distribution and Stratigraphy of Chinese Mesozoic birds.
- HOUDE P. - A fossil screamer from the Eocene of Wyoming (Anseriformes: Anhimidae).
- HOUDE P. and COOPER A. - Phylogeny of gruiform families estimated from 12S rDNA sequences (Poster).
- JONES C. J. and FORDYCE E. - A new large fossil penguin (Spheniscidae) from the Kokoamu Greensand (Late Oligocene) of New Zealand, and cladistic relationships of early penguins.
- KARHU A. A. - A new genus of the Jungornithidae (Apodiformes) from the late Eocene of the North Caucasus, and comments on the ancestry of the hummingbirds (Trochilidae).
- KUROCHKIN E. N. - The relatives of *Ambiortus*.
- MARTIN L. D. and STEWART J. D. - Implantation and replacement of bird teeth.
- MATSUOKA H. and HASEGAWA Y. - Paleoavifaunas of the Shiriya-zake Ossuaries (Shimokita Peninsula, Aomori, Japan) and the two flightless birds (Poster).
- MATSUOKA H. and SETOGUCHI T. - An early record of bird tracks from the Mesozoic Tetori Group, Japan (Poster).
- MILLENER P. - The history of the Chatham Island bird fauna - the last 7000 years - a chronicle of change and extinction.
- MOURER-CHAUVIRÉ C., BOUR R., RIBES S. and MOUTOU F. - The avifauna of Réunion Island at the time of the arrival of the first Europeans and its relationships with the avifauna of the other Mascarene islands.
- MOURER-CHAUVIRÉ C. and HUME J. - The colonization of Réunion by birds in relation with the volcanic phenomena (Poster).
- NORIEGA J. and TAMBUSSI C. P. - The non-penguin avifauna from the Eocene (early Oligocene ?) of Seymour Island, Antarctic Peninsula (Poster).
- OLSON S. L. - The anseriform affinities of *Anatalavis* - evidence from a new species from the Lower

Eocene London Clay (Poster).

PANTELEYEV A. V. and POTAPOVA O. - Birds in economy and culture of ancient inhabitants of Ust'Poluisk settlement at the lower Ob' River (Poster).

PAUL G. S. - Complexities in the evolution of birds from predatory dinosaurs: *Archaeopteryx* was a flying dromaeosaur, and some Cretaceous dinosaurs may have been secondarily flightless (Poster).

PAVIA M. and MOURER-CHAUVIRÉ C. - The Middle Pleistocene avifauna of Spinagallo Cave (Sicily, Italy) (Poster).

PETERS D. S. - A sandcoleiform bird from the oil shale of Messel, Germany (middle Eocene) (Poster).

RASMUSSEN P. C. and OLSON S. L. - The non-alcid Charadriiformes of Lee Creek Mine, North Carolina (Poster).

REICHHOLF H. - New aspects of the origin of feathers and the evolution of birds.

SEGUI B. and ALCOVER J. A. - Tracking paleoecological patterns on insular bird faunas: a case study from the western Mediterranean.

SERENO P. C. - *Sinornis* and the early evolution of avian flight and perching.

STEADMAN D. W. - Biogeography and systematics of extinct land birds from the Kingdom of Tonga, South Pacific.

STEWART J. R. - Intraspecific variation in modern European birds and its applicability to the Quaternary avian fossil record: *Lagopus* as a case study.

TAMBUSSI C. P. and NORIEGA J. I. - The fossil record of condors (Ciconiiformes: Vulturidae) in the Upper Cenozoic of the Pampean Region (Argentina) (Poster).

TYRBERG T. - Seabirds and late Pleistocene marine environments in the northeast Atlantic and the Mediterranean (Poster).

WELLNHOFER P. - The meaning of *Archaeopteryx*, a critical review in the light of new discoveries and recently published literature.

WORTHY T. H. - Changes introduced in the New Zealand avifauna by climate during the last glacial-interglacial period.

WORTHY T. H. and JOUVENTIN P. - The fossil avifauna of Amsterdam Island (Poster).

ZHOU ZHONGHE and MARTIN L. D. - Feathered dinosaur or bird ? A new look at the hand of *Archaeopteryx*.

## INVITATION TO THE SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

Institute of Vertebrate Paleontology and Paleoanthropology  
Academia Sinica  
P. O. Box 643, Beijing 100044, CHINA

Dear Sir:

On the occasion of the 4th international meeting of SAPE, please allow me to extend cordial greeting on behalf of our Institute. We are very pleased to see the important role SAPE having played in exchange of experience and strength of relationship among the avian paleontologist of the world since the first meeting. I wish sincerely the meeting success !

China has also made good progress in the study of fossil birds in the last twenty years or so. We have not only collected quite a number of remains from the Cenozoic deposits, but also from the Mesozoic sediments. The early birds found recently in the Upper Jurassic and Cretaceous of Northeast China have attracted the attention of paleontologists. We are willing to host an international meeting to discuss some avian problems commonly concerned, especially those we come accross in Eastern Asia. If the SAPE seeks a venue for the next meeting, I would suggest that Beijing be a considerable place. The Institute would try its best to organize the 5th quadriennial meeting at the end of this century in 2000.

Best wishes !

Sincerely Yours,                      Qiu Zhuidng                      Director of IVPP

This invitation was extended to the assembled members of the society, during the business meeting of 5 June, and gratefully accepted. All the SAPE members look forward with pleasure to experiencing the hospitality of their Chinese colleagues.

## News from the members

### ARGENTINA

Claudia TAMBUSI is continuing her work on Cenozoic birds from Argentina. At the present time the focus of her research activities are the Patagonian, and Antarctic fossil penguins. The later are a very interesting group of birds, but very difficult to study (isolated bones, non-articulated skeletons, a lot of taxa based on non homologous bones, etc.), so she needs much more time than she expected to finish. During the last June, she participated to the SAPE meeting in Washington, where, together with Jorge NORIEGA, they presented their considerations on the fossil condors of Argentina, and on the non-penguin avian material from Antarctic Peninsula. The assistance to the meeting was made possible by the support of a Short Term Visitor Grant of the Smithsonian Institution, and the help of Storrs Olson and Helen James. Her visit to United States also included the study of the non-penguin avian remains from Antarctica at the Department of Earth Sciences, University of California, at Riverside. Claudia thanks Judd Case and Michael Woodburne for all their help and consideration during her visit at Riverside.

In July Claudia spent some time at the Royal Ontario Museum, looking at the condors from Talara Piura (Peru). She thanks Gerry and Gina De Iulis for all their assistance during her visit. Finally she started with the study of some biomechanical aspects of the Phororhacoid birds. She hopes that the publication will come out before the end of the year.

TAMBUSI C. (1995) - Las aves. In ALBERDI M., LEONE G., and TONNI E. (Eds.) "*Evolucion biologica y climatica de la Region pampeana durante los ultimos cinco millones de anos*", p. 143-162.

TAMBUSI C. and NORIEGA J. (1996) - Summary of the avian fossil record from Southern South America. In ARRATIA G. (Ed.) "*Contributions of Southern South America Vertebrate Paleontology*". Munchner Geowiss. Abhandl.: 245-264.

TONNI E., NORIEGA J., and TAMBUSI C. (1995) - El registro de *Rollandia rolland* (Quoy and Gaimard) 1824 (Aves, Podicipediformes) en el Cenozoico de la pcia. de Buenos Aires (Argentina), un caso de estasis evolutiva. *Actas IV Jornadas geologicas y geofisicas bonaerenses*, vol. 1: 29-34.

### AUSTRALIA

Walter BOLES enjoyed the SAPE conference, particularly the opportunity to meet other workers and discuss various topics and view specimens. The workshop on early Tertiary fossils was quite useful, and some material from the early Eocene site at Murgon, southeastern Queensland, was recognized as *Presbyornis*/graculavid-type, although they are probably too fragmentary to do much more with. While in Washington D.C., he had the opportunity to examine skeletons in the US National Museum, where he found the necessary comparative material to complete parts of his ongoing studies of Australian Tertiary swifts, storks and rails from Riversleigh, northwestern Queensland. Two other projects to be submitted this year are his work on a Pliocene Budgerigar *Melopsittacus undulatus* and a new genus oriolid from the Miocene of Riversleigh. A paper was accepted for publication that details the characters used to identify the

early Eocene passerine material from Murgon announced previously.

Walter is planning a new study of a collection of Pliocene passerines from the same site that yielded the Budgerigar material. At the other end of the size spectrum is a possibly near complete dromornithid skull that has been obtained recently from Riversleigh, still in matrix. This is now undergoing preparation, with the hope that it, particularly the palate, will be sufficiently intact to allow a thorough examination and eventually help resolve the question of dromornithid relationships.

Pat RICH and Robert BAIRD have two papers in press on fossil birds, one on the Palaelodidae from the late Cenozoic of Australia, the other one on a new cuculiform from the Paleocene Itaborie cave deposits of Brazil.

BOLES W. (1995) - The world's oldest songbird. *Nature*, 374: 21-22.

VICKERS-RICH P. and MOLNAR R. E. (1996) - The foot of a bird from the Eocene Redbank Plains Formation of Queensland, the oldest Cenozoic bird from Australia. *Alcheringa*, 20: 21-29.

## BULGARIA

The activities of Zlatozar BOEV are as follows :

- Enrichment of the avian skeletal collection of the National Museum of Natural History in Sofia. Total numbers by 30 July : 1450 specimens, 310 species.
- Inventoring of the collection of the National Museum of Natural History in Sofia of fossil and subfossil birds of Bulgaria. Total number of items by 30 July : 1594.
- Full renovation of the Emberizidae exposition at the Museum, consisting in 58 species.
- Work on the Bulgarian Neogene-Quaternary avian remains from the following localities: Varshets, Slivnitsa, Muselievo, Dorkovo, and Sofia.

BOEV Z. N. (1994) - The Upper Pleistocene Birds. In KOZLOVSKI J. K., LAVILLE H. and GINTER B. (Eds.), *Temnata Cave, Excavations in Karlukovo Karst Area, Bulgaria*, 1.-2.: 55-86.

BOEV Z. N. (1995) - On the appearance of the domestic fowl (*Gallus gallus domestica*) in Bulgaria and Balkan peninsula and the question of domestication of Junglefowls (Genus *Gallus* Brisson, 1760) in Southeast Europe. *Hist. natur. Bulgarica*, 5: 37-49.

BOEV Z. N. (1995) - Eneolithic and Early Bronze Age birds from the sunken settlement at the Sozopol Bay (Bulgarian Black Sea coast). *Hist. natur. Bulgarica*, 5: 51-60.

BOEV Z. N. (1995) - Birds from some Medieval settlements in Bulgaria. *Hist. natur. Bulgarica*, 5: 61-67 (in Bulgarian, English summary).

BOEV Z. N. (1995) - Varshets (Western Stara Planina Mts.-Bulgaria): An example of a Middle Villafranchian forest-steppe ornithocoenosis. *Ecosystem Evolution. International Symposium, Moscow, 26-30 September 1995*. Abstracts, p. 14.

BOEV Z. N. (1995) - Wild Galliform and Gruiform Birds (Aves: Galliformes et Gruiformes) in the archaeological record of Bulgaria. *ICAZ Bird bone working group. Second meeting, Southampton, 25-28 September 1995*, Abstracts, p. 18.

BOEV Z. N. (1995) - The Gamefowl in Bulgaria in the last 8000 years. *Intern. Union of Game Biologists, XXII Congr., Sofia, 4-8 September 1995*, Abstracts, p. 54.

BOEV Z. N. (1996) - The Holocene avifauna of Bulgaria ( A review of the ornitho-archaeological studies). *Hist. natur. Bulgarica*, 6: 59-81.

BOEV Z. N. (1996) - Raptors and Owls (Aves: Falconiformes and Strigiformes) in the Archaeological Record of Bulgaria. *Hist. natur. Bulgarica*, 6: 83-92.

BOEV Z.N. and DIMITROV D.S. (1995) - On the Lanner falcon (*Falco biarmicus* Temminck, 1825) in Bulgaria. *Acta zool. Bulgarica*, 48: 105-112.

## CHINA

HOU Lianhai is mainly continuing his work on the Late Jurassic birds of China, and has published some papers. His new book, "Mesozoic Birds of China", will be published in Taiwan next year. Some interesting new specimens of birds were found in Liaoning fossil locality.

Dr. FUCHENG Chang became a new member of the Institute of Vertebrate Paleontology, Academia Sinica. His postdoctoral research work mainly concerns fossil birds.

Zhonghe ZHOU is entering the second year of his doctoral study at the University of Kansas with Professor Larry D. Martin, to whom he is very grateful for his willingness and readiness to share with him all his insights and knowledge of Mesozoic birds.

Although the heavy class load and the curatorial assistant job take up much of his time, he is still finding time to do some research. In June, at the SAPE meeting of Washington, D.C., he reported his work on the comparison of the hands of *Archaeopteryx* and dinosaurs. Shortly after the meeting, he joined Prof. Hou Lianhai, Larry Martin, and Alan Feduccia to work on the newly recovered early bird materials from China. This resulted in a manuscript submitted to *Science*, which has recently been accepted.

The Washington, D. C., SAPE meeting was very successful, and he owes a lot to Dr. Storrs Olson and Helen James, whose help made it possible for him to attend the meeting.

As a SAPE member from China, he wishes to thank all of his colleagues who have signed the letter to the President of Chinese Academy of Sciences appealing for stricter scientific excavation and protection of one of the most important fossil bird site in the world. This site has not only yielded hundreds of the oldest beaked bird *Confuciusornis*, but recently also produced the oldest Ornithurine bird: *Liaoningornis*. Besides, a lot of rare mammals, reptiles, amphibians as well as plant and insect fossils have been collected from the same site. He is very glad to have recently been informed that our letter to the President of the Chinese Academy of Science (CAS) has been received and seriously considered. It has attracted attention from the top authorities of the CAS and nearly all the major media in China, including the Central Television and all the important newspapers. CAS is going to appeal to higher authority in China for more effective protective measures. Some have already been taken locally. And further measures are still under consideration. He regards all this progress as an example of the paleornithologists' contribution to the protection of all vertebrate fossils. Dr. Peter Wellnhofer, Helen James, and Storrs Olson were especially helpful in the drafting of the letter. This letter also shows how large an impact SAPE may exert.

Finally, as a Chinese paleontologist, he feels very much honored that the Fifth SAPE meeting will be held in Beijing. Hopefully, he will have finished his doctoral studies in the United States by that time. He looks forward to meeting all of the SAPE members in Beijing. Certainly, he will do his best to make sure the next meeting is as successful as before. Also he welcomes all of his colleagues to contact either Prof. Hou Lianhai, or him, if there are any suggestions or ideas. His e-mail address is: zhou@falcon.cc.ukans.edu, snail mail to him should be sent to: Natural History Museum, Dyche Hall, University of Kansas, Lawrence, KS 66044, U.S.A. Prof. Hou Lianhai's address is: P.O. Box 643, Beijing 100044, P.R. China.

HOU LIANHAI, ZHOU Z., GU Y., and ZHANG H. (1995) - *Confuciusornis sanctus*, a new Late Jurassic sauriurine bird from China. *Chinese Sci. Bull.*, 40 (918): 1545-1551.

HOU LIANHAI, ZHOU Z., MARTIN L. D., and FEDUCCIA A. (1995) - A beaked bird from the Jurassic of China. *Nature*, 19 October, 377: 616-618.

ZHOU Z. (1995) - Is *Mononykus* a bird? *The Auk*, 112 (4):958-963.

## CZECH REPUBLIC

Jiri MLIKOVSKY finished the catalogue of the Tertiary avian localities of Europe which appeared in May 1996. He expresses his sincere thanks to all colleagues who devoted time and efforts to prepare individual

chapters for the catalogue. He hopes that this catalogue will prove useful to all students of Paleornithology. Of course he will continue to collect new information on the Tertiary birds of Europe, so that he will be much obliged to everybody who will let him know about new discoveries, and also to everybody who will inform him about omissions and/or misprints in the catalogue. After his hands and brain became free from the work on the catalogue (only final proofreading and creation of indexes took two months), he restarted to work on the rich collections of the Miocene birds from Western Bohemia. Of particular interest is here the newly excavated locality Merkur, which yielded an assembly of water and arboreal birds, incl. e. g. the Psittacidae, Trogonidae, Strigidae, Apodidae, and Capitonidae. Also three papers on the early and middle Pleistocene birds of Bohemia and Austria were submitted to press.

A special publication:

**J. MLIKOVSKY (ed.) (1995) -Tertiary Avian Localities of Europe,**  
*Acta Universitatis Carolinae, Geologica*, vol. 39, n° 3-4, p. 519-852.

MLIKOVSKY J. Tertiary avian localities of Europe: An introduction, p. 519  
MLIKOVSKY J. Tertiary avian localities of Austria, p. 529  
CHENEVAL J. Tertiary avian localities of Belgium, p. 535  
BOEV Z. N. Tertiary avian localities of Bulgaria, p. 541  
MLIKOVSKY J. Tertiary avian localities of Croatia, p. 547  
MLIKOVSKY J. Tertiary avian localities of the Czech Republic, p. 551  
MLIKOVSKY J. Tertiary avian localities of Denmark, p. 559  
MLIKOVSKY J. Tertiary avian localities of Finland, 563  
MOURER-CHAUVIRÉ C. Paleogene avian localities of France, p. 567  
CHENEVAL J. Miocene avian localities of France, p. 599  
MOURER-CHAUVIRÉ C. Pliocene avian localities of France, p. 613  
MLIKOVSKY J. and HESSE A. Tertiary avian localities of Germany, p. 619  
MLIKOVSKY J. Tertiary avian localities of Greece, p. 649  
MLIKOVSKY J. Tertiary avian localities of Holland, p. 655  
MLIKOVSKY J. Tertiary avian localities of Hungary, p. 657  
DELLE CAVE L. Tertiary avian localities of Italy, p. 665  
MLIKOVSKY J. Tertiary avian localities of Macedonia, p. 683  
MLIKOVSKY J. Tertiary avian localities of Moldavia, p. 685  
BOCHENSKI Z. Tertiary avian localities of Poland, p. 693  
SANCHEZ MARCO A. Tertiary avian localities of Portugal, p. 699  
KESSLER E. Tertiary avian localities of Romania, p. 703  
MLIKOVSKY J. Tertiary avian localities of Russia, p. 711  
MLIKOVSKY J. Tertiary avian localities of Slovakia, p. 715  
SANCHEZ-MARCO A. Tertiary avian localities of Spain, p. 719  
TYRBERG T. and ERICSON P. G. P. Tertiary avian localities of Sweden, p. 733  
MLIKOVSKY J. Tertiary avian localities of Switzerland, p. 735  
MLIKOVSKY J. Tertiary avian localities of Ukraine, p. 743  
MLIKOVSKY J. Tertiary avian localities of United Kingdom, p. 759  
MLIKOVSKY J. Tertiary avian localities of Yugoslavia, p. 773  
MLIKOVSKY J. Tertiary avian faunas of Europe, p. 777

Index of new species, p. 819; Index of avian genera, p. 824; Index of avian families, p. 829; Index of collections, p. 832; Index of authors, p. 834; Index of localities, p. 840.

- MLIKOVSKY J. (1992) - Jungpleistozäne Vögel aus dem Nixloch bei Losenstein-Ternberg, O. Ö. *Mitt. Komm. Quartärforsch.*, Wien, 8: 71-81.
- MLIKOVSKY J. (1995) - Early Pleistocene birds of Stránská Skála: 1. Musil's talus cone. In: R. MUSIL (Ed.) - Stránská Skála Hill. Excavations of open-air sediments 1964-1972. *Anthropos* (Brno) 26: 111-126.
- MLIKOVSKY J. and STYBLO P. (1995) - Comments on the birds of southern Barguzinskaja Valley, East Siberia. *Siberian Naturalist*, 1: 31-39.
- MLIKOVSKY J. (1996) - New data on the birds of Syria. *Acta Societatis Zoologicae Bohemicae*, 60: 37-42.

## FRANCE

Jacques CUISIN is working on a morphological description of the humerus in the family Fringillidae. He is also working on the bird remains of several holocene localities from Corsica. He has a paper in project, in collaboration with Jean Claude Thibault, on the turnover of avian species in Corsica, in correlation with the changes of the vegetation.

Cécile MOURER-CHAUVIRÉ and her co-workers have completed the study of the subfossil birds found in different localities of Réunion island, which has been presented during the SAPE meeting. The most original representatives of the extinct Mascarene avifauna, such as the Raphidae, *Aphanapteryx* ssp., and large parrots of the genera *Lophopsittacus* and *Necropsittacus*, are so far absent from Réunion. Unlike the extinct birds found on Mauritius and Rodrigues, none of the extinct birds from Réunion had lost its flying ability. It is possible that Réunion was colonized by the same forms which colonized Mauritius and Rodrigues, but that these forms disappeared during the very explosive events of the last phase of activity of Piton des Neiges, which took place between 300,000 and 200,000 years ago. Then Réunion was colonized again by forms which did not have enough time to lose their ability to fly. A didactyl ostrich, *Struthio coppensi*, found in the Lower Miocene of Namibia by Martin Pickford, Brigitte Senut, and Pierre Mein, was described in 1996. The bones were associated with "aepyornithoid" type eggshells. Stratigraphical studies by M. Pickford and B. Senut, made it possible to document, in Southern Africa, two parallel lineages of Ratites, founded on eggshells fragments; the first one with "aepyornithoid" eggshell, the second one with the succession of two extinct genera, *Namornis* and *Diamantornis*, and ending in the genus *Struthio*. The fact that a didactyl ostrich was already present in the Lower Miocene of South Africa indicates that the Struthionidae probably originated in Africa and then spread from there to Eurasia, and not from Eurasia to Africa, as it was previously thought. The identification of the Upper Pleistocene birds from Toca da Janela da Barra do Antonião, state of Piauí, Northeastern Brazil, contemporaneous with the oldest human occupation sites known in the Americas, has been published in the paper by Guérin et alii (1996). At the present time, Cécile is working on a new Middle Pleistocene material from Corsica. The avifauna includes several endemic insular Strigiformes, in particular *Bubo insularis*, *Tyto balearica*, and a new species of *Athene*.

Philippe VILETTE works from times to times on a monograph on the locality Le Lazaret, under the direction of Henry de Lumley. The inventory of the avifauna from the totality of the excavation units is at last achieved. A preliminary synthesis has been made, but Philippe must finish his paper on the totality of the avifauna. Another project in collaboration with Spanish research workers and under the responsibility of D. Sacchi, concerns the survivorship of Neanderthal men in the Mediterranean Pyrénées. Philippe is working on the information provided by the paleoavifaunas for the reconstruction of the paleoenvironment.

- BUFFETAUT E., LE LOEUFF J., MECHIN P., and MECHIN-SALESSY A. (1995) - A large French Cretaceous bird. *Nature*, 377: 110.
- GOURICHON L. and CARDOSO J. L. (1995) - L'avifaune de l'habitat fortifié chalcolithique de Leceia (Oeiras, Portugal). *Estudos Arqueologicos de Oeiras*, 5: 165-186.
- GUÉRIN C., CURVELLO M. A., FAURE M., HUGUENEY M., and MOURER-CHAUVIRÉ C. (1996) - The Pleistocene fauna of Piauí (Northeastern Brazil): paleoecological and biochronological implications. Proceedings of the International Meeting on the Peopling of the Americas, Sao Raimundo Nonato, Piauí,

Brazil, 1993. *Fundamentos*, 1 (1): 55-103.

JANOO A. (1996) - On a hitherto undescribed Dodo cranium, *Raphus cucullatus* L. (Aves, Columbiformes), with a brief taxonomical overview of this extinct flightless Mascarene Island bird. *Bull. Mus. nat. Hist. natur.*, 4ème sér., 18, Section C, n° 1: 57-77.

MOURER-CHAUVIRÉ C. (1995) - Dynamics of the Avifauna during the Paleogene and the Early Neogene of France. Settling of the Recent fauna. *Acta zool. cracov.*, 38 (3): 325-342.

MOURER-CHAUVIRÉ C., BOUR R., and RIBES S. (1996) - The puzzle of the Réunion Solitaire solved. *Working Group on birds in the Madagascar Region*. Newsletter, 6 (1): 2-5.

MOURER-CHAUVIRÉ C., SENUT B., PICKFORD M., and MEIN P. (1996) - Le plus ancien représentant du genre *Struthio* (Aves, Struthionidae), *Struthio coppensi* n. sp., du Miocène inférieur de Namibie. *C. R. Acad. Sci. Paris*, t. 322, série IIa: 325-332.

## GEORGIA

N. I. BURCHAK ABRAMOVICH is 96 years old since the 26 September 1996, but he is full of the hope to finish the monograph on the birds from Binagade. His 1994 paleornithological report was published in 1995. He asks his 1995 report to be published in 1996, together with that of 1996. These two reports are strongly correlated and complete each other. The economic situation in Georgia is very difficult for the scientific workers. He would appreciate very much if somebody could send him the part V of the Brodkorb's Catalogue of fossil birds (Passeriformes), and the volume "Papers in Avian Paleontology honoring Pierce Brodkorb".

### 1995 Report

In 1995, Nicolai I. BURCHAK ABRAMOVICH finished the description of 4 new species of the genus *Gallus* from the Early Pleistocene to the Early Holocene of Caucasus, mainly in collaboration with Olga Potapova.

1. *Gallus tamanensis* n. sp., from the Taman Peninsula, locality of Sennaia, associated with the Taman fauna. It is a very large form.
2. *Gallus kudarensis* n. sp., from the Middle Acheulean of the Cave of Kudaro I, in South Ossetia, which is a middle-sized bird.
3. *Gallus imereticus* n. sp., from the Magdalenian of the Cave of Gvardjilas-Klde, in Imeretia. It is a very small bird and has been found together with *Lagopus lagopus*, the Willow Grouse.
4. *Gallus georgicus* n. sp., a middle-sized bird, from the Georgian caves, from the Late Paleolithic to the Early Holocene.

Due to the accumulation of new materials, a regrouping of the species, as well as territorial changes, has been made possible.

In 1989, the description of a new species, *Gallus karabachensis* Burchak and Aliev, was published. It comes from the Middle Acheulean of the Azych Cave, in the High Karabach (Minor Caucasus). It is a middle-sized Junglefowl. The holotype is a tarsometatarsus, with original structural characteristics (Burchak-Abramovich and Aliev, 1989). New materials of the genus *Gallus* are still arriving from the Palaeolithic caves of Georgia. In 1993, a new species of the genus *Gallus*, from the Upper Pliocene of Moldavia, locality of Tchichmiknoia, was described under the name of *Gallus moldovicus* Burchak, Ganea and Shushpanov. The holotype is a left tarsometatarsus. The other remains have not been studied yet. They include a *Gallus*

coming from the Early Holocene alluvial sediments of the Dniepr (Voinstvenskii M. A. and Umanskaia A. S., 1959), a tibiotarsus of *Gallus* sp. from the Middle Paleolithic of Trinka Cave, Moldavia (Ganea I. N., 1972), and a sternum and carpometacarpus from the Late Paleolithic of Krivtcha Cave, in Eastern Ukraine. The sternum shows morphological similarities with *Phasianus colchicus* L. (Marisova I. V. and Tatarinov K. A., 1982). The series of fossil bones of the genus *Gallus* is preserved in the Odessa University collection (Voinstvenskii M. A. 1967), together with other materials belonging to a genus that has not yet been studied.

A manuscript has been completed with the description of the new species *Gallus meschtscheriensis* n. sp. which comes from the Late Paleolithic settlement of Soungir, near the city of Vladimir, on Kliasma River, in the Moscow region. The holotype is a fragment of pelvis. By its morphological characteristics, it looks very much like *Gallus gallus bankiva* L. The accompanying fauna includes grouse, *Larus argentatus*, and 13 mammal species amongst which are nordic forms such as *Alopex lagopus*, *Lagurus lagurus*, *Dicrostonyx* sp., *Mammuthus primigenius*, *Rangifer tarandus*. From the data of the botanist V. N. Soukatchev, in the surroundings of the Soungir settlement at that time, the vegetation must have been more thermophilous than it is at the present time. The marsh turtle, *Emys orbicularis* L., was to be found in the aquatic basins. To our opinion, the wild Junglefowl must have had favourable life conditions during the Late Paleolithic. At Soungir it can be supposed that it was a migratory bird, i. e. that during the winter it emigrated towards warmer regions, as do other *Gallus* species. The climatic conditions during the Late Paleolithic at Krivtcha Cave, in the North of Western Ukraine, were approximately similar to those of the Moscow region, and it has been established that a wild Junglefowl, *Gallus* sp., was living there. During the winter it probably flew away from the Carpathian region, to go southwards.

A large manuscript has also been completed, with the detailed description of a skull and mandibula of *Caspiodontornis kobystanicus* Aslanova and Burchak, 1982. The question of creating a distinct family Caspiodontornithidae for this genus cannot be resolved in the present-day conditions in Tbilissi and Baku.

Another manuscript is ready, by N. I. Burchak-Abramovich and G. A. Mczedlidze, with the description of a new species of fossil goose, *Anser kizatibiensis*, and another of a fossil duck, *Anas kizatibiensis*, from the Lower Pliocene diatomites of the vicinity of Kizatibi village, district of Akhaltzikhskii, in southern Georgia. The holotype of the goose consists of the bones of a right wing, with the print on the diatomite of the right primary flight feathers. The holotype of the duck is a partial skeleton, with the sternum and two anterior extremities. The Kizatibi diatomites are very promising concerning the possibility of finding paleontological material. They have already yielded a skeleton of a very small tern, *Sterna milnedwardsi* Rjabinin 1937, as well as some fragments of the skeleton of a frog, *Rana macrocnemis kizatibiensis* Rjabinin, two species of fishes, a hipparion, a rich flora etc.

In Kichinev (Moldavia) the description of a new species of duck (*Anas moldovica*) coming from the Upper Pliocene locality of Tchichmiknaia has been published. The holotype is a middle-sized humerus.

A "Catalogue of fossil birds from Georgia", with commentaries, has been prepared for the collection on the Geology of Georgia (in Georgian).

The study of the comparative anatomy of the skeletons of *Lyrurus tetrax* and *Lyrurus mlkosiewicki* Tacz. and of three different species of the genus *Haliaeetus*, has been temporarily interrupted, due to technical complications.

### **The birds of Binagade**

The Middle Pleistocene asphalt (Kira) deposits of Binagade, in the vicinity of Baku, seem to be the richest locality of fossil fauna and flora. By its dimensions, it is possibly larger than the famous site of

Rancho La Brea, in California. The paleontological site of Binagade was discovered in 1938. The systematical research was carried out by the Zardabi Museum of Natural History, Museum of the Geological Institute of the Academy of Sciences of the Azerbaidjan Republic, from 1938 to 1954, with an interruption during the war years, then less regularly pursued until 1958, which was the year of Burchak-Abramovich's transfer from Baku to Tbilissi. Then, after all the field work was carried out, the excavations came to an end. It had been projected to celebrate in 1988 the 50th anniversary of the discovery of the Binagade locality, scientific articles had been written to be published in a jubilee volume, but none of this came to finition, due to financial problems.

At the present time, only a small part of the locality has been explored, and, on its largest part, constructions of the city of Baku and oil installations have been erected. It is now time to be concerned with the conservation of the faunistic and floristic locality of Binagade for science. As far as the fossil birds from Binagade are concerned, a preliminary monograph of 54 pages, by Serebrovski, was published in 1948, and a few dozen of less important papers by Burchak-Abramovich. A series of works about pathological phenomena and traumatic formations on mammal and bird bones was published by the brothers Gussein V. and Demir V. Gadjeva.

For the moment there is no important synthetic monograph on the birds of Binagade, and for it to be completed, it would be necessary for the paleornithological community to put in a lot of work. N. I. Burchak-Abramovich and his co-workers are making this work progress as best they can. The Binagade locality is situated on an old migratory route of birds, and for that reason, during the seasonal migrations, an incredible quantity of aquatic and periaquatic birds accumulated in the ancient asphaltic basin of Binagade, particularly migrants coming from the North. Very numerous are those which have perished in the asphaltic trap of Binagade, diurnal and nocturnal raptors, Corvids, which were not adverse to feeding on the carcasses of the animals which died in the lake. A large percentage was also made up of typical continental animals, large species from different orders and small Corvids which approached this treacherous lake, to drink for example, or to bathe. In this way a "misleading Binagadian ornithocoenosis" was obtained, corresponding to the massive death trap of the birds. Moreover not only birds have been found, but also mammals, insects, and a very small number of Amphibians and Reptiles, while, on the contrary, there are absolutely no skeletal remains of fishes.

The quantity of bird bones found in the cemetery of Binagade is absolutely impossible to assess and cannot be quantitatively appreciated. Billions of bird bones have been found. The mammals are appreciably scarcer. They include 32 species, amongst which 5 new fossil species, and 9 new fossil subspecies. There are 107 species of Coleoptera at Binagade, amongst which 7 new fossil species, and 2 new fossil subspecies (Bogatchev A. V., 1948). In the molluscs, there is one new fossil species, *Pupilla frivola* Hejvandova. The vegetation which was present around the Binagade basin has only been preliminarily described in a single paper by V. A. Petrov, 1939. The multiple-fruited junipers, a variety of pear, pomegranate trees, pistachio trees, tamarisks, wild cherries, as well as different grasses, were growing there.

The taphonomy of the locality of Binagade is very particular and was given much attention during the excavations (see field notes). Pieces of tendons, or fragments of skin are very rarely preserved on the bones. Until now, no mummified body has been found, but it is possible. A more detailed description of the Binagade taphonomy and of the mechanisms which led to the death of the animals in the asphaltic marsh can be found in the monograph by I. M. Gromov, about the fossil rodents of Binagade (his doctoral thesis). In view of the preparation of his monograph, during the fall of 1944, I. M. Gromov came from Leningrad to Baku, and stayed in N. I. Burchak-Abramovich's home. He studied the Binagade rodents in the Natural History Museum, and together with Burchak, and sometimes also with Verechtchaguin, who was a theriologist, they made excursions to the asphaltic promontory, where they observed the death of the recent fauna, due to the invasion by oil. They used to visit the locality of Binagade, where they made, according to their possibilities, small excavations in order to collect rodents and to make taphonomic observations. It may be added that, in the Binagade locality, the excavations were interrupted during the war, from 1943 to 1947. So it was Burchak who, together with Gromov and Verechtchaguin, made the first valuable observations concerning the taphonomy of the locality.

It has been demonstrated that, as a whole, the death of animals occurred in an aquatic basin, invaded by oil and strongly marshy. However, independently, the rodents and continental small birds were transported into the oil lake by little currents, close to the edge, and also by a small river which flowed into the lake. All this information was later described by Gromov (1952). Our later field notes concerning the scientific excavations of 1947 to 1954 include extremely precious information concerning the taphonomy of the faunal and floral locality of Binagade.

At the present time the list of fossil birds from Binagade includes 108 species. This list is likely to be extended eventually, as the fossil fauna of Binagade is studied. This list includes 4 extinct species: *Philomachus binagadensis* Serebr., *Leucogeranus bogatschevi* Serebr., *Anser azerbajdzanicus* Serebr., *Bubo binagadensis* Burchak, and 4 extinct subspecies: *Anas platyrhynchos palaeoboschas* Serebr., *Aythya marila asphaltica* Serebr., *Cygnus olor bergmanni* Serebr., *Pelecanus crispus palaeocrispus* Serebr.

At the present time, the bird material which is studied comes from the 1947-54 excavations, which were directed by Burchak-Abramovich. These excavations were carried out according to the usual rules concerning paleontological excavations, i. e. representation on a map of the surface to be explored with square meters, registration of the position of the bones, taphonomic observations. In addition the material from the 1938 to 1942 excavations is also studied. During these excavations there was no registration and no supervision by a paleontologist. These skeletal remains had not been anteriorly studied by Serebrovski and Burchak-Abramovich. In 1957, when Burchak took up his functions at the Academy of Sciences of Georgia, at Tbilissi, all the previously unstudied bird bones of Binagade, with the authorization of the Director of the Natural History Museum of Azerbaijan, R. D. Djafarov, were transferred by him to Tbilissi, with the obligation of studying them and ensuring their preservation, in agreement with the Academy of Sciences of Azerbaijan. What had been agreed was progressively accomplished, maybe with a slight delay.

Burchak-Abramovich has begun to work with several collaborators. A. V. Panteleyev, from the Natural History Institute of the Academy of Sciences of Saint-Petersburg, studied the Passeriformes from Binagade, and has already described a series of new fossil forms. Olga Potapova expressed the wish to work on the Charadriiformes, the Galliformes, and perhaps some other groups. The first scientist to work on paleoneurological questions was D. N. Burchak, paleoneurologist at the Institute of Paleobiology of the Academy of Sciences of Georgia, at Tbilissi. Zlatozar Boev, from the Natural History Museum of the Academy of Sciences of Bulgaria, at Sofia, worked on the Ciconiiformes and the Gruiformes, and provided some very important data for the taphonomy of the site.

The faunal and floral fossil locality of Binagade belongs to Azerbaijan and is one of its greatest scientific riches. It would be highly desirable that a young Azerbaijani paleornithologist take part in the study of the fossil birds from Binagade.

## **1996 report**

In 1995, BURCHAK ABRAMOVICH spent much time studying fossil birds from the Paleolithic of Georgia, fossil birds from the genus *Gallus*, and fossil birds from the Late Tertiary of Caucasus.

In 1996 he mainly pursued his previous work on the Middle Pleistocene birds from the locality of Binagade, about which he gave a considerable information in his 1995 report. He worked mainly on the Accipitriformes, Strigiformes, and a part of the Galliformes.

There have been 3 main studies about the birds from Binagade. The first one consists of two papers by Serebrovki (1945, 1948); the second one is a summary of the bird species, included in a paper concerning the history of the locality (1955), and the third one is Burchak's hand-written list of species. This third one is the most complete and includes 17 species of Accipitriformes, 8 species of Strigiformes, and 2 species of Galliformes.

Burchak's hand-written list includes the following species:

## Accipitriformes

*Falco peregrinus* Tunst., *Falco tinnunculus* L., *Accipiter gentilis* (L.), *Circus cyaneus* (L.), *Circus macrourus* (Gm.), *Circus aeruginosus* (L.), *Milvus* sp., *Haliaeetus albicilla* (L.), *Neophron percnopterus* L., *Gyps fulvus* Hablzl., *Aegypius monachus* (L.), *Aquila chrysaetos* (L.), *Aquila heliaca* Sav., *Aquila nipalensis* Hodgs., *Aquila clanga* Pall., *Aquila* sp., *Buteo rufinus* (Cretzch.).

## Strigiformes

*Nyctea scandiaca* (L.), *Bubo bubo* (L.), *Bubo binagadensis* Burchak 1956, *Otus scops* (L.), *Asio otus* (L.), *Asio flammeus* (Pontopp.), *Athene noctua* (Scopoli), *Aegolius funereus* (L.).

## Galliformes

*Perdix perdix* (L.), *Alectoris graeca* Meisn.

In the summary about the Binagade birds, some mistakes have been made: instead of *Milvus* sp., *Milvus milvus* (Red Kite) was indicated, and instead of *Buteo rufinus* (Long-legged Buzzard), *Buteo buteo* (Buzzard) was indicated. Among the Strigiformes *Bubo binagadensis*, as well as *Aegolius funereus*, were omitted.

Indubitably, as the study of Binagade birds progresses, the number of Accipitriform and Strigiform species is growing. It is likely that *Falco cherrug* (Saker Falcon), which comes to Azerbaijan during the winter, *Falco biarmicus* (Lanner Falcon), which is still now nesting in the Kabristan, at the South of Baku, and *Falco naumanni* (Lesser Kestrel), which is common in eastern Azerbaijan, will be discovered. The future discovery of the Fishing Owl, and other owls from eastern Siberia, is also likely. Among the forest-dwelling Galliformes which must have lived around the Binagade lake, there must have been a pheasant, a francolin, and maybe a wild Junglefowl, from the genus *Gallus*.

The discovery of a Purple Gallinule is also very likely, considering that a near relative, *Fulica atra* (Coot), has been discovered. It is also possible that a flock of Flamingos was present in winter, in the region of the lake, but they have not been discovered yet.

At the same time, in the lake of Binagade invaded by tar, a primitive man may have come down from the surrounding heights, while a flock of the ostrich *Struthio*, which during this period was widespread in the semidesertic regions of Minor Asia, may have penetrated into the asphaltic marsh.

## Projects of palaeornithological works for 1997

1. Study of the Pleistocene birds of Binagade (Accipitriformes, Strigiformes, Galliformes, Ciconiiformes and other groups). The Passeriformes have been temporarily sent to the Zoological Institute of the Russian Academy of Sciences, where Panteleyev is working on them in collaboration with Burchak.
2. Other scientific studies (Taxonomy, Paleoecology, Taphonomy) using the field notes of the excavations made at Binagade between 1948 and 1957.
3. Comparative morphology of the skeleton in *Lyrurus mlokosiewicksi*, from Caucasus, and *Lyrurus tetrix*.
4. Upper Pliocene birds from the locality of Dmanisi, from the 1977 excavations. From this locality the giant ostrich, *Struthio dmanisensis* Burchak and Vekua, has been described; it is represented by a complete pelvis.
5. Study of new bird materials from the Tertiary and Quaternary of Caucasus.

6. Monograph concerning the Pleistocene birds of Binagade. The first volume is nearly finished.

7. About 20 papers, concerning fossil birds and fossil bovids, are ready to be published, but, at the present time, in Georgia, it is very difficult to get papers published.

#### Recent Literature

BURCHAK-ABRAMOVICH N. I. and VEKUA A. K. (1990) - The fossil ostrich *Struthio dmanisensis* sp. n. from the Lower Pleistocene of Eastern Georgia. *Acta zool. cracov.*, 33 (7): 121-132.

BURCHAK-ABRAMOVICH N. I. and VEKUA A. K. (1991) - The fossil ostrich from the Pleistocene of Dmanisi (Eastern Georgia). "*Fauna and Flora from the Meso-Cenozoic of Georgia*". Institute of Paleobiology of the Academy of Sciences of Georgia, Tbilissi, p. 173-188 (in Russian).

#### GERMANY

K. FISCHER has finished a manuscript "New findings of birds from the Middle Oligocene of Weißelster Basin near Leipzig (Sachsen)". A new genus and species of Rallidae is described, and a new record of *Frigidafons brodkorbi* Cheneval 1995, is given. Both are from the Rupelian formation, uppermost Phosphorit Nodule Horizon.

Gerald MAYR is still working on the small "Coraciiform" and "Piciform" birds from the Middle Eocene Messel site. Due to the very kind cooperation of Michael DANIELS, it has been shown that the "Piciform" birds of Messel belong to a group of zygodactyl birds which is also present in the London Clay. Other groups show close affinities to the Upupidae/Phoeniculidae, to the Alcediniformes (sensu Feduccia) and, possibly, to the Sylphornithidae. In connection with the description of fossil forms, Gerald is also working about the osteology and phylogeny of extant "Coraciiform" birds.

Sandcoleiformes apparently were not confined to North America. Some birds from Messel seem to belong to this order. D. Stephan PETERS presented a new genus and species at the SAPE meeting in Washington.

Most exciting are several specimens of Jurassic birds from Liaoning, China, that are now in the Senckenberg-Museum. They probably represent or are close to *Confuciusornis sanctus* although they differ clearly from the original description by having a pygostyle, proximally fused metacarpus major and minor, a carinated sternum etc...In spite of the fingers being freely movable, the wings are large and well developed. At least some specimens had two long (ornamental ?) plumes in the tail. Stephan presumes that the birds represent a mixed population and not a single species. Studies are going on.

B. STEPHAN indicates that the Zoologisches Museum of Berlin is now called Institut für Systematische Zoologie. He is working on a series of papers about the evolution of birds hand and wing. The next paper will be on the reduction of claws, phalanges and primaries, and will be published in *Mitt. Zool. Mus. Berlin, Suppl. Annalen für Ornithologie*.

ELZANOWSKI A. and WELLNHOFER P. (1996) - Cranial morphology of *Archaeopteryx*: Evidence from the seventh specimen. *Journ. Vert. Paleont.*, 16 (1): 81-94.

MEY E. (1995) - Wiederbeschreibung des Sperlingskauz-Federlings *Strigiphilus splendens* (Insecta, Phthiraptera, Ischnocera) und parasitophyletische Anmerkungen über die Eulen (Strigiformes). *Anz. Ver. Thüring. Ornithol.* 2 (1995): 193-205.

PETERS D. S. (1994) - Über einige grundlegende Probleme der Systematik. - p. 221-233 in: GUTMANN W. F., MOLLENHAUER D., and PETERS D. S. (Eds.): *Morphologie & Evolution*. Verlag Waldemar Kramer, Frankfurt am Main.

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- WELLNHOFER P. (1995) - Reply to comments by Chiappe, Norell and Clarke on my C. R. Acad. Sci. Paris, 1994: On the origin and early evolution of birds. *C. R. Acad. Sci. Paris*, t., série IIa: 1033-1034.
- WELLNHOFER P. (1996) - Solnhofen und die Paläontologie. *Fossilien*, 3/96: 147-158; Goldschneck-Verlag, Korb.

## GREAT BRITAIN

Alan COOPER, is at the present time at Oxford. He is currently working on two projects involving avian subfossils. The first is an extension of some preliminary studies using DNA to identify subfossil parrots from the Southwest USA, and Mexico. The parrots are typically macaw-like in morphology, but archaeologists working in the area need to identify the species in order to investigate prehistoric trade routes. So far the data support their identification as scarlet macaws, implying extensive prehistoric trade between this area and Meso-America.

The second project is a continuation of his molecular studies of ratite evolution. He spent 3 weeks with Helen James and Trevor Worthy in Madagascar, on a field trip with David Burney (Fordham University, NY) and several SUNY Stony Brook scientists looking for avian and mammalian subfossils. In the United Kingdom he is working on both moa and *Aepyornis* DNA. He is going to visit Glasgow University in order to drill a very small hole (1 mm) in an intact *Aepyornis* egg, to extract some of the dried embryo contents. The BBC will be filming the operation so he is hoping the egg will not fall into fragments, or that Madagascan beach sand will not pour out. At Oxford University he will be trying to obtain a very large amount of DNA sequence from a moa, with the help of Trevor Worthy and the Museum of New Zealand. With this information, he hopes to re-construct a definitive molecular phylogeny for the ratites, and compare this to Gondwanic paleogeography.

Joanne H. COOPER is preparing a Ph. D. on the Late Pleistocene avifaunas of Gibraltar as evidence of palaeoenvironmental change, supervised by Dr. E. P. F. Rose, Department of Geology, Royal Holloway, University of London, Dr. R. Prys-Jones, Bird Group, The Natural History Museum, and Prof. J. Rose, Department of Geography, Royal Holloway, University of London.

John STEWART has been involved in writing up the following Pleistocene faunas in Britain, all of which come from recently excavated Paleolithic archaeological sites. They are the sites of Boxgrove (Early Middle Pleistocene), Barnham (Middle Pleistocene), and Torbryan Valley (Late Middle Pleistocene to Holocene). In addition he has been active in excavating a couple of caves localities in the hope of finding bird bones. The first is Joint Mitnor (last interglacial) which has been fairly unrewarding, although the small

mammals, which he is also working on, have counterbalanced the lack of birds. The second site is Merlin's Cave, also known as Wye Valley Cave, which was originally excavated by Dorothea Bate. The latter has been very successful with many bird remains of the late glacial period. Research he is conducting on specific European taxa, such as *Lagopus*, *Grus*, *Corvus*, *Phalacrocorax*, *Sturnus*, and others is meanwhile progressing well.

Michael DANIELS send the following information:

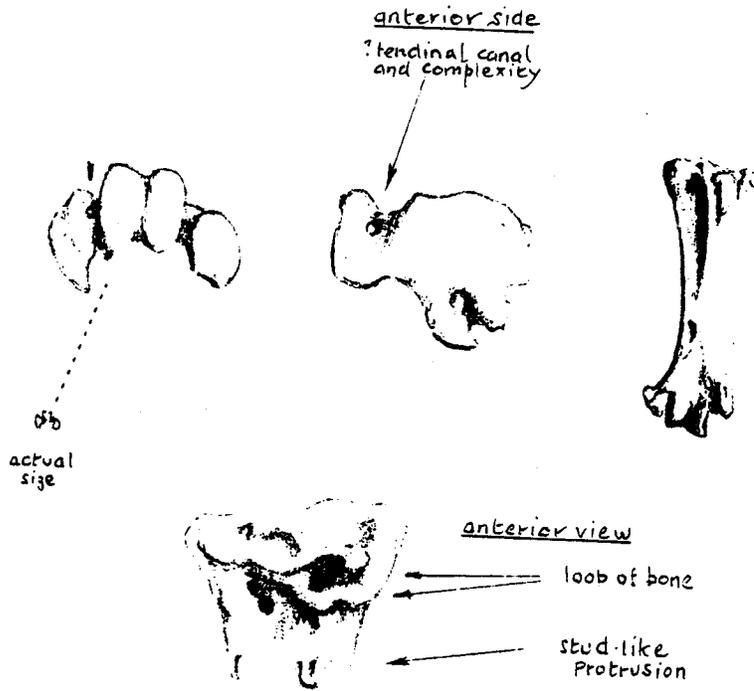
One of the first birds ever retrieved from the Naze was identified as of the Palaeognathae. In May of this year I acquired another example of what proved to be the same species. Between these two discoveries, in 1974 and 1996, a further 25 individuals of this type of bird alone were added to the collection, plus around 600 representatives of other groups drawn from the once living diverse avian population.

The number of finds since I last reported have maintained the average year by year count for the place. As usual, some have added more to the number of recognized types, others, probably amounting to the majority, are totally new to the collection. In one particularly notable instance, insight produced by additional material completely invalidated tentative ideas on identity established on the basis of single bone evidence. The original acquisition, a near perfect tarsometatarsus collected in 1982, may have easily encouraged someone to venture a full description of a new lower Eocene bird. Ideas of some cathartid affinity as was first supposed, had to be dismissed, the fossil to become yet another Naze enigma. Other aspects of the later bird's recovery are worthy of comment. It happened to be the most extensively preserved of six individuals present in one foreshore accumulation. Brief details of the others that shared this multiple burial may be of interest. Catalogue number WN.958488 ( 'A' applied to the major item ), was identified as a frequent Waltonian form, similar to or the same as the original type *Primobucco olsoni*. based on North American material and now regarded as a cuckoo/owl mosaic. The specimen proved to be another important acquisition, the fossil closely duplicating lower leg bones of an earlier Naze recovery. Consisting of an almost unimpaired tibiotarsus and perfect tarsometatarsus, the latter shows clear heterodactyl characteristics and thus may prove worthy of trogon consideration. *Archaeotrogon* remains are also found at the Naze; the name with its inference to category is confusing since evidence confirms that this group of birds appear closer to the Caprimulgiformes. 'Q' specimen represents yet another occurrence of mainly tiny to small birds that may be likened in part to passerines. These forms constitute the most populous element of the Naze avifauna and by their frequency suggest they may have held a singularly important status in London Clay times as do the perching birds today. 'E' specimen consists of only a pes phalange and claw. Being of similar size to 'A' individual, but differing morphologically, may present a problem in determining the peripheral anatomy of this part of two obviously separate birds. 'F' specimen is represented by a solitary distal tibia which may just have some connection with the todies .

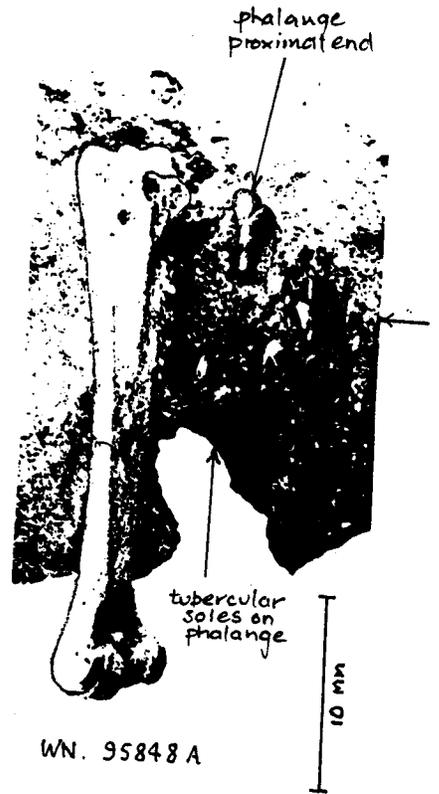
There were retrievals of other birds doubtlessly of no less importance. A tiny tarsometatarsus with quite amazing proximal structure was eventually reasoned to have dove-like features. This speculative designation proved to have interesting implications. I found that a bird, *Microena goodwini*, had been described also on the basis of tarsal characters. This about a third larger in size than the Naze fossil, but seems generally similar. The bone, collected from the English Channel coast exposures of London Clay at Bognor Regis was affirmed to be of the Columbidae; I would prefer to be more cautious. In 1980, from higher London Clay deposits accessible along the coast of Sheppey, southeast England. I collected a very small distal end of a tarsus which may also be of the same general group. This is from an even smaller individual than the Naze specimen, perhaps half the size of the extant *Geopelia cuneata*. I illustrate WN.95905 from Walton.

Among a variety of discoveries I should mention the acquisition of further *Coracias*-like forms, 'parrots', owls, waders, speculative rails and a bird with a definite diver-like foot; this similarity to an earlier extensive individual which attracted the exclamation of a visitor here... 'the earliest loon'

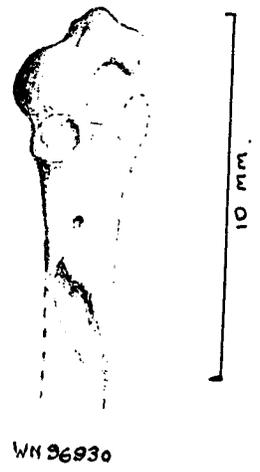
Last months Naze discovery caused considerable excitement. The exquisitely preserved bones of a small bird seemed to have no counterparts in the collection and in the hope of finding some clues as to identity I sought the help of literature. I must be guarded in raising hopes that I could, with this fossil, shed light on the origins of the hemipodes, but several of the elements bear some justifiable comparison with the Turnicidae. In the morphology of these birds, and I am aided by the useful illustrations in Olson and Steadman 1981 (thanks), features of the coracoid, ulna, humerus less so, but good in respect of the carpometacarpus, all are worth careful scrutiny. Likewise, what is revealed by the detail of the sternum is encouraging; certainly it has a very large spina-externa of generally the right structure. Working out the ratios of the wing elements in order to compare with modern, shows that, despite the size of the smaller fossil, the figures are interestingly close to *Turnix suscitator* and intriguingly to *Messelornis*: One could with a degree of imagination, see similarities in the coracoid of my WN.96930 with that figured by C. Mourer-Chauviré 1995 *Itardiornis*, (incidentally also *Turnix sylvatica*...Olson and Steadman, 1981). Other Naze elements could usefully be compared judging by various figures appearing in Mourer-Chauviré, 1995.



WN 95905



WN. 95848 A



WN 96930



During the period since my last contribution to the newsletter, apart from adding an appreciable number of specimens to the collection, I was able to increase the total of London Clay localities recording fossil bird occurrences. The site that can now be added to the list was, rather gratifyingly, near to my seaside residence. Exposures are generally infrequent along the Clacton part of this north-east Essex coastline due to persistent covering of superficial deposits. Fresh London Clay is however never far below the surface and after some stormy weather conditions, clay appeared at several places on the foreshore. At two spots, fortuitously, the outcrop revealed fossil logs. Always of potential interest when they occur in the higher strata of the formation, not though in the low London Clay of the Naze, these objects appeared to act as traps on the ancient seabed; drifting debris lodged against or were swept under the obstructions so as to concentrate material that would be extremely uncommon otherwise. Encouraged to remove bulk samples of the material, I eventually managed to process a not inconsiderable amount of pyritized and carbonized log together with adjacent clay. Given that the paleontology (and geology) of the London Clay of this region is virtually unrecorded, the logs provided a rich marine biota and some new occurrences. Except in the Naze horizons, terrestrial material is of great rarity in the London Clay; apart from remains of the ancient flora, the writer has never obtained land faunas elsewhere from the formation despite much investigation of innumerable localities over 30 years. It was then with considerable satisfaction to come across a wholly unexpected relic in the last batch of rather tediously processed screenings. Under the microscope the object was revealed to be avian, a tarsus lacking distal trochlea, but seemingly familiar in its proximal structure. Indeed it took little searching of the collection, first via catalogue records, to find a counterpart that had been obtained from Walton. The similarity proved conclusive and helped underline the pre-eminence of the definitive Naze material. Comparison with more extensive fossils suggests the bird's identity might lie with a *Coly* forerunner.

Michael Daniels

118 Dulwich Road, Holland-an-Sea, Clacton-on-Sea, Essex, UK

10th September 1996

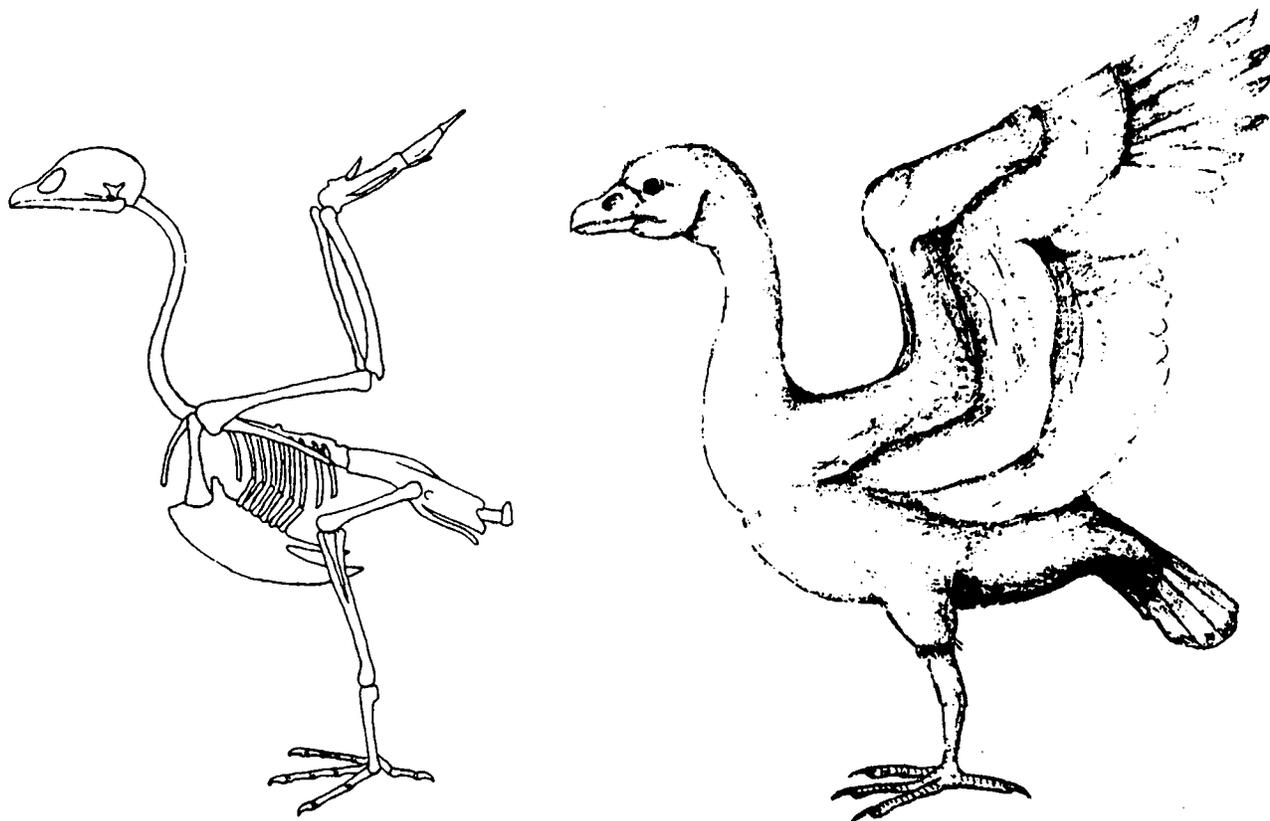
	Humerus	Ulna	Carpometacarpus
<i>Turnix suscitator</i>	39.5	38.0	22.5
<i>Rhinoceros jubatus</i>	39.5	39.5	21.0
<i>Messelornis cristata</i>	38.5	39.5	22.0
WN. 96930	38.5	38.5	23.0

Ratios % of the main wing elements

Jolyon PARISH has been working on several fossil birds from the Lower Eocene of Walton-on-the-Naze, which appear to be very similar to modern screamers (Anseriformes: Anhimidae), and seem to confirm a Lower Eocene occurrence of the family. The material includes in particular two almost complete skeletons. The skull is screamer-like, being similar to that of a domestic fowl (*Gallus*). The quadrates, humerus, ulna, pygostyle and syrinx are superficially like those of a duck. The sternum is four notched and the costae seemingly possess no uncinat processes, as in modern screamers. The sternum has 6 or 7 sternal costae. The coracoids possess coracoid fenestrae and procoracoids, and are like those of pigeons and coots, and overlap in the sternal sulci. The scapulae are like those of a duck or pigeon, and the furcula is similar to that of ducks and the charadrii. The radius is fairly like that of a peafowl. The carpometacarpus is proximally

similar to that of a duck. The phalanges of the manus are also like those of ducks and the digit two has 3 elements, as in the Anatidae and also divers. The tibia is like that of a coot distally, and also pigeons. The tarsometatarsus and toes are like those of a partridge.

Previously the earliest known screamers were from the Pleistocene of Argentina, about 20,000 years ago, and showed little difference from the extant screamers. The family Anhimidae is today restricted to South America, but screamers-like fossils have been found both in the Eocene of England and of United States (Green River Formation, Wyoming).



Skeletal and life reconstruction. Approximately 30 % life size (Jolyon Parish).

COOPER J. H. (1996) - Quaternary micromammals from Gorham's Cave, Gibraltar, and their palaeoenvironmental significance. *Almoraima*, 15: 69-85.

DAVIS P. G. and BRIGGS D. E. G. (1995) - Fossilization of feathers. *Geology*, 23 (9): 783-786.

## ITALY

Marco PAVIA is still working on the Middle Pleistocene birds of Spinagallo Cave, in Sicily. He is also starting to work on the skull of *Bubo* coming from Capo Figari, in Sardinia, and preserved in the Museo Regionale di Scienze Naturali of Torino, and projects to finish this paper before the end of the year. This skull probably belongs to *Bubo insularis*.

## NEW ZEALAND

Joseph McKEE has been busy the past few years collecting vertebrates, mainly from his Pliocene localities. Although these have been mainly marine mammals and fish specimens, there has been some bird material. Fragmentary bones representing a second species of penguin from the New Zealand Pliocene have been collected from two sites. This penguin appears, based on the material collected so far, to be somewhat larger than the *Tereingaornis moisleyi* penguin which has been known from sometime from the New Zealand Pliocene. Further pseudodontorn (bony-toothed birds) material has come to light, largely fragmentary limb elements. A leg bone from a Late Miocene, (approx. 9-10 my) site, has been identified as pseudodontorn and represents the first Miocene specimen from the North Island of New Zealand. The strata from which this Miocene specimen was collected has produced abundant fish and few marine mammal bones. Several concretions of Pliocene age contain bird bones and await preparation, but several specimens in soft matrix are being prepared at the moment and represent new birds for the New Zealand Pliocene record.

Trevor WORTHY has been continuing his studies of Quaternary faunas in the South Island, with emphasis on the southern regions of Otago and Southland. Apart from reworking all the existing collections to see what is in them, much new material has been collected. Perhaps the gem amongst this is a perfect skeleton of the South Island extinct goose *Cnemiornis calcitrans*. This has prompted a redescription of this aberrant species, currently under preparation. The analysis of the large Amsterdam island collection is complete and the results were presented at the SAPE meeting in Washington. The list of new papers by himself and his coauthors are presented below. The one by Anderson *et al.* is a large and important multidisciplinary study of a major early archaeological site.

- ANDERSON A., WORTHY T., and McGOVERN-WILSON R. (1996) - Moa remains and taphonomy. Chapter 14, p. 200-213, in: Shag River Mouth, the archaeology of an early Maori village. ANDERSON A., ALLINGHAM B. and SMITH I (Eds.) *Research papers in Archaeology and Natural History*, No 27, ANH publications, RSPAS, The Australian National University, Canberra.
- HOLDAWAY R. N. and WORTHY T. (1996) - Diet and biology of the Laughing owl, *Sceloglaux albifacies* (Aves: Strigidae) on Takaha Hill, Nelson, New Zealand. *Journal of Zoology*, London, 239: 545-572.
- McKEE J. W. A. (1994) - Geology and Vertebrate Palaeontology of the Tangahoe Formation, South Taranaki Coast, New Zealand, p. 63-91 in: BRIGGS R. and MOON V. (Eds.) *Geological Society of New Zealand Miscellaneous Publication* 80B.
- VICKERS-RICH P., TRUSLER P., ROWLEY M. J., COOPER A., CHAMBERS G. K., BOCK W. J., MILLENER P. R., WORTHY T. H., and YALDWIN J. C. (1995) - Morphology, myology, collagen and DNA of a mummified upland moa, *Megalapteryx didinus* (Aves: Dinornithiformes) from New Zealand. *Tuhinga: Records of the Museum of New Zealand Te Papa Tongarewa*, 4: 1-26.
- WORTHY T. H. (1996) - Holocene populations of shags *Leucocarbo* spp. in the Far North, New Zealand. *New Zealand Journal of Zoology*, 23: 89-95.
- WORTHY T. H. and HOLDAWAY R. N. (1995) - Quaternary fossil faunas from caves on Mt Cookson, North Canterbury, South Island, New Zealand. *Journal of the Royal Society of New Zealand*, 25 (3): 333-370.
- WORTHY T. H. and HOLDAWAY R. N. (1996) - Quaternary fossil faunas, overlapping taphonomies, and palaeofaunal reconstructions in North Canterbury, South Island, New Zealand. *Journal of the Royal Society of New Zealand*, 26 (3): 275-361.
- WORTHY T. H. and HOLDAWAY R. N. (1996) - Taphonomy of two Holocene microvertebrate deposits, Takaha Hill, Nelson, New Zealand, and identification of the avian predator responsible. *Historical Biology*, 12: 1-24.

## POLAND

Zygmunt BOCHENSKI published his popular book on fossil birds. The book contains the following chapters: Introduction (with a brief history of SAPE), Finding places and characters of remains, Mesozoic birds, Differentiation of size and shape in fossil birds, Numbers and longevity of fossil bird species, Presence of today exotic groups of birds in European fossil faunas, Fossil birds of Poland, Dictionary of most important anatomical names, References. The book is illustrated with 25 figures (mainly maps). Preparing a review of the enantiornithine birds (now submitted to a Polish journal "Przegląd zoologiczny" [Zoological review]) he found that the distribution of finding places of the Lower Cretaceous Enantiornithes on the background of palaeocoastlines indicates that those small and weakly flying birds must have evolved in the Jurassic, earlier than *Archaeopteryx*. Wider discussion of the problem was submitted to the proceedings of the SAPE meeting in Washington. Zygmunt finished also a "List of European fossil bird species". Starting from the Brodkorb's Catalogue it contains all species described later and all results of the revisions, systematic changes, synonymizations etc.

Zbigniew M. BOCHENSKI finished a paper concerning fragmentation and digestion of bones in pellets of the Snowy Owl. Together with Teresa TOMEK he presented two taphonomic papers at the second meeting of the ICAZ Bird Bone Working Group, in Southampton, England, in September 1995. Their paper "Preservation of bird bones: erosion versus digestion by owls" will be published in 1997. Zbigniew and Teresa, with other coauthors, also prepared two papers on damage to bird bones in pellets of Gyrfalcons and Imperial Eagles.

Teresa TOMEK determined the bird remains from a Polish quaternary site, Deszczowa Cave (to be published next year). Together with Zbigniew, she identified the rest of the bird remains from the locality "Oblazowa 1" (Upper Pleniglacial of the Vistulian to the Holocene). The complete material will be published in the monograph of the locality "Oblazowa". They also prepared a preliminary description of the bird material from the Early Holocene locality of Klisura Cave, in Greece. Teresa finished the first part (Non-Passeriformes) of her monograph on North Korean birds.

The comparative collection of recent bird skeletons stored at the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, in Krakow, contains now complete skeletons of a little more than 1000 bird species, representing all orders except Apterygiformes (114 bird families). The exchange of specimens is highly appreciated.

BOCHENSKI Zy. (1995) - History of herons of the Western Palaearctic. *Acta zool. cracov.*, 38 (1): 347-358.  
BOCHENSKI Zy. (1996) - *Ptaki kopalne* [Fossil birds]. Pro Natura, Krakow, 84 p.  
TOMEK T. and BOCHENSKI Z. M. (1995) - Changes of the bird fauna in the Oblazowa region within the last 33 thousand years. *Pieniny-Przyroda i Czlowiek*, 4: 25-31 (in Polish, English summary).

## ROMANIA

In September 1995 Erika GAL and Eugen KESSLER attended the Second Meeting of the ICAZ Bird Bone Working Group, in Southampton, England, and presented a paper on "The fossil and subfossil bird faunas from archaeological sites in Romania". They thank Dale Serjeantson for her generous hospitality.

In February 1996 they visited Zygmunt and Zbigniew Bochenski and Teresa Tomek at the Institute of Systematics and Evolution of Animals in Krakow. They also thank them for their hospitality. Unfortunately they have not been able to attend the 4th SAPE meeting and the NAPC'96 in Washington, but they sent papers for the proceedings. In Romania they attended two international conferences held in Baile Herculane and Deva, and other scientific sessions (Oradea, Cluj-Napoca, Reghin).

They have identified the following fossil bird remains:

1. Upper Miocene birds from Dobrogea (Romania) and Chisinau (Moldavian Republic), with three new species of *Branta*, *Otis*, and *Tringa*.
2. Upper Miocene birds from Bela Stena (Yugoslavia) by Vesna Dimitrijevic, with a new genus and species of Procellariiforme.
3. Upper Pleistocene birds from Malisina Stijena and Trebacki krs (Yugoslavia).
4. Upper Pleistocene birds from Malta, preserved in the Geological Institute of Budapest, including *Anser equitum*, *A. fabalis*, *Cygnus falconeri*, *C. ciconia*, *Branta bernicla*, and a new species of *Aquila* from Gandia Fissure.
5. Upper Pleistocene birds from Grotta Romanelli (Italy): 16 species.
6. Upper Pleistocene birds from Rancho La Brea, including *Caracara* sp., *Coragyps* sp. and *Sarcoramphus* sp. A paper about these remains has been sent for the NAPC'96 session.
7. Several Upper Pleistocene and Holocene birds from Romania.

GAL E., KESSLER E. and KOHL St. - Osteometrical studies of the pectoral girdle and forelimb skeleton of Hawks (*Accipiter gentilis* L., Cl. Aves). *Studia Univ. Babeş-Bolyai*, Biol. 39 (2): 35-52 (in Romanian).

## RUSSIA

Unfortunately, a part of the fax sent by Evgueny KUROCHKIN did not arrived, so the information here is incomplete.

Alexandr KARHU has two papers in press in the *Paleontologicheskyy Zhurnal*, one on a new species of *Urmiornis*, and another one, in collaboration with A. Rautian, on a new family of Maniraptora (Dinosauria: Saurischia).

In March 1996 K. MIKHAILOV took part to the Symposium on Avian Taxonomy from Linnaeus to DNA (London) with the presentation of "Bird taxonomy based on egg-shell structure". In May-July he headed the field works of the Initiative group on the survey of bird biodiversity in the old-growth forests of the Northern Ussuriland (Far East of Russia). Konstantin asks all his colleagues to let him know if some new ootaxa are in process of printing (and references can be provided) for they could be included in the updated full list of egg parataxa.

In recent times, due to some reasons, the Olga POTAPOVA's activity was shifted to the study of the extinct steppe bison (*Bison priscus*) from several Mousterian and Late Paleolithic open sites in the South Russian Plain. Unfortunately this study did not make it possible for her to pursue her previous works on Pleistocene birds. But, since November, she is going to complete the identifications of the birds from Smelovskaya-2 cave, in South Urals, and grotto Bolshoi Glukhoi, in the Middle Urals. Grotto Bolshoi Glukhoi is a well stratified multilayer site, where Würmian layers yielded several thousand bird bones, a great amount of which belong to grouse and Passeriformes (mainly swallows). She has identified about 20 species which belong mainly to Willow Grouse and forest birds (Turdidae, Fringillidae). The main purpose of this study is a faunal/landscape/ climatological changing reconstruction, correlations, and comparisons of northern and southern Urals avifaunas in the Late Pleistocene.

Gennady BARYSHNIKOV has published paleozoological investigations on the vertebrate remains from the Mousterian deposits of the Mezmaiskaya Cave (Baryshnikov *et al.*, 1996). The site is situated at the altitude of 1350 m a. s. l. The radiocarbon datings are 35 760 BP, 32 280 BP, and 40 660 BP. Amongst 200 bird bone fragments, 33 bones belonging to 7 species were identified. Gennady also worked on the multilayers site of Denisova Cave, in Altai Mountains (South Siberia). The site is situated at the altitude of 800 m a. s. l., and dated by RTL of 69 000 years (layer 14), and 282 000 years (layer 22). About 600 bird bones were collected among numerous remains of mammals. They are under study by Andrei PANTELEYEV, who already identified 134 bones. Nearby Denisova Cave, there is the open site of Ust-Karakol 1, where in the layer 3 (Upper Paleolithic) was found a sternum of *Lyrurus tetricus* with chewing marks.

BARYSHNIKOV G., HOFFECKER J. and BURGESS R. (1996) - Paleontology and Zooarcheology of Mezmaiskaya Cave (Northwestern Caucasus, Russia). *Journal Archaeol. Sci.*, 23: 313-335.

KUROCHKIN E. N. (1996) - A new enantiornithid of the Mongolian Late Cretaceous, and a general appraisal of the infraclass Enantiornithes (Aves). *Palaeontological Institute of the Russian Academy of Sciences, Special Issue*, 60 p. Moscow: Palaeontological Institute.

MIKHAILOV K. E. (1995) - Eggshell structure in the Shoebill and pelecaniform birds: comparison with hammerkop, herons, ibises and storks. *Canadian Journal of Zoology*, 73: 1754-1770.

MIKHAILOV K. E. (1996) - The eggs of birds in the Upper Cretaceous of Mongolia. *Paleontological Journal* (Moscow), 1: 119-121 (in Russian, English summary).

## SOUTH AFRICA

Philippa HAARHOFF was fortunate in obtaining a bursary from the International Center of Scientific Studies (CIES) in France, which allowed her to spend two months in Lyon (Université Claude Bernard) and Paris (Muséum national d'Histoire naturelle). She compared Early Pliocene owls from South Africa with 21 different fossil owl species from France. A preliminary analysis reveals that there are at least four species of owls within the South African material from the Langebaanweg site. Two of them are possibly new species of Barn Owl but further comparisons with other fossil and recent material are necessary before an exact determination can be made. A brief summary of this work and the palaeoavifauna from Langebaanweg was presented at the SAPE meeting in Washington in June. Her stay in France was extremely rewarding and she is most grateful to Cécile Mourer-Chauviré, Martin Pickford, Brigitte Senut, and the CIES for organising and administering her funding.

Philippa is also involved in plans for the future development of the Langebaanweg site into a Palaeoenvironmental Research and Education Centre. It is hoped that this Centre will be open by the end of 1997 if the necessary funding becomes available. Part of the site has been declared a National Monument and will therefore receive the highest national protection for a Heritage site.

## SPAIN

Lluís GARCIA PETIT has just finished the first study - the site is not yet completely excavated - of the bird remains from the ancient town of Lattara (Lattes, France). He identified 58 different species in the 2058 remains, most of which were in his opinion eaten. Most of the remains belong to the genus *Aythya*. The study shows that the ornithofauna from the region near the town was strongly exploited, especially in winter, as most of the species do not breed in the country. During the last year, he also studied the bird remains from the Sklayn Cave, in Belgium (Mousterian) and the following archaeological sites in Catalonia: Mas Castellar (Iron Age), Moli de l'Espigol (Iberian Period), l'Espelt (Roman Period), and the Castle in Valencia d'Aneu (17th century).

J. C. RANDO and M. LOPEZ are working on fossil vertebrates from Canary Islands. Last year they assisted to the Second Meeting of the Bird Bone Working Group (International Council for Archaeozoology) at Southampton (England) with a poster on the bird remains from the archaeological site of Guinea (El Hierro, Canary Islands). They continue to work on fossil birds from Tenerife, birds from archaeological and paleontological sites of La Palma, and together with Bartomeu Segui, from Mallorca, on Passeriformes remains from Canary Islands.

Bartomeu SEGUI, together with Josep Antoni ALCOVER, is also working on the Miocene fauna from Menorca, which includes new species of Procellariiformes. He hopes to finish the manuscripts as soon as possible because he intends to make some excavations in Mallorca and in Menorca, looking for Pliocene and Pleistocene fossil bird bones.

ADAN G., SANCHEZ MARCO A. et alii (1995) - Prospecciones y excavaciones arqueológicas en el alto valle del Jarama (Valdesotos, Guadalajara, Castilla-La Mancha): 111-124, in: BALBIN R., VALIENTE J., and MUSSAT M. T. (Eds.): *Arqueologia en Guadalajara*. Serv. Publ. Junta Comunidades Castilla-La Mancha, Toledo.

BERMUDEZ de CASTRO, SANCHEZ MARCO A. et alii (1995) - El nicho ecológico de los homínidos del Pleistoceno Medio de Atapuerca. *Complutum*, 6: 9-56.

CACHO, SANCHEZ MARCO A. et alii (1995) - El Tossal de la Rocca (vall d'Alcala, Alicante).

Reconstrucción paleoambiental y cultura de la transición del Tardiglacial al Holoceno inicial. *Recerques del Museu d'Alcoi*, IV: 11-101.

CASTANOS UGARTE P. M. (1994) - Estudio de la fauna de la necrópolis de Villaricos (Almería). *Archaeofauna*, 3: 1-12

DIEZ C., SANCHEZ MARCO A. et alii (1995) - Grupos avicaptadores del Tardiglacial: las aves de Berroberria. *Munibe (Antropología-Arkeología)*, 47: 3-22.

HERNANDEZ CARRASQUILLA F. (1995) - Cueva de Nerja (Málaga): Las aves de las campañas de 1980 y 1982. in: Fauna de la Cueva de Nerja I. *Trabajos sobre la Cueva de Nerja*, No 5: 221-293.

RANDO J. C. (1995) - Presencia de restos de pigargo (*Haliaeetus* sp.) (Aves: Accipitridae) en yacimientos paleontológicos de Fuerteventura. *Vieraea*, 24: 65-69.

RANDO J. C. (1995) - Restos de hubara, *Chlamydotis undulata* (Jacquin, 1784) (Aves: Otidae), en la cueva del Viento (Tenerife, Islas Canarias). *Vieraea*, 24: 192.

RANDO J. C. and LOPEZ M. (1996) - Un nuevo yacimiento de vertebrados fósiles para la isla de Tenerife (Islas Canarias). *Proc. IX Intern. Symp. Vulcanospeleology*.

SANCHEZ MARCO A. (1996) - The presence of the Waldrapp *Geronticus eremita* (Plataleidae) in the Plio-Pleistocene boundary in Spain. *Ibis*, 138 (3): 560-561.

SANZ J. L., CHIAPPE L. M., PÉREZ-MORENO B. P., BUSCALIONI A. D., MORATALLA J. J., ORTEGA F. and POYATO-ARIZA F. (1996) - An Early Cretaceous bird from Spain and its implication for the evolution of avian flight. *Nature*, 382: 442-445.

SOLER N. and GARCIA L. (1995) - Un probable xiulet paleolític a Davant Pau (Serinya, El Pla de l'Estany). *X Col·loqui internacional d'Arqueologia de Puigcerda*: 195-206

SONDAAR P., McMINN M., SEGUI B. and ALCOVER J. A. (1995) - Paleontological interest of karstic deposits from the Gymnesic and Pityusic Islands. *Endins*, nº 20, Mon. Soc. Hist. Natur. Balears, 3: 155-170.

## SWEDEN

Per ERICSON has submitted four papers treating various aspects of the Presbyornithidae. They concern the anatomy, phylogeny, systematic relationships and paleornithology of the family, and is the outcome from his postdoctoral work at the Smithsonian Institution 1989-1990. Other paleornithological works include a paper to be published in the *Journal of Archaeological Science* on the early Holocene history of *Passer domesticus* in northern Europe, and another on the subspecific affinities of the Prehistoric Baltic Cormorants

(in press in *Ardea*). Together with Dr. Tom Parsons, Maryland, he is currently working on a phylogeny of the bird families of the world, utilizing both morphological and molecular data. This work produces interesting results that will be published shortly. In October 1996, he will spend one month in the field in Paraguay, collecting recent birds.

Tommy TYRBERG has completed his Catalogue of Pleistocene avifaunas of Europe which is ready for submission. He has not had time for much else in palaeornithological field this last year except preparing his paper on Late Pleistocene Seabirds in the North Atlantic and the Mediterranean, that he presented in Washington. At the moment he is working on a paper about species turnover and longevity in the Pleistocene of the Palearctic based on stratigraphic data from his catalogue. A preliminary analysis indicates that a large proportion of extant species must be of Pliocene age.

EBENMANN B., HEDENSTRÖM, A., WENNERGREN U., EKSTAM B., LANDIN J. AND TYRBERG T. (1995) - The relationship between population density and body size: the role of extinction and mobility.

*Oikos*, 73: 225-230.

TYRBERG T. (1996) - Origin, meaning and history of Swedish vernacular Bird Names. *Vår Fågelvärld* Supplement 24, Stockholm, 82 p. (in Swedish).

TYRBERG T. and HERNANDEZ CARRASQUILLA F. (1995) - First fossil record of the Great Skua. *Bull. Brit. Ornith. Club*, 115 (3): 167-168.

## UNITED STATES

Chapel Hill, North Carolina

The SAPE is happy to announce that Alan FEDUCCIA's book "The Origin and Evolution of Birds" was issued in September 1996 (see references).

Gainesville, Florida

David STEADMAN spent six weeks in July:August in Tonga and Vanuatu, searching for and sampling new late Quaternary bone deposits and attending a meeting of Pacific Archaeologists. This fall he is teaching a new course at the University of Florida entitled "Avian Systematics and Biogeography".

Gunnison, Colorado

Steve EMSLIE continues to teach and conduct research at Western State College, Colorado. In April 1996, he took three undergraduate students to Florida, to complete excavations of a new late Pliocene sinkhole deposit containing abundant and well preserved fossils of birds and mammals. This work, supported by the National Science Foundation and the Thornton Undergraduate Biology Research Fund at Western, resulted in the recovery of hundreds of fossil specimens. The birds from the site include additional specimens of a new species of eagle (*Amplibuteo* sp.) that also is known from the late Pliocene of Arizona. In addition, the site produced fossils of an extinct cormorant (*Phalacrocorax idahensis*), the first record of this species in the eastern U.S., and an undescribed species of woodcock (*Scolopax* sp.). This avifauna, as well as several others that Steve is studying, will be published in a monograph that will be completed in fall 1996. A paper on the fossil eagles from Florida and Arizona co-authored with Nicholas CZAPLEWSKI has been submitted for publication in the SAPE proceedings of the Washington, D.C., meetings in June 1996.

In February 1997, Steve and one student will travel to Palmer Station, Antarctica, to complete additional research on abandoned penguin rookeries in the Antarctic peninsula. This work, also funded by NSF, will

allow Steve to determine the age and period of occupation of these rookeries, and the species of penguin that used them hundreds of years ago. This research will help determine if penguin populations fluctuate in relation to climatic variables on a predictable pattern in Antarctica. If so, knowledge of these natural variations that occur in penguin populations will aid in determining the significance that human disturbances currently are having in species in this region.

#### Long Beach, California

Charlie T. COLLINS is working on a few fossil swifts from the Olduvai deposits. It is his only paleontological work, his other works are field studies of modern terns, skimmers and jays.

#### New Brunswick, New Jersey

Patricia WAINRIGHT, from the Institute of Marine and Coastal Sciences, Rutgers University, is doing evolutionary studies of the Parrots (*Amazona* sp.) in the Americas and West Indies, and Kittiwakes (*Rissa* sp.) from the Bering Sea.

#### New York

Since the last newsletter, Luis CHIAPPE has worked on a number of projects on early birds and their related non-avian dinosaurs (several of which will be included in the volume he is editing with L. Witmer - Mesozoic Birds: Above the Head of Dinosaurs). These projects include work on new material of *Mononykus* (with M. Norell and J. Clark), and on new birds from Madagascar (with C. Forster, D. Krause and C. Sampson; see Forster et al. 1996), and Spain (with J. L. Sanz and his team; see Sanz et al. 1996). He also submitted to Biological Reviews (co-authoring K. Padian) an article summarizing the recent advances on the origin and early evolution of birds. During the winter, Luis took a long, and very productive trip through Europe. There he was able to conduct research on the exciting new birds from the Early Cretaceous of Spain, and *Archaeopteryx* (including the spectacular seventh specimen). Luis also had the opportunity to examine the material of *Compsognathus*, *Gallornis* (which is healthy at the Royal Belgian Institute of Natural Sciences, Brussels), and the Early Cretaceous birds from Cornet (Romania). The trip was particularly successful thanks to the warm hospitality of many colleagues, in particular that of K. Fischer, J. L. Sanz, E. Talodi, G. Viohl, and P. Wellnhofer.

Between April and May, Luis spent several weeks conducting field work in the Cretaceous of Argentina. Work focused on an Early Cretaceous Lagerstätte in central Argentina. Despite the fact that many fossils were collected, no birds were found (yet!). In June, Luis attended the SAPE meeting in Washington, where he delivered a paper, co-authored by C. Forster, D. Krause, and S. Sampson, on the first Mesozoic (Late Cretaceous) bird from Madagascar. He also participated to the symposium on Mesozoic Birds, masterly organized by P. Wellnhofer.

Catherine FORSTER, from the State University of New York at Stony Brook, has recently begun studies of Mesozoic birds from Madagascar, and plan to continue these studies well into the future.

#### Pittsburgh, Pennsylvania

Bradley LIVEZEY is in the process of finishing up his phylogenetic analyses of the Anseriformes, to culminate with a comprehensive classification of modern (and many fossil) species. Most importantly, he is in the middle of the analysis of morphometric and other anatomical data on flightless rails, including a phylogenetic analysis of the family (with fossil species).

Washington, D. C.

Helen JAMES is completing her study of the osteology and phylogeny of the Hawaiian finches (Drepanididae). She continues to collaborate with avian geneticist Robert Fleischer and his coworkers on studies of ancient DNA in Hawaiian fossil birds. In August, she returned to Madagascar for a month to continue her collaborative research on late Holocene extinctions there.

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### **TERTIARY AVIAN LOCALITIES OF EUROPE**

Edited by Jiri MLIKOVSKY (Praha)

The monograph includes a list of more than 500 Tertiary avian localities known from Europe. The following information is given for each locality:

- Geographical position, following the latest political divisionning of Europe;
- Age, using both standard stratigraphical terms, and the modern system of Paleogene and Neogene mammal zones;
- List of avian families and genera, known from the locality, following latest taxonomic revisions;
- List of all relevant paleornithological references;
- List of collections, where the avian remains are deposited;

The volume is accompanied by extensive indexes by species, genus, family, collection, author, and locality.

The TALE monograph was published in May 1996 as a separate volume of *Acta Universitatis Carolinae, Geologica* 39: 517-848. The 332 pages include 44 distribution maps, and ca. 1300 references.

The monograph is available from the editor (J. Mlikovsky, Vrsovicá 11, CZ-101 00 Praha 10, Czech Republic) for 19,-USD or equivalent (incl. p&p). The price includes 1,-USD for the benefits of the SAPE.

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Evgueny KUROCHKIN inform all the participants of the SAPE that he will accept the request for a 15 x 20 cm colour photographs of all participants of the meeting for \$ 5.00

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Tee-shirts from the 4th SAPE meeting at Washington are available for sale at \$ 10.00 or the equivalent in any European market currency. The shirts are moss green with gold lettering and the SAPE logo on the left chest. Please specify quantity and size: medium, large, or extra large. If the size you request has been exhausted, the next larger size will be substituted. Send checks or cash to Dr. David STEADMAN, Florida Museum of Natural History, P.O. Box 117800, Gainesville FL 32611-7800, U.S.A., or to Dr. Cécile MOURER-CHAUVIRÉ, at the address indicated on the first page.

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This information letter has been compiled by Cécile Mourer-Chauviré, Secretary of the SAPE. A contribution of 10 US dollars, or the equivalent in other currencies, for assisting in defraying xerocopies and mailing expenses, will be highly appreciated (banknotes in major currencies preferred).

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