

**SOCIETY OF AVIAN  
PALEONTOLOGY AND EVOLUTION  
INFORMATION LETTER**

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Secretary : Cecile Mourer-Chauvire  
Département des Sciences de la Terre  
27-43 Boul. du 11 Novembre  
69622 Villeurbanne Cedex, FRANCE

Fate of The Natural History Museum, London  
formerly British Museum (Natural History)

On Monday 23rd April The Natural History Museum announced that 60 posts will be cut from the current staff of 780 by 1992-93. Most of the lost posts will be in the Science Departments. Some will be lost by retirement but the majority of the cuts will be made by compulsory early retirement and redundancy. Additionally, there will be a revolutionary restructuring of the Museum's scientific activities and the terms of employment for the remaining staff.

As scientists we are deeply concerned for the future of our disciplines within the Museum and our contribution to the scientific community, both national and international. The problems we face are caused externally by lack of Government funding and, internally by failure to recognise the fundamental importance of collection-based research. The Museum's plan is to concentrate our research in six areas; biodiversity, environmental quality, living resources, mineral resources, human health and human origins. These fields obviously imply an attempt to raise funds from sponsorship and grants in short-term, contract-based research, with less emphasis on the fundamental taxonomic research for which the Museum has established its international reputation. The impact on the scientific community will be far-reaching, and threatens our identity for basic taxonomic work.

Despite the aim to continue studying diversity, the Museum is closing down research on Recent and fossil mammals, testate amoebae, sponges, diatoms and bryophytes, taxonomic computing, fossil plants and fossil birds, modern bees and wasps, hemiptera (heteroptera) and weevils, building stones and gemstones amongst others. This is in addition to research already closed on modern birds and spiders, coelenterates, bryozoans, echinoderms and annelids. It is a chilling thought that research into land vertebrates except primates is now reduced to two people in the wake of a powerful tradition begun by Richard Owen. Some of our major information bases and advisory services are being severely cut, such as host-parasite catalogues and parasite identification. Thus the cuts are inconsistent with stated Policy.

Several people who have built expertise in certain areas will be asked to change their interests completely. Another equally sad aspect of this restructuring concerns the fact that most of the staff remaining will be held at fixed curatorial or research assistant grades, giving no opportunity for promotion without a complete change of job. This has the effect of demoralising staff and dividing them into two distinct bands with little overlap between the two. Until now our strengths and individuality have lain in the blending of curation and research, with individuals understanding both and developing research careers from original employment as curators. Researchers need full knowledge of the collections. 'Curators' will not be allowed to develop the scientific expertise or knowledge of the material in their care. Thus they will be come unable to provide constructive support to visiting specialists. We see this scenario of job losses and restructuring to be detrimental to the future of scientific activity in this Museum and urge your support. We suggest that letters of protest sent to The Minister of Arts and/or to the Chairman of Trustees of The Natural History Museum, The Museums and Galleries Commission and The Royal Society will show the strength of views of our colleagues in other institutions. Our Corporate Plan still has to be reviewed by the Office of Arts and Libraries and it may not be too late to encourage them to provide the relatively small additional money to continue to uphold our international reputation for the excellence of care of our collections and the research which stems from them. Please help by writing letters to those overleaf:

The Rt Hon Richard Luce MP,  
Office of Arts and Libraries,  
Horse Guards Road, London  
SW1P 3AL

Sir Walter Bodmer FRS,  
Chairman of the Trustees,  
The Natural History Museum

Sir Hugh Leggatt,  
Museums and Galleries Commission, 17 Duke Street,  
London SW1Y 6BD

Prof. Sir George Porter,  
President, The Royal Society,  
6 Carlton House Terrace, London SW1

with copies to:

Dr Neil Chalmers  
The Director  
The Natural History Museum  
Cromwell Road, London SW7 5BD

**News from the members**

**ARGENTINA**

Luis M. CHIAPPE is continuing his researches on Cretaceous birds of Argentina. Current studies are mostly focused on the phylogenetic relationships of both the cursorial birds of the Late Cretaceous of Neuquen (Patagonia), and the Enantiornithines, including the description of the Patagonian articulated enantiornithine specimen, and the avian affinities of the Late Cretaceous avisaurids. In November of 1989, Luis organized a field trip to the Late Cretaceous of Patagonia (sponsored by the Frank M. Chapman Fund) where more material of the cursorial bird was found. During May-June of this year, Luis visited several museums of the United States and studied material of Hesperornithiforms and *Ichthyornis*. Be wish to thank the kindness of all the American colleagues. As future projects, Luis thinks to apply for a grant to return to the Late Cretaceous locality of El Brete, north-western Argentina, where most of the Enantiornithine remains were found.

**AUSTRALIA**

Bob BAIRD has been able to complete a number of papers on cave assemblages from Australia within the last six months but most are either in just submitted or in press (please contact him if you would like a listing). The analysis of the succession of three cave faunas from eastern Victoria to produce a bioclimatic analysis is now progressing past the preliminary stage and the authors should be producing discrete temperature and precipitation data for these assemblages in the near future. Bob is moving back to the USA in October of this year. His contact address will be c/o James Baird, P.O. Box 516, Petersham, MA 01366, U.S.A. Walter BOLES is studying avian remains that have been recovered from the deposits at Riversleigh, north-western Queensland. These deposits range from Late Oligocene to Pleistocene, with most being from Late Oligocene to Late Miocene. Thus far they have yielded over 200 new species of mammals, as well as many reptiles, fish and invertebrates. A current summary of these deposits, ages and faunas are given by Archer et al. (1989, Australian Zoologist 25:29-65). The avian component is not as plentiful or diverse as the mammals. Nevertheless, it contains a range of taxa. Two species of the giant flightless Dromornithidae are represented, the larger perhaps having reached 400 kg. *Dromaius gidju* Patterson and Rich 1987, originally considered to be a small emu, is a common element of the avifauna. New material demonstrates that this taxon has features that are both emu-like and cassowary-like, and that it should be placed in its own genus. At least one species of stork, was present (not *Ephippiorhynchus* = *Xenorhynchus*, the only genus now found in Australasia). There was a raptor that appeared to have a hyper-flexible ankle joint similar to that of *Polyboroides*, but was twice the size. A cockatoo inseparable from the modern genus *Cacatua* has been found. There are also several anseriforms, a medium-sized flightless rail, and a swift; most await study. There are numerous passerines, few of which have yet received attention. One notable specimen cannot be distinguished from the unusual endemic Australo-Papuan logrunners *Orthonyx*. Another is very similar to the lyrebirds *Melanerpes*; whether it was related, or convergent at 2 similar stage of reduced volancy, is not yet known. A new Early Eocene site at Murgon, southeastern Queensland, has produced a few avian fragments, but most are too scanty to be of use. One useful specimen indicates the presence of a charadriiform bird about the size of an oystercatcher *Haematopus*. It does not seem referable to any modern family. Comparisons to other fossil charadriiform families have not yet been carried out.

**BRAZIL**

In 1988 and 1989 Herculano ALVARENGA made one trip to Chicago (USA) and two to Argentina, and spent a long time reviewing the Phorusrhacid remains of the Field Museum, and of the Buenos Aires and La Plata Museums, as he intend to make a revision of this group of birds. He finished the restauration of his phorusrhacid *Physornis brasiliensis* and has two complete skeletons (resin casts) available for exchanges. He is interested in casts of all kind of fossil birds, Dinosauria, and skeletons of Recent birds. From the Taubate basin, Herculano described remains of *Palaelodus* (first record in South America), and also another flamingo very close to *Agnopterus turgaiensis*, from the Upper Oligocene of Kazakstan. Based on *Palaelodus* aff. *ambiguus* and also several mammal remains, he believes that the age of the Taubate basin must be changed to Lower Miocene. His paper is in print in An. Acad. bras. Cienc., 62 (3), 1990.

Remains of a large Anhinga were found in the Miocene of Central Chile. A preliminary report on this bird by Renate WALL, H. ALVARENGA, Larry MARSHALL and Patricia SALINAS, is almost finished, and a detailed study is in preparation by H. ALVARENGA.

The Brazilian Society of Ornithology edited a new magazine: Ararajuba, Revista Brasileira de Ornitologia. The first number was recently published. If you are interested, please write to: Sociedade Brasileira de Ornitologia, r. Prof. Benedito Conceição, 407, CEP 82500 Curitiba-Pr, BRAZIL.

## BULGARIA

Zlatozar BOEV has begun excavations in the region of Varchets (West Balkans) of a new Pliocene site (about 2.5 millions years BP). About 60 identifiable bird bone fragments were collected, among them: *Aquila cf. chrysaetos*, *Perdix cf. perdix*, *Pyrhocorax graculus*, 2 phasianid birds, 2 small falconids, etc.

In May 1990 he attended the Vth International Conference of the International Council for Archaeozoology, in Washington. His report was "Birds from Antiquity in Bulgaria (Neolithic to Medieval Ages)", a review of bird findings in Bulgarian archaeological sites during last 8000 years. He also completed the manuscript on the same theme and try to submit it somewhere for publication.

Zlatozar has several papers in press on birds from archaeological holocene sites, as well as Recent birds of Bulgaria. He continues collecting bird skeletons for the National Natural History Museum comparative collection. By the end of July 1990 the collection comprises about 1100 specimens of 254 species.

## CHINA

HOU Lianhai has published the description of *Songzia heidangkouensis* n. g. n. sp., in the new family Songziidae, order Gruiformes, from the Early Eocene of Songzi (see Recent literature).

## CZECHOSLOVAKIA

Jiri MLIKOVSKY currently concentrates on the Neogene and Quaternary birds of Central and Eastern Europe and the Near East. His Neogene news are that *Fringilla radoboyensis* Meyer, 1865, from the Middle Miocene of Yugoslavia, is a bee-eater, and that *Larus dolnicensis* Svec, 1980, from the early Miocene of Czechoslovakia, is a Glareolid. He has also submitted to press the description of a small late Miocene freshwater avifauna from Götzensdorf (Austria).

As regards the Quaternary, Jiri is about finishing, or has submitted to press, papers on the late Pleistocene birds of Schusterlucke (Austria), Karlukovo (Bulgaria), and Elaichoria (Greece); on early Mesolithic birds of Nixloch (Austria), and Varona (Greece); and on Subrecent birds of Bolu (Turkey).

## FRANCE

Cécile MOURER-CHAUVIRE is still continuing her work on the birds from the "Phosphorites du Quercy". She has presented during the National Congress of Paleontology, in Paris, the study of the Psittaciformes of Quercy. Primitive psittacids are present in only one of the Quercy localities, La Bouffie, the age of which is Upper Eocene. She also took part to the monograph devoted to the site of Garouillas, dated from the Middle Oligocene.

Jacques CHENEVAL and Cécile have completed a detailed study of the Miocene avifauna of Li Mae Long, in Northern Thailand. This avifauna mainly includes aquatic forms such as a new species of Lesser Flamingo, an Anhinga, a heron, rails, ducks, but also a large galliform and an Owl. The landscape indicated by the vertebrate fauna corresponds to a large swampy depression, surrounded by humid forests

Cécile has also written the preliminary study of the pleistocene avifauna of the Mousterian Cave of Figueira Brava, in Portugal, excavated by Dr. M. TELLES ANTUNES, from the Universidade Nova de Lisboa. This cave, which is situated on the Atlantic shore, includes numerous remains of seabirds, such as Pinguinus impennis, the Great Auk, or *Sula bassana*, the Gannet, and the same extinct shearwater that have been recently described from the Canary Islands, *Puffinus holeri*.

Cécile's research projects include the descriptions of:

- a very tiny bird found by D. E. RUSSELL in the Lower Eocene of the "Conglomerat de Meudon", in the Paris basin;

- a new family of Accipitriformes from the Upper Eocene of Phosphorites du Quercy;

- the pleistocene avifauna of the archaeological sites of Arcy-sur-Cure, department of Yonne, France.

The overall study of the subfossil Vertebrates of La Reunion Island, in the Indian Ocean, is still one of the main research project for the near future.

Jacques CHENEVAL is still very busy teaching in private schools. He just finished the study of the Upper Miocene avifauna from Aljezar B (Los Aljezares Formation, Spain). The deposits, near the city of Teruel, provided a fauna where the micromammals were particularly abundant. The avifauna includes a swan, two small partridges (*Palaeortyx*), a rail, a Scolopacid, an owl, and three indeterminate species of Passeriformes.

Jacques is also going to participate in the new study (Geology and Paleontology) of the Middle Miocene locality of Sansan, in southwestern France. The revision of the bird material, firstly described by A. Milne-Edwards, will be completed by the new material from the new excavation campaign. This study is planned to be published, in 1992 or later, by the Paris "Museum national d'Histoire naturelle".

Christine LEFEVRE has defended her dissertation (Doctorat nouveau regime de l'Université de Paris I, Pantheon-Sorbonne) in December 1989. "L'avifaune de Patagonie australe et ses relations avec l'homme au cours des six derniers millénaires" is the study of bird remains from seven archaeological middens dated between 6000 BP and the 17th century, both from the archaeological and ethnographical point of view. The main results were presented during the Sixth International Conference of International Council for Archaeozoology in Washington D.C., May 1990 ("Birds Exploitation in Southern Patagonia").

A new phase of this topic will take place this winter, with the archaeological prospection of Cape Horn and adjacent islands.

In collaboration with D. SIEGEL-CAUSEY, from the Museum of Natural History of the University of Lawrence, Kansas, she starts a program on the Aleutian Islands, with the study of the avifauna of an archaeological site. Since August 1989, she has a permanent position of "assistante" in the Laboratoire d'Anatomie Comparée du Museum National d'Histoire Naturelle, Paris, where she is in charge of the bird comparative osteological collection.

## GREAT BRITAIN

London

Fossil birds are going to suffer the same fate as their recent counterparts by ceasing to be an active area of research in the Natural History Museum of London from April 1991.

Cyril WALKER's position, therefore, has been made redundant and it appears that he will become surplus to requirements at the same time. What will happen to the collection is difficult to say, but he hopes that it will remain available for study by visiting scientists. It should be noted, however, that there will be no resident staff member with any knowledge of fossil birds. Any enquiries after next April should be directed to Dr. I. I. Hooker.

Collections Manager, Vertebrates, Department of Palaeontology.

Because of the above situation, Cyril's plans are now restricted to what he believes can be achieved in the time left. At present he is putting the finishing touches to his description of Enantiornithines from Tucuman Province, Argentina, and Colin HARRISON and himself are trying to fulfil an obligation to the National Museum of Kenya to describe their Miocene birds, and to give a clearer idea of the paleoenvironments indicated by the various species. What has become evident during this study is that, in most cases, the material cannot be separated with any degree of certainty from existing Kenyan species. If there is time, Cyril will attempt to complete the description of a series of Pliocene auks from Belgium, one example of which is larger than Pinguinus, but appears to have been capable of flight.

Cyril would like every palaeornithologist to write in support for retaining the expertise on fossil birds at the Natural History Museum. He sincerely hopes that all the members of the SAPE will support himself and other vertebrate colleagues in their fight to save tetrapod research within the Museum.

Reading

In 1967 Harland et al. published "The Fossil Record", a compilation of the known ranges of all families of animals and plants, living and extinct. James Fisher was the author of the section on birds. "The Fossil Record 2" is now in preparation, and David M. UNWIN has been asked to produce the contribution on Aves. His initial plans to spend "a few weeks" on this project were completely unrealistic; total time expended now comes to more than 4 months, and some work remains to be completed, but at least the threat posed by a 2 meter high stack of papers, which was attempting to engulf him and his word processor in a paper landslide, has now been averted. The final manuscript is to be submitted by September 30th 1990, and the projected publication date for the volume is Summer 1991.

David's reasons for reporting on this work are twofold. First of all, he wishes to convey his deepest thanks to all those (many of whom are SAPE members) who have already contributed to this project. Many of those he contacted went to very considerable trouble to correct early drafts, and he is very grateful indeed for all their help. Indeed, such a lot of effort has gone into this work that it would be a shame not to try to capitalise on it further. This leads him to the second reason for this report. Now that the data base is on disc it should (he hopes) be relatively easy to keep the database up to date. Furthermore, he would be very happy to make available, on request, copies of the updated data base to interested parties. In order for this idea to succeed however, he needs all new information as it is published. He would be very grateful therefore if, in future, all SAPE members would send him copies of their publications and, wherever possible, anything published in the last ten to fifteen years or so (that is, if you have not already sent me a copy). The currency and usefulness of the data base will depend very much on the completeness of information available to him; the more you contribute, the more we will all eventually get out of the project.

A limited number of reprints of the published version will be available, but most are already earmarked for those working in parts of the world where access to literature and means of reproducing it is difficult. Once published, David UNWIN will also be very grateful if workers could send him their comments on the paper; information on emendations, errors and omissions would be particularly useful. An updated 1992 version should, with luck, be available at the third SAPE symposium in Frankfurt. One final request, would anyone who is working on, or interested in pseudodontoms, please get in contact, send reprints, etc. He has a particular interest in this group as they seem to be the nearest avian analogue to large pterosaurs, which are his main field of interest.

Bolton

During the last few years, Anne EASTHAM has studied several Upper Pleistocene avifaunas from archaeological sites in Spain and southern France. Recently, the main focus of her approach to avifauna's on Palaeolithic occupation sites has been towards an ecological reconstruction by way of exploring avian interactions with other taxa within a restricted locality or environment.

Holland-on-sea

Michael DANIELS sent the following information:

In my contribution to the first SAPE letter of information, I produced two tables and some explanation concerning the general character of the Naze avi-fauna. A considerable number of specimens have been acquired since 1987, remains of some 440 individuals are now in my possession, with perhaps 30 or so in other hands.

Over recent months I have conducted a careful reassessment of all my material taking into consideration some of the fossils elsewhere which could have some connection with this lower Eocene assemblage.

As previously, in Table 1, I attribute many examples to modern categories, but I want to clearly reaffirm that this procedure is adopted mostly for convenience sake. Not for one moment is there a suggestion that much of the Naze avian complement can be related to modern types. Simply, aspects of the skeletal detail look, to me, similar to those found in recent material.

Numerous instances occur in the collection where some bones of the fossil appear to have affinities to one modern group, whilst other osteological features befit totally differing forms or of ten, resemble nothing that is familiar whatsoever.

To be candid, I rather think that if we are to be realistic concerning the arise of the aves, then anything say pre-Miocene, demands the closest analysis and much caution in taxonomic interpretation, given the likelihood of the one time existence of major groups, evolving in parallel to those that have survived through to modern times. Therefore, I favour much use of the qualifying word 'like' being prefixed to all common non-scientific names that are given in my Table and similarly assumed when I mention such in the accompanying notes.

It may be of interest to those who also have regard for mammalian faunas, that there is a most remarkable discrepancy in numbers of this class discovered at the Naze. Whereas birds of the land form a high proportion of the avian population from this locality and one would rather expect that other terrestrial vertebrates should have been likewise appreciably represented in the fossil record, the puzzling fact is that only two examples have emerged. Both reflect the same degree of exquisite preservation that one expects in Naze birds. The larger animal is almost certainly Eohippus; the remains include much of the skull with a full series of molars and pre-molars in place in the left upper jaw. The smaller individual has been provisionally identified as a possible marsupial; if confirmed the first found in the British Isles. About Weasel, Mustela, size, there is again much of the skull, but in this specimen there is in addition, both rami with most of the teeth in place. Altogether probably the complete dentition has survived. One section of bone retains virtually all details of the auditory region and there are tiny whole bones, presumably ear ossicles.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
ENGLISH NAME OF RECENT GROUP	RATITES	TINAMOUS	DIVERSIFORMES	PETRELS	GENERAL GROUP	TROPIC BIRDS	NEW WORLD VULTURES	SCREAMERS	MERGANSERS	GENERAL GROUP	GENERAL GROUP	PHASIANIDS	PHASIANIDS	RAILS	GALLINULES	GENERAL GROUP	IBISES	CHARADRIIFORMES	CHARADRIIFORMES	THICK-KNEES	AUKS	WADERS	GENERAL GROUP	PIGEONS	PARROTS	CUCKOON	OWLS	GENERAL GROUP	GENERAL GROUP	SWIFTS	CRESTED SWIFTS	TROGONS	HOUSE BIRDS	GENERAL GROUP	KINGFISHERS	MOTMOTS	ROLLERS	WOODHOOPES	CHARADRIIFORMES	GENERAL GROUP	GENERAL GROUP	BARBETS	PUFFBILLS	INCEPTEA	SEDES			
SCIENTIFIC ORDER NAME	(unassigned)	(unassigned)	CATHARTIFORMES	PROCELLARIIFORMES	PELICANIFORMES	II	CICONIIFORMES	ANSERIFORMES	II	FALCONIFORMES	GALLIFORMES	II	GALLIFORMES	GALLIFORMES	II	GALLIFORMES	II	CHARADRIIFORMES	CHARADRIIFORMES	II	II	II	CHARADRIIFORMES	COLUMBIFORMES	PSITTACIFORMES	CUCULIFORMES	SYRIGIFORMES	CAPRIMULGIFORMES	CAPRIMULGIFORMES	APODIFORMES	II	TROGONIFORMES	COLYMBIFORMES	CORACIIFORMES	CORACIIFORMES	II	II	II	II	II	II	II	II	II				
SCIENTIFIC LOWER CATEGORY	Lithopnis	Ouvinsae	Fulmarinae	Urolophinae	Pterodroma	II	Cathartidae	Anhimidae	II	Falconidae	Gallinae	II	Phasianidae	Rallidae	II	II	Phasianidae	Charadriidae	Charadriidae	II	II	II	Charadriidae	Columbidae	Psittacidae	Cuculidae	Syrigidae	Caprimulgidae	Caprimulgidae	Apodidae	II	Trogonidae	Colymbidae	Coraciidae	Coraciidae	II	II	II	II	II	II	II	II					
EARLIEST FOSSIL OCCURRENCE SYSTEM	U. MIOCENE NA	U. EOCENE EU	M. MIOCENE NA	U. EOCENE EU	L. EOCENE EU	L. EOCENE EU	U. EOCENE EU	NO RECORD	L. OLILOCENE EU	U. OLILOCENE EU	L. EOCENE NA	L. EOCENE NA	L. EOCENE NA	U. OLILOCENE EU	?	?	M. EOCENE EU	U. EOCENE EU	U. EOCENE EU	L. MIOCENE NA	L. MIOCENE NA	U. EOCENE EU	U. EOCENE EU	M. PLEISTOCENE NA	L. EOCENE NA	U. EOCENE NA	U. EOCENE NA	L. MIOCENE EU	L. EOCENE EU	L. OLILOCENE EU	U. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU	L. EOCENE EU				
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	SUBSTANTIAL	1	1	1	1	1	3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	PARTIAL	5	1	1	1	1	3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	LIMITED	12	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CONVINCING	15	4	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PROBABLE	4	3	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
SPECULATIVE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Table 1. Naze avi-faunal types and frequency largely applied to modern categories.

Note concerning 'Material Evidence' section: 'Extensive' would infer the availability of most of the skeleton; 'Substantial' perhaps 11 to 30 differing bones preserved; 'Partial' say 4 to 10 and 'Limited' just 1 to 3 examples.

EU = Europe  
NA = North America

Notes refer to numbers heading category columns

1-2. These birds must have been a populous group in London Clay times. Several extensive fossils have been recovered together with many partially preserved individuals. Ranging in size from Pheasant *Phasianus* to medium size fowl *Gallus*, at least three distinct species are present. In column 2 I refer several examples specifically to a form first described in the nineteenth century and based on a specimen long since lost; this was collected from higher strata of the London Clay. Whilst informed opinion has caused me to include a considerable range of fossils within these 'palaeognathous' categories, I am nevertheless impressed by similarities of many elements to those of the gallinaceous birds, indeed comparing tinamous with various Phasianidae, I was thus interested to see that in recent DNA-DNA hybridisation studies, these two groups are now brought into closer association in a proposed new infraclass. Their shared osteological features certainly supports such an arrangement.

4. I confidently assign two specimens to the petrel-like birds. One individual of Fulmar *Fulmarus glacialis* size, is known from much of the post-cranial skeleton.

7. This referral must be deemed somewhat contentious, given that the material consists of one solitary, but perfect, tarsometatarsus and this of a size much smaller than any known modern equivalent.

8. Another important and intriguing group of Naze birds is represented by several extensive fossils, including in one find, much of the skull. Careful comparisons have been made by both myself and others, the latter studying the remains alongside those of various modern groups, the identity of which were not disclosed to them. A resulting preference for the Anseriformes confirmed my own independent findings and given the presence of a chicken-like (*Gallus*) skull, a type of bird befitting a Screamer, *Anhima*, is reasoned.

9. Referral to the 'probable' status is a reflection of my caution. The fossil, including a particularly beautiful and complete tarsus, is of a very young bird in which the tibio-epiphysis has not ossified to the shaft. This bone, together with two pedal phalanges, does seriously favour the Anseri, with fair claim to *Mergus* affinities.

17-20. The seemingly disused term 'Limicolae' might still best describe a range of 20 birds widely represented from the Naze. Because of my own findings and bearing in mind the views of others, I have segregated some fossils into more specific categories. Columns 17, 19 to 21, thus include a possible ibis-like bird, referred here in line with recent views on the affinities of such, rather than with the Ciconiiformes; an oystercatcher, a bird generally approximating in size its possible living counterpart *Haematopus*, though with shorter legs; a thick-knee, *Burhinus*, this assignment reflecting advice given.

21. Several auk-like birds have been recognised, based on leg material; all are of small types.

23. Whereas the existence of true pigeon-like birds in the London Clay must be regarded as highly doubtful, at least three Naze fossils do appear to have connection with the extant 'pigeon-grouse' Pterocletes. Given the range of material examined, which is in no way fragmentary, evidence must still be regarded cautiously; perhaps it is simply the case that the remains compare even less elsewhere. Once again the DNA-DNA findings are noteworthy, suggesting that these birds require placing nearer members of the Charadri and at a distance from their hitherto associates, the Columbidae. Some features of the Naze material are indeed reminiscent of certain Charadriiformes.

25. Well represented amongst the Naze avifauna are specimens of parrot-like birds. One is of individual type and probably a member of an extinct family, certainly genera. The remainder appear to have interrelationships and I have found their lower leg and feet, with the availability of three near perfect tarsi, quite similar to those of the extant ground parakeets of Australia, although other parts of the skeleton bear little comparison.

27. There is no question that owl-like birds represented an appreciable element in these lower Eocene deposits. Referring ten specimens positively to this group has been largely based on the morphology of the hind limb with distinctive tarsi. The availability of mandibular material in one individual, substantiates placement in this category.

28. At least one nightjar-like bird is in the collection. Some authorities who have examined my Naze material, are reasonably convinced that Oilbird, *Steatornis*, types also exist. Given that there are occurrences of apparently closely related birds of several major groups from the British and North American lower Eocene, there would be little surprise if Oilbirds were similarly of inter-continental distribution. Climate and the proximity of the North American plate to Europe in the Palaeocene would have allowed for this greater homogeneity of faunas. Interestingly, fossil berries of the Lauracea are particularly common in the London Clay of the Naze; they are of course regarded as the staple diet of Oilbirds.

29. If several important specimens can be confirmed in this category, there is a chance that the true position of these birds may be forthcoming. Looking at my material, I suspect present attachments to the trogons as implied by their name, may yet prove invalid.

30.-31. Clearly yet another populous group in London Clay times. Of over twelve specimens that can be loosely applied here, only one seems close to the true swifts; the majority appear to be nearer to the crested swifts Hemiprocidae and none as far as I can tell, of the Aegialornithidae.

32. A solitary specimen, composed of leg remains, represents the only example of a heterodactyl footed bird in the collection. As far as I can trace, this is the earliest occurrence anywhere of such a bird. The tarsometatarsus, of a small individual, is virtually intact and compares favourably with illustrations in literature.

33. I confidently refer two specimens to a bird confusedly known as 'Eobucco', the description of which was based on a solitary tarsometatarsus from western North America, it being placed within the order Piciformes. The doubts raised by others as to this assignment, following discovery of better material, seem valid. My possession of a considerable portion of the skeleton does confirm, as has been suggested, that the bird is probably more akin to a form resembling the modern mousebirds *Colius*, though of a much larger version of anything living today; the leg for instance - dove size (*Streptopelia*). More in keeping-with the size range of modern Colies are five examples, one of which is substantially preserved. The tarsometatarsus, detail provided in one near perfect, is distinctive, with good claim to a mousebird connection. This view is supported by the character of the other post-cranial elements, but on the other hand, mandibular material rather confuses the issue, unless of course one supposed individual is in fact two fossils mixed together. Whatever, the longish premaxilla, accompanied by a very long and thin nasal bar is nothing like a coly beak!

36. Due to the existence of an exceptional kingfisher-like skull along with most of the post-cranial skeleton, I feel reasonably confident over this referral.

37. As with the previous category, the excellent fossil material available appears nearer the motmats than others within the major grouping. Curiously, as there are no instances elsewhere, three specimens of this type of bird retain traces of soft parts. The tubercular soles of the toes still adhere to some phalanges and in one individual the entire second digit bears this feature.

39. Because, as I stress elsewhere, every referral in this study is applied with a cautionary proviso as to validity, my assignments to this category would constitute no exception. The fossils I have examined appear nearest to the Uppidae, the modern group itself seemingly enigmatic. I also have the feeling that these relics, well represented in the ancient Naze avifauna, have some features reminiscent of the Passeres.

41. The original descriptions of two species of bird, both applied to the same genera, were based on skeletons recovered on slabs from the Green River formation of western North America. Either identical or closely related forms occur in the Naze deposits. As has been pointed out subsequently, the birds actually have no certain affinity to each other, one being undoubtedly zygodactyl footed and one apparently anisodactyl. I am in possession of excellent specimens of both, many bones perfect or near so, but all separate tiffles, thus in this condition most complimentary in terms of data potential, to the frequently crushed but articulated American fossils. Of the species *Primobucco olsoni*, there is an appreciable complement and in respect of, or similar to, *P. mcqrewi*, four or more versions. I cannot with any confidence compare either of these groups to modern, one certainly has no place with the living Bucconidae in the Piciformes, better perhaps, as has been suggested, having possible Coraciiform attachments.

45. Given that some authorities voice considerable reservations concerning the existence of Passerines as early as the Eocene, then my referrals to this category may be viewed with a deal of scepticism. Nevertheless, there is an appreciable avian element from the Naze that defies placement elsewhere and indeed, apart from the fact that most have zygodactyl feet, other features of the anatomy really commend Passerine consideration. I see no reason why this important group of birds should not have been fully differentiated this far back in time and have a strong feeling that hitherto too much reliance has been placed on the alleged non-appearance of these birds in the fossil record as evidenced by discoveries, or more accurately, non-discoveries, from certain important Palaeogene localities in the northern hemisphere. I would like to digress for a moment on this subject.

What I have read about the various sites and their avifauna, it would appear that virtually all are of lake bed or swamp origin, with likely predominance under normal conditions, of water-bird fossils; just by mischance the occasional terrestrial form being engulfed. Same North American localities do appear to produce varied land birds, but I suspect that, as with the London Clay, special conditions may have prevailed, geophysical events perhaps. Even so I regard the set of circumstances that were experienced in London Clay times as having few parallels, quite possibly they were unique. Into a marine laid sediment, chance has introduced so much of the land, its vegetation, its animal life. Table "together with the histogram indicating the spread of birds according to size, should provide graphic appreciation of the diversity found within this ancient avifauna. From the data I have attempted to calculate numbers of individuals within their likely habitats, as percentages of the whole community. This very rough assessment suggests that 35% were true arboreal forest dwellers; 12% of the forest floor; 12% perhaps of secondary vegetation, scrub; 19% of grassland, savannah; 17% of coast, estuary, inland watery environments; 3% inshore marine and cliff; pelagic 1% and aerial 1%. If numbers are simply split between terrestrial and waterbirds, the imbalance is impressive, say 80% to 20% respectively. Under normal depositional conditions, for I am convinced those in the Waltonian London Clay period were anything but, small carcasses transported out to sea would be extremely few and far between; from demise, amidst perhaps some hinterland forest, thence to be carried afar, there would be many of the hungry ready to consume such a tasty morsel. In searching for modern comparative specimens, excepting for those that have succumbed, victims of the destructive hand of man, it is noticeable how infrequent are to be found the remains of small animals that have expired purely due to natural causes. Even a fall of corpses resulting from some migrational accident are soon set upon and within a short period

few survive the many vigilant scavengers. Doubtless, these factors applied equally in the past as they do today. But, for quite extraordinary reasons this natural process was apparently frustrated; perhaps predator and predated suffered together in the wake of some cataclysmic event. The birds of the Naze are indeed not alone in their majesty, elsewhere, far inland from this place they seemingly occur in no diminished frequency, in no less varied form, concealed in London Clay strata that apparently correlates closely with the coastal exposures. Thus the all important question arises, given these highly unusual and for us, fortuitous circumstances which now provide perhaps the truest picture yet of ancient avian diversity, is there now the need to be more guarded in our suppositions concerning the origins of various bird groups, not least the Passerines?

If it were only the tarsi that provided my information, then it would be a certainty that the bones would defy comparison due to their weird morphology. Fortunately, they come accompanied with much of the birds' skeletons including skulls. It is in the scrutiny of such material that suggests serious consideration of a Passerine connection. All the remains are of small birds, some tiny, with one group of five individuals approximating Goldcrest/Kinglet, *Regulus*, size or even below. In one of these specimens, only the inner trochlea is missing of the tarsometatarsus and this loss supplemented by another example, with complete distal end to part of the shaft. At least a further ten specimens may be collectivised, this supported by the presence of important tarsal detail in eight of the fossils. The wings of these birds compare in size with the living Great Tit, *Parus major*. Noticeably close in ratio to the elements of this species and also to the sunbird *Nectarinia venusta*. The leg is longer though, nearer to the warbler *Sylvia borin*. Measurements and ratios are as follows:

Measurements in mm	WING SIZES					LEG SIZES			
	Hum	Ulna	Cmc.	PH.I	PH.II	Femur	Tibia	Tmt	
Fossil, WN.88583A	16.0	18.3	9.2	4.9	2.2	c. 18	31.0	19.9	
<i>Parus major</i>	16.5	19.5	10.0	5.0	2.6				
<i>Sylvia borin</i>						16.4	28.0	19.0	

	WING RATIOS					LEG RATIOS			
	Hum	Ulna	Cmc.	PH.I	PH.II	Femur	Tibia	Tmt	
Fossil, WN.88583A	32.0	36.0	18.2	9.5	4.3	25.5	45.5	29.0	
<i>Parus major</i>	31.0	37.0	19.0	9.0	4.0				
<i>Nectarinia venusta</i>	31.0	36.5	18.0	10.0	4.5				
<i>Sylvia borin</i>						25.8	44.0	30.2	

Combining data within the groups give much information about the osteology of these birds. Particular characters exist which seem to be of considerable diagnostic value. Good examples of the carpometacarp bearing process dentiform, are present in both groups. Similarly the individual shape of the coracoid end of the furcula, a wide flattish plate, is most passer-like in one of the larger specimens and roughly spade-like in the smaller group. The humeri appear to fulfil criteria particular to the mode-n order, somewhat curving shafts being more characteristic of the primitive Passerines. Throughout there are supporting features indicative of the perching birds. To claim direct lineage would be definitely in-cautious and may never in fact be proven, but the possibility of common origin from say Palaeocene stock might be contemplated.

48. Many of the items failing to find positive categorisation are nevertheless potentially determinable, probably needing comparison with types of extant birds not at my disposal, or simply just requiring a moment of sudden inspiration!

I believe the foregoing is a fair assessment and is certainly not born of any desire to produce the sensational or in defiance of strongly held convictions elsewhere.

#### ACKNOWLEDGEMENTS

Here I must take the opportunity of acknowledging some of the sources of reference that have enabled me to both adjudge the nature of the fossils and comment on those outside my collection. P. Houde, S. Olson, D. Steadman of the United States have over the years provided invaluable advice and help; casts of fossils, modern bird material and much literature, are all in constant use. C. Mourer-Chauviré, D. Peters of Europe, provided much useful literature alongside interesting comment. Here in England, D. Bain, P. Bergdahl, S. Cox, B. Hough, R. Lloyd-Roberts, and T. Watson have all put themselves out to look after my comparative needs. Others I am sure will understand if I single out the last named, T. Watson, for the special thanks that are due to him for his great contribution to my library, but particularly to my collection of modern bird skeletons, the result of acquisitions obtained on his many marathon walks!

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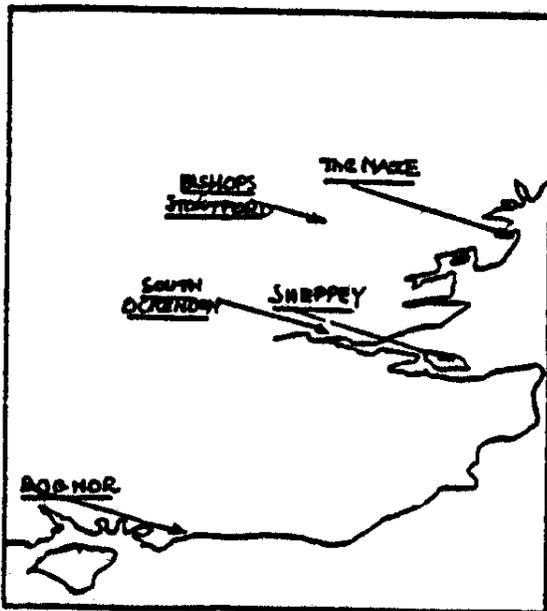


Fig. 1. Map of south-east England indicating London Clay localities producing fossil birds. Bishops Stortford and South Ockendon strata generally correlate with those at the Naze.

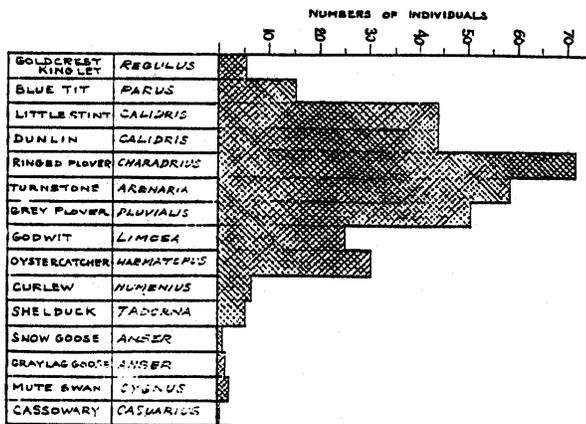


Fig. 2. Frequency of Naze birds according to size. Rough approximation to living genera.

MICHAEL DANIELS  
SEPTEMBER 28, 1990

ITALY

The 1990-1991 results and projects of Ettore RANDI are the following:

1. Galliformes: allozyme electrophoresis results on phylogenetic relationships within the Phasianidae have been compared with a current revision of the fossil record in collaboration with Dr. Tim CROWE (Fitzpatrick Institute, Cape Town, South Africa). A paper is ready for submission. *Numida*, not the Odontophoridae, appears to be the sister lineage of the other Phasianidae. The Phasianinae constitute a genetically heterogeneous group, with *Pavo* belonging to a lineage distantly related to the other members of the group. Genetic (allozyme) relationships have been studied in the Mediterranean species of the genus *Alectoris* (*A. rufa*, *A. creaca*, *A. barbara*, and *A. chukar*). Genetic distances are higher than the average in birds. Speciation in this group seems to be older than previously recognized. Restriction fragments analysis of mtDNA is in progress. A poster will be presented at the XX IOC, Christchurch, New Zealand.
2. Studies on Strigiformes and Falconiformes are in progress, both at the protein and at the DNA level. Preliminary results will be presented at the XX IOC.

NEW ZEALAND

Richard N. HOLDAWAY is just finishing a Ph D thesis on the systematics and palaeobiology of the extinct New Zealand eagle *Harpagornis moorei*. His research interests are the systematics of the New Zealand Holocene avifauna, and the distribution and palaeoecology of the recently extinct species and the causes of their extinction.

Joseph Mc KEE has had a fruitful year with the discovery of two new Pliocene pseudodontorns from the North Island of New Zealand. Unfortunately, they are both represented by single bones. One is a partial coracoid from a second pseudodontorn from the South Taranaki Coast, near Hawera. It is a little younger than the first pseudodontorn found along this coast some years ago (Mc Kee, 1985), being 1.2 meters higher in the sequence and about 0.5 km away from the first locality. The second discovery is a distal portion of a humerus from the northern Hawke's Bay region of the North Island, about 300 km east of the Hawera locality. This bird is of the same age as the Hawera specimens (Waipipian, mid-Pliocene). During the Pliocene both localities were covered by the seaway which covered a large portion of the southern part of North Island of New Zealand.

More bones from the Pliocene penguin *Tereingornis moitseyi* Scarlett have been collected during the year. Some of the bones are from the specimen which became the type of this species of penguin, described by Scarlett in 1983, but were not exposed at the time of the initial discovery.

Phil MILLENER, at the National Museum of New Zealand, Wellington, continues his studies of subfossil NZ wrens (Acanthisittidae) and has recently completed describing a new, extinct form (gen. et sp. nov.), unusually long-billed, flightless and probably of tree-creeping habit.

Carbon-14 dating of bird bone samples from the Chatham Islands (the first ever from naturally deposited dune and cave, as opposed to archaeological, sites) has yielded ages ranging from c.1500 -c.8000 yrs BP. Additional field work on both Chatham and Pitt Islands is planned for early 1991, with the objective of elucidating (with the help of further carbon-14 dates) the stratigraphic relationships of the rich subfossil bone deposits which are widespread on the islands. One Chatham species of particular interest is the enigmatic, extinct Chatham Island sea-eagle, *Haliaeetus australis*, of which two further bones, including the undescribed coracoid, have been found amongst H. O. Forbes' collection in the National Museum.

In January Phil assisted in recovering, from a cave at c.1700m on Mt Owen, Northwest Nelson, the most complete individual skeleton of the giant, extinct Haast's Eagle (*Harpagornis moorei*) yet found. This specimen, carbon dated at c. 2100 yrs BP, figured prominently in the "Treasures of the Nationals" exhibition which ran from February through August at the Museum.

From the National Museum's collection Phil has provided further samples of moa bone and mummified tissue, for DNA analysis to Alan COOPER (Victoria University) who has been working in Alan WILSON's laboratory at the University of California, Berkeley.

In collaboration with the Department of Conservation (Southland Region), Phil is shortly to investigate the reported discovery of a collection of mummified moa skeletons, in a dry cave among rock-fall debris, in a remote area of Fiordland.

## POLAND

Zygmunt BOCHENSKI finished the description of the remains of 24 Pleistocene taxa of birds from Bir Tarfawi, dated from about 135 000 y. B.P. The main paper, including full description of the remains, is in press as a part of a book concerning archaeological results, prepared by the Southern Methodist University in Dallas. Besides it, a short and "more ornithological" paper was sent to The Ostrich.

Together with Teresa TOMEK, he finished the manuscript on a Late Holocene bird fauna, from Duza Sowa Cave. The material consists of 70 Recent bird taxa. The paper will be published in Acta zoologica cracoviensis, vol. 34.

Zbigniew BOCHENSKI Jr. continued the determination of the Pleistocene bird remains from Oblazowa Cave, in the Sub-Tatra region. The material is very rich and the excavations have not been finished yet. His studies on comparative osteology of European grebes are also continued. Besides specimens from Polish collections, he examined skeletons from Moscow, Leningrad, Sofia, as well as borrowed specimens from museums of Copenhagen and Tring. He also includes in his studies some extra-European species.

Teresa TOMEK has also continued osteological studies of European Corvidae. She finished also her 18 years research of changes in forest bird fauna in the Ojcow National Park, caused by industrial pollution. On the other hand, she has compiled the results of 7 expeditions to North Korea she took part in during the last 12 years.

The collection of Recent bird skeletons enriched of about 20 new species, mainly by the way of exchange with other collections.

## RUMANIA

Elena TERZEA has published several papers including Pleistocene birds from Rumania (see Recent Literature).

## SPAIN

During 1989 and 1990 a small team of people working with fossil birds is starting to grow in Mallorca. Palaeornithological activities are supported by the Institut d'Estudis Avancats de les Illes Balears. An osteological collection of paleartic birds that includes more than 300 species has been formed. People working with fossil birds in Mallorca are now M. Mc MINN, D. JAUME, and J. A. ALCOVER.

The palaeornithological deposit of Es Pouàs (Eivissa) is the most important excavation now in course. This deposit has been excavated for a period of one month during the last two years and will be excavated at least for one month the next year. Es Pouàs is the most important known palaeornithological deposit of all the Balearic Islands and possibly of all the Mediterranean islands. At the moment more than 30 000 avian bones have been obtained, belonging to more than 40 species. This Dumber will probably increase in the future, because a very important part of the material obtained is still to be identified.

Recent papers of the Mallorcan palaeornithological group includes the description of a new shearwater species from the Western Canary Islands (in press), the description of another extinct species of shearwater from the Pliocene of Eivissa (Alcover, 1989), the study of the Upper Pleistocene bird fauna from El Buyero del Sito (La Gomera, Canary Islands) (in press), and a general note on the fossil marDe birds of the Western Mediterranean Islands (in press).

Future research will concern the fossil birds from Eivissa (specially Es Pouas), Mallorca (Cova de Muleta), Menorca, Fuerteventura (archaeological deposit of Villaverde, and others), Sicilia (Spinagallo), and other island faunas.

## UNITED STATES

Lawrence

Larry MARTIN is still studying Mesozoic birds, and he and Brad LIVEZEY are looking at ontogeny in *Archaeopteryx*.

Bob CHANDLER has finished his dissertation on phylogeny of the Recent and fossil alcids. Bob has put the alcids into their own order, Alcifomes and found that *Mancalla* is a sister-group to all other alcids. Bob is now studying *Bathornis* and the first records from California.

Los Angeles

Kenneth E. CAMPBELL communicates that work progresses slowly, but steadily, on the SAPE Symposium volume. All contributors should have received manuscripts by the end of October, 1990 and as soon as he receives replies from everyone the volume will be submitted to the Publications Committee at the Natural History Museum for their final approval. The entire volume should go into production before the end of the year, and publication is to be expected in 1991. All contributors will be notified as soon as the volume goes into production.

To assist the production process, Kenneth is asking everyone who can to submit a copy of their manuscript on computer disk (IBM-compatible; 5 1/4" or 3 1/2"; WordPerfect 5.0, or ASCII). If you cannot provide the file in WordPerfect or ASCII, send it in whatever program you may have and he will try to translate it. He does ask, however, that paper copies of final versions of all manuscripts be returned.

If possible, those who experience long delays in mail service should FAX their final comments on their manuscripts to the editor (FAX: 213-746-7431), as well as returning them in the mail.

James L. GOEDERT has collected new specimens of Plotopteridae from Late Eocene to Oligocene age rocks of Washington State which include new material of *Tonsala hildegardae* as well as perhaps three more genera. This material is in concretions and the preparation is proceeding slowly. James is working on an albatross-like bird from Late Oligocene rocks of south-western Washington, represented by excellent partial skeletons etched from concretions. Description of fragments of a gull-like bird from Early Eocene rocks of coastal Oregon is in progress. Approximately 500 more bird bones were collected early this year at Fossil Lake, Oregon, as part of an ongoing project to increase the available sample size (over 1500 bird bones have been collected in the last few years). Other sites of Pliocene and Pleistocene age in Oregon have yielded a few birds and several birds have been collected from a site in the Thousand Creek beds of northern Nevada.

As time permits, Joan BROWN and Hildegarde HOWARD are studying fossil bird bones at the Los Angeles County Museum of Natural History. The material under study is from the Vallecito Creek fauna (Irvingtonian age) of the Anza Borrego Desert of California and was collected by the Los Angeles County Museum of Natural History and Imperial Valley College Museum since HOWARDS 1963 report. Additions to the Vallecito Creek faunal list are anticipated.

Fritz HERTEL continues work on his dissertation studying vultures and raptors. The work involves studying functional convergence between extant Old and New World vultures, and ultimately comparing them with the Pleistocene vultures from Rancho La Brea. In addition, functional differences between vultures and raptors are being quantified. This should help to understand better the adaptations of large flesh eating birds and to compare differences in communities with a high diversity of vultures such as Amazonas, East Africa, the Indian subcontinent, and Rancho La Brea.

Tab RASMUSSEN has a new position in the department of Anthropology at UCLA. As an anthropologist, his research has been focused on fossil primates rather than fossil birds and therefore he has little to report that would be of interest to SAPE members. He is continuing to work on Oligocene birds from Egypt, and Miocene birds from Colombia. Both assemblages will be very interesting and will include several new taxa, but it is not possible, at this point, to provide a detailed preliminary account.

New Mexico

Peter HOUDE has accepted a position as Ornithologist at the level of Assistant Professor in the Department of Biology at New Mexico State University. He has separate laboratories for both vertebrate paleontology and molecular systematics. The department has vertebrate collections and a demonstrated commitment to organismal biology. Peter encourages students interested in an integrated approach to avian systematics and evolution to contact him about graduate and postdoctoral opportunities.

New York

David STEADMAN's current research focuses on extinct landbirds from the South Pacific, as well as the late Quaternary birds of North America.

San Francisco

Kenneth WARHEIT completed his doctoral dissertation in April 1990. The work, entitled "The phylogeny of the Sulidae (Aves: Pelecaniformes) and the morphometry of flight-related structures in Seabirds: Study of adaptation" is a detailed morphological and morphometric analysis of the skeleton in the Sulidae and related taxa. Although the focus of this research was Recent species, WARHEIT also included a section of the temporal and spatial occurrences of fossil Sulidae, and incorporated morphometric analyses of S species of Miocene sulids from California and Maryland. WARHEIT's systematic revision of the fossil Sulidae is near completion. He has also recently completed a summary of the fossil seabirds from the North Pacific. This paper will be included in a special publication of the Canadian Wildlife Service and Pacific Seabird Group (PSG), to be issued in 1991. Finally WARHEIT has accepted postdoctoral fellowships at the California Academy of Sciences, San Francisco, and the Smithsonian Institution, Washington D.C. During these postdoctoral fellowships, he will be continuing his morphometric analyses of seabirds.

Washington

A joint expedition of the Smithsonian Institution and the American Museum of Natural History spent the first two weeks in June in a most successful investigation of *Presbyornis* localities in south-western Wyoming near the towns of Rock Springs and Kemmerer. Participants were Storrs OLSON and Dan CHANEY from the Smithsonian, Per ERICSON who is currently at the Smithsonian working on *Presbyornis* on a grant from the Swedish Academy of Sciences, and Allison ANDORS from the American Museum. They recovered some large slabs from the Canyon Creek site that they hope will eventually be prepared for exhibit at the American Museum and also obtained some beautiful new skulls, including one that seems to show traces of lamellae. They visited 3 other localities including one very promising site near Kemmerer that is the first *Presbyornis* site known from the Eocene Fossil Lake and that has the potential for yielding birds other than *Presbyornis*, as well as mammals and reptiles. The expedition was so fruitful and enjoyable that the members decided to continue in future years to gather detailed geological information on all *Presbyornis* sites in the Green River Formation.

Not long afterwards, Helen JAMES departed the Smithsonian for 6 weeks in the Hawaiian Islands, taking with her a number of colleagues who were eager to visit fossil sites and contribute their special expertise to the study of prehistoric avian extinctions. This team of investigators, including David BURNEY, a paleoecologist from Fordham University, Bronx, and Thomas STAFFORD Jr., a geochemist from the University of Colorado, Boulder, returned from the islands with an eclectic collection of bones, sediment samples, pollen cores, corals, and rhizoliths.

Within a week of their return, Storrs OLSON enlisted STAFFORD again for another expedition, in conjunction with Gregory PREGILL of the San Diego Museum of Natural History (fossil reptiles), and Bill HILGARTNER of Johns Hopkins University (paleobotany). They excavated an undisturbed cave deposit on Royal Island, Eleuthera, in the Bahamas. The principal bone bearing layer, about a meter deep, consisted of about 10 cm of solid bone accumulated by the giant barn owl, *Tyto pollens*. This consisted mainly of bones of the rodent *Geococcyx* but also included numerous bones of birds, including almost all the extinct species reported previously from New Providence by Brodkorb. Because of STAFFORD's expertise in stratigraphy and bone dating, this should eventually be the best documented fossil site in the Bahamas, if not in the whole West Indies.

Per ERICSON is working since August 1989 on the postdoctoral project "The fossil bird *Presbyornis* and its significance to the evolution and systematics of birds". The work includes a redescription of the *Presbyornithidae* and an analysis of their systematic position relative to modern birds; both these parts are soon to be concluded. Besides working on *Presbyornis*, he also spent some time preparing a manuscript on the Late Pleistocene avifauna from Casa del Diablo, a cave near Lake Titicaca, in Andean Peru. The material was collected by Erlend Nordenskiöld at the turn of the century, and its avian and micromammalian parts have been overlooked until a few years ago, when his colleague Dr. Lars Werdelin of the Swedish Museum of Natural History in Stockholm, re-discovered them. Lars began to study the micromammals and encouraged Per to work on the birds. Up to now, twenty

non-passerine bird species have been identified, e. g., tinamous, geese, ducks, raptors, an extinct vulture, shorebirds, and a hummingbird.

## USSR

Leningrad

Lev A. NESSOV finished a manuscript (in Russian) for the Proceedings of the Zoological Institute, in Leningrad, with review of the Cretaceous and Paleogene bird fossils and localities in the USSR (more than 50 in total, and 23 Cretaceous in age).

In June 1990 L. A. NESSOV and A. I. STARKOV (Burjat Branch of the Academy of Sciences of the USSR) found in Mogoito locality on the western side of Gusinoje Lake, in Transbaikalian region, a part of tibiotarsus of a large trush sized bird. This fossil is Late Barremian–Early and Middle Aptian age. It is the earliest bird bone in the USSR that has approximately the same age as *Ambiortus* from Mongolia.

During the International Symposium on Nonmarine Cretaceous, August 1990, Alma-Ata, L. A. NESSOV and I. DAVID ARCHIBALD had a short time for the observation of a Paleogene quarry near Kentan city, in Kazakhstan. They found there some bones of middle-sized birds from the Middle Eocene.

In the beginning of 1990, B. V. PRIZEMLIN (Institute of Zoology, Alma-Ata) transferred to L. A. NESSOV a series of relatively large bones that be determined as presumably fossil birds. Among them were remains of relatively large, non-pneumatized trunk vertebrae, distal part of tibiotarsus, and two tarsometatarsi of a large hesperornithiform bird of a new genus, and maybe a new family. This genus was more advanced than *Hesperornis* and lived in Turgai Strait during the Latest Campanian or Earliest Maestrichtian. These are the first remains of the order Hesperornithiformes in USSR. However it is not the first Cretaceous hesperornithiform that was found in the Old World, as a vertebra of *Iudinornis nogonstavenensis* Ness. and Bork. 1983 (Baptornithidae) (Nessov, 1986) and a distal tibiotarsus of Baptornithidae (Kurochkin, 1988) are known from the ?Latest Campanian–Early to Middle Maestrichtian of a large South Mongolian brackish water estuarine reservoir.

Another bird, *Parascaniornis stenioi* Lambrecht, 1933, from the Latest Early Campanian near Ivö, Southern Sweden, is also hesperornithiform, possibly of the same family as the new form from the Turgai Strait. The Kazakhstan material gives new information for the idea that Recent Gaviidae, Podicipedidae and the extinct order Hesperornithiformes must be united (Cracraft, 1973) as members of a natural group.

A. O. AVERIANOV found new material of birds in the Early Eocene locality of Andarak II, in Perghana Valley.

Pinally, L. A. NESSOV is doing field work in the Late Jurassic, Cretaceous and Paleogene deposits, in Karatau Range area, in Kazakhstan.

Olga R. POTAPOVA did not make field works during last year and spent her time studying the fossil birds from the Caucasus and from deposits of the Middle Asia. She intends to prepare a poster on new Eocene birds from Middle Asia for the 3d SAPE symposium.

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Changes of address

The Institute of Systematics and Experimental Zoology of the Polish Academy of Sciences, in Krakow, Poland, has become the Institute of Systematics and Evolution of Animals.

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