



SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

- Newsletter -

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SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

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Dear SAPE Members,

It is exciting to see our members so actively pursuing a diversity of scientific approaches to increase our understanding of the last 150 million years of avian evolution, and addressing a range of issues related to the taxonomy, systematics, ecology, and paleobiology of birds. Our members also continue to mentor the future generation of professionals interested in the study of avian evolution, through teaching, and graduate student and postdoctoral fellow supervision.

Our regular, international meetings continue to be the Society's most valuable contribution—these meetings gather many of us for days of scientific discussions, collaborative projects, and the opportunity to learn about local fossil and modern avifaunas. At our last meeting, in Diamante (Argentina), many members expressed interest in increasing the frequency of our meetings—from every 4 years to every 3 years. Such a change requires an amendment of the Society's Constitution (Article 6), which in turn requires the written support from at least five members from three

different countries as well as the endorsement of the Executive Council. We have now received such support, and we are ready to take the next step for amending our Constitution: a vote at the next meeting in 2020. I'm excited to explore the possibility of us meeting more frequently; you can read the proposed amendment of Article 6 of SAPE's Constitution below. The proposed amendment will become effective if a three-fourth majority of members present at the next meeting votes in favor of the proposed change.

I look forward to seeing the participation of many of our members at the upcoming meeting in Málaga (see below announcement). Málaga is a beautiful city in the Mediterranean coast of Spain, filled with culture, history, and birds! I have no doubt that our host institution, the Universidad de Málaga, will organize a superb meeting. Save the date and see you in Málaga!

Luis M. Chiappe, SAPE President

SAPE MEETING 2020

SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

10th International Meeting



Málaga, Spain
25th-29th May 2020

Save The Date



*further information
coming soon!*

ORGANIZING INSTITUTIONS



PROPOSED AMENDMENT OF ARTICLE 6 (MEETINGS) OF SAPE'S CONSTITUTION

Current Article 6: The Society shall hold an international meeting once every **four** years for the transaction of business and for scientific sessions. If, for any reason, a regularly scheduled meeting cannot be held as planned, the Executive Council will arrange for an alternative site and/or date. The host site for the Stated Meeting will preferably alternate among continents, with no continent being eligible to host the Stated Meeting twice in succession unless no satisfactory alternative is available. The host site for the Stated Meeting will be selected as specified in the Bylaws.

Proposed Amendment of Article 6: The Society shall hold an international meeting once every **three** years for the transaction of business and for scientific sessions. If, for any reason, a regularly scheduled meeting cannot be held as planned, the Executive Council will arrange for an alternative site and/or date. The host site for the Stated Meeting will preferably alternate among continents, with no continent being eligible to host the Stated Meeting twice in succession unless no satisfactory alternative is available. The host site for the Stated Meeting will be selected as specified in the Bylaws.

OBITUARY: ANITA GAMAUF (1962–2018)

Curator of Ornithology, Natural History Museum Vienna, Austria

Only a few weeks ago, the ornithological community received the sad news that on August 22nd, Priv.-Doz. Dr. Anita Gamauf passed away, at the age of only 56. She was a highly respected curator of one of the most important bird collections worldwide, a renowned scientist working on the phylogeny of birds of prey, and an amicable colleague, which will be missed a lot.

Anita was born on 23 of January 1962 in Wiesfleck, Austria. Her interest and dedication to birds has emerged already during her childhood and young days and led her in 1980 to study zoology, human biology and botany at the University of Vienna. In 1989, she received her PhD with a thesis dedicated to the "Habitat choice of Common Buzzard, Honey Buzzard and Sparrow Hawk". Birds of prey were her lifelong passion.

During the first years of her scientific career, she conducted projects at the Institute of Wildlife Biology and Game Management at the University of Natural Resources and Life Sciences and subsequently at the Konrad Lorenz Institute of Ethology, both in Vienna.

In 1996, she joined the Natural History Museum of Vienna (NHMW) as scientific staff of the ornithological department and finally became head and curator of the ornithological collection in 2011. In 2010, she also completed her habilitation at the University of Vienna, which is a requirement for a professorship in Austria, and subsequently supervised more than 10 graduate and PhD students. Her habilitation thesis dealt again with different aspects of birds of prey of the Old and New World, such as ecomorphology, phylogeography and protection-strategies.

Anita was both, a museum person full of appreciation for the collection and its scientific and historical value, meticulous in its care, as well as an excellent and thoroughbred researcher, competent, conscientious, intuitive, passionate, and collegial. Her ornithological expertise covered an extremely wide range. Whenever she talked about her projects, which usually focused on "birds of prey," one immediately

realized how wholeheartedly she was attached to this group.

Anita loved traveling very much; she visited countries all around the world, mostly on the tracks of birds, especially birds of prey. That is why, for instance, she visited Togo and Benin, as these countries were destinations of radio-tracked Honey Buzzards, whose habitats she wanted to study on site. Probably also ornithologically motivated were her successful trainings for becoming a crane operator and a tree climber. She also was a trained apiarist. The honey she produced carries the trade name "apivorus" and its logo shows a Honey Buzzard, the most favorite bird of Anita.

At the end of 2015, she was diagnosed a serious illness, which compelled her to stay in hospital for several months for medical treatments. However, in 2016, albeit not cured, she resumed work at the NHMW and took over again all her duties, even in days of pain. Working at the Museum she sensed to be the best "medicine" during these hard times. Her basic principle then was: "Do I have any alternative?"

Anita was enthusiastically working until shortly before her death. The last weekend before her passing, she even took a break of her anew hospitalization to come to the museum and to finally appraise some long awaited new collection specimens of South African birds of prey and to handle some curator's duties. Finally, her sudden passing away was unexpected for most of her colleagues. She leaves behind her partner Nora.

Anita will be remembered as an open and positive person, full of energy and with attitude, a cooperative and competent colleague, and a respected researcher with great passion for ornithology. We, the colleagues of the NHMW, will miss her sadly.

Ursula Göhlich
(Natural History Museum Vienna)

CALL FOR MEMBERSHIP AND DONATIONS

As SAPE enters its 33rd year as a research society, maintaining current members and attracting new ones continues to be a central goal of our international society. You can join SAPE or renew your membership online with a credit card by visiting our website (<http://www.sapesociety.org>). Dues are \$20.00 USD

and cover the period up until the next SAPE meeting in Spain (2020). Thank you for your support. Your membership dues provide opportunities for students to present their research via the Cécile Mourer-Chauviré travel grant and also provide the necessary funds to host our quadrennial meetings. You can also make

donations to the society via the website. Please consider making memorial or other donations in honor of colleagues and friends. Contact SAPE President Luis Chiappe or Treasurer Adam Smith to learn more about

how your donation would be used to further the scientific and educational goals of SAPE.

NEWS FROM MEMBERS AND RECENT PUBLICATIONS

ARGENTINA

CAROLINA ACOSTA HOSPITALECHE, from the Museo de La Plata, continues working mainly in Antarctica. Although the technical preparation of the new Antarctic materials is taking more time than it was estimated, a couple of skeletons were already studied: one of them in collaboration with Judd Case and Amanda Cordes-Person, and the other one with NADIA HAIDR, who is in the last stage of her Ph.D., and they will be submitted for publication soon.

This year, Carolina dedicated a lot of her time teaching at the university. She continues teaching in Vertebrate Paleontology, a subject of the last year of the degree in Paleontology, but she also started as a Professor in Principles of Paleontology, a subject of the second year of the career.

Three others graduate students from La Plata University are working with Carolina under her supervision: ALEJANDRA SOSA is dedicated to the analysis of modularity and muscular reconstructions in Eocene penguins, ALEJANDRA PIRO is working on the anatomy and phylogeny of Procellariiformes, and SEBASTIÁN LYONS is focused on the anatomy and functional morphology of the woodpeckers' skull. Together with LUIS GARAT and MARIANELLA TALEVI, she is working on the osteohistological attributes of fossil penguins and continues working in collaboration with JAVIER GELFO and the undergraduate student LAURA TORRES on otoliths recovered from Antarctic sediments.

JUAN DIEDERLE is working on snake-birds and ratites of South America, as well as with Neogene and Quaternary fossil birds of Entre Ríos province and the Patagonian region, Argentina. His studies focus on taxonomic, paleobiological and evolutionary aspects.

CLAUDIA TAMBUSI at CICTERRA in Córdoba (Argentina) continues to work on Mio-Pliocene birds of Sierras Pampeanas at La Rioja and Córdoba in Argentina. Her research projects are predominately dealing with paleobiology and brain anatomy. With RICARDO DE MENDOZA, she has completed a reevaluation of the flightless diving anseriform *Cayoa bruneti* from the early Miocene of Patagonia. She and other colleagues have finished a morpho-functional study of the trophic capacities of the nightjar *Systemura longirostris*. Also, with other colleagues, she has finished the study of a stem Paleocene anseriform from Antarctica. The three manuscripts are currently under revision. She dedicates much of her time following up on her students, in particular those who are doing their theses and postdoctoral projects. Ongoing projects include brain anatomy studies of that stem anseriform and also of terror birds. We are organizing the 33 JAPV (Jornadas Argentinas de Paleontología Vertebrados) that will be held from 29 to 31 May 2019 in Córdoba. Córdoba is a beautiful city located in the center of Argentina, with excellent air and ground transportation services, full of beautiful landscapes and spots to see Andean condors! You will be welcome. Please, feel free

to contact me or Federico Degrange if you are interested.

FEDERICO "DINO" DEGRANGE continues to work at the CICTERRA (UNC, CONICET) on the paleobiology of terror birds (Cariamiformes, Phorusrhacidae). Together with Claudia Tambussi, Lawrence Witmer, Ryan Ridgely and Don Cerio, he is currently working on several aspects of these birds such as brain anatomy, eye size and visual acuities, and the evolution of cranial akinesis using virtual paleobiological techniques. He is also doing research with Claudia on the Mio-Pliocene birds of Sierras Pampeanas at La Rioja and Córdoba in Argentina. He is working with Julia Clarke in the description of new *Phorusrhacos* skull remains, in the morpho-functional analysis of the cranio-mandibular complex of the caprimulgidiform *Systemura longirostris* (Demmel Ferreira et al., under review) and on the study of a stem Paleocene anseriform from Antarctica (Tambussi et al., under review). He is also part of the organizing committee of the 33 Jornadas Argentinas de Paleontología de Vertebrados that will take place in Córdoba city. MARIA MANUELA DEMMEL FERREIRA has started her PhD thesis under the supervision of F.J. Degrange and G. Tirao (FaMAF, UNC). Using CT scans and 3D modelling, her thesis is about the evolution of brain anatomy of South American Passeriformes over the last 25 million years.

ACOSTA HOSPITALECHE, C. (2018): Avian evolution: the fossil record of birds and its Paleobiological significance, – Historical Biology, DOI: 10.1080/08912963.2018.1512602.

CENIZO, M., NORIEGA, J.I., DIEDERLE, J.M., SOIBELZON, E., SOIBELZON, D., RODRIGUEZ, S.G., & BEILINSON, E. (2018): An unexpected large Crested Tinamou (*Eudromia*, Tinamidae, Aves) near to Last Glacial Maximum (MIS 2, late Pleistocene) of the Argentine Pampas. – Historical Biology. <https://www.tandfonline.com/doi/full/10.1080/08912963.2018.1491568>

CIONE, A., SANTILLANA, S., GOIRIC-CAVALLI, S., ACOSTA HOSPITALECHE, C., GELFO, J., LÓPEZ, G., & REGUERO, M. (2018): Before and after the K-Pg extinction in West Antarctica: New latest Cretaceous to earliest Cenozoic marine fish records from Marambio (Seymour) Island. – Cretaceous Research, 85: 250–265.

DEGRANGE, F.J., KSEPKA, D., & TAMBUSI, C.P. (2018): Redescription of the oldest crown clade penguin: cranial osteology, jaw myology, neuroanatomy and phylogenetic affinities of *Madrynomis mirandus*. – Journal of Vertebrate Paleontology, 38 (2), e1445636.

GARCIA MARSÀ, J.A., TAMBUSI, C.P., & CERDA, I. (2018): First evidence of globuli ossei in penguins (Aves, Spheniciformes). What do they indicate about way of life? – Historical Biology doi: 10.1080/08912963.2018.1508288.

- HAIDR, N. & ACOSTA HOSPITALECHE, C. (2017): A new penguin cranium from Antarctica and its implications for body size diversity during the Eocene. – *Neues Jahrbuch für Geologie und Paläontologie*, 286 (2): 229–233.
- HAIDR, N. & ACOSTA HOSPITALECHE, C. (2017): New data on the humerotriceps of penguins and its implications in the evolution of the fossa tricipitalis. – *Historical Biology*. DOI: 10.1080/08912963.2017.1396324.
- KASS, N., MONTALTI, D., & ACOSTA HOSPITALECHE, C. (2018): Comparison of the skull of Brown and South Polar Skuas: differentiation source identification and discriminant analysis. – *Polar Biology*. <https://doi.org/10.1007/s00300-018-2268-7>
- PESTONI, S., DEGRANGE, F.J., TAMBUSI, C.P., DEMMEL, M., & TIRAO, S. (2018): Functional morphology of the crano-mandibular complex of the Guira cuckoo (Aves). – *Journal of Morphology*. DOI: 10.1002/jmor.20810
- PIRO, A. & ACOSTA HOSPITALECHE, C. (2018): Skull morphology and ontogenetic variations of *Macronectes giganteus* (Aves: Procellariiformes). – *Polar Biology*. <https://doi.org/10.1007/s00300-018-2397-z>
- CONFERENCE ABSTRACTS:
- ACOSTA HOSPITALECHE, C., HAIDR, N., & REGUERO, M. (2018): First cranium of the giant penguin *Anthropornis* in Marambio/Seymour Island. – *Polar* 2018, Davos (Suiza), 19–23 June 2018.
- ACOSTA HOSPITALECHE, C., PERSON-CORDES, A., CASE, J., & AND MARTIN, J. (2018): An enigmatic bird from the early Maastrichtian of Vega Island, Antarctica. – 6^o Congreso Latinoamericano Paleontología Vertebrados. Villa de Leyva (Colombia), 20–25 August 2018.
- CERIO, D.G.; DEGRANGE, F.J.; TAMBUSI, C.P.; RIDGELY, R.C. & WITMER, L.M. (2018): Modeling visual abilities in extinct species using Virtual Ophthalmoscopy, with a case study in predicting eye size, optical parameters, and visual fields in terror birds (Aves: Phorusrhacidae). – 78th Annual Meeting of the Society of Vertebrate Paleontology (SVP). Albuquerque, New Mexico, 17–20 October 2018. Available at <http://vertpaleo.org/Annual-Meeting/Annual-Meeting-home.aspx>
- DEGRANGE, F.J.; TAGLIORETTI, M.L.; BRITO, G.R.R.; SCAGLIA, F. & TAMBUSI, C.P. (2018): New remains of *Dryornis pampeanus*, a fossil cathartid from the Pliocene of Buenos Aires, Argentina. – Reunión de Comunicaciones de la Asociación Paleontológica Argentina 2018. Puerto Madryn, Provincia de Chubut, 21–23 November 2018. Available at <http://web.cenpat-conicet.gob.ar/rcapa2018/inicio>
- DEGRANGE, F.J.; TAMBUSI, C.P.; WITMER, L.M.; DEMMEL FERREIRA, M.M. & SANTILLANA, S. (2018): Endocranial anatomy of a paleocene stem waterfowl (Aves, Anseriformes). – Reunión de Comunicaciones de la Asociación Paleontológica Argentina 2018. Puerto Madryn, Provincia de Chubut, 21–23 November 2018. Available at <http://web.cenpat-conicet.gob.ar/rcapa2018/inicio>
- LYONS, S., & ACOSTA HOSPITALECHE, C. (2018): Morphofunctional analysis of the articulation between the mandible and quadrate in woodpeckers (Aves: Picidae). – XXV Congreso Brasileiro de Ornitologia. Paranaíba, 2–6 September 2018.

AUSTRALIA

The 2017–2018 year was a busy year for TREVOR WORTHY ET AL. Avian Palaeontology at Flinders University, South Australia has continued to flourish. ELEN SHUTE submitted her PhD thesis on the Pleistocene fossil birds from the Nullarbor. WARREN HANDLEY continues his PhD project on endocranial anatomy of galloanseres and is having fun looking at the insides of dromornithids. ELLEN MATHER is well into her PhD project on the fossil accipitrids of Australia, with a key focus being a late Oligocene accipitrid skeleton that preserves most limb elements. Whilst learning accipitrid anatomy she saw to completion the publication of the St Bathans rails with two new species from those early Miocene deposits of New Zealand described, but of course no sooner was this out, than did we find a third and larger rail in continued fieldwork.

A new member of the team is JACOB BLOCKLAND who joined the group from Christchurch, NZ. Jacob is commencing a project on the relationships of the Australasian rails, especially the Oligocene and Miocene ones. PHOEBE MCINERNEY will have by the time this is read have finished an Honours project describing the laryngeal and syringeal anatomy of a cassowary through CT-scan data and using data therefrom to seek better resolution of morphological data in phylogenetic analyses of ratites and kin.

Meanwhile, Trevor has done further fieldwork looking at late Oligocene in the Namba Formation in the arid zone in northern South Australia has continued to reveal fossil birds including parrots, rails (many new ones for Jacob) and passerines in addition to the usual

shags and flamingos etc. In late September, the team finally got back out on Lake Callabonna to the Pleistocene necropolis, where Trevor had last been in 2014. Floods had intervened in 2015 to curtail work for a while, but the wait was worth it with lots of spectacular discoveries made, including 18 kangaroo skeletons (collected), another 120 *Diprotodon* skeletons found, and 3 skeletons of *Genyornis* – two the most complete ever. The team waits with impatience to see what appears out of the 35+ jackets that were brought back.

The St Bathans project (E. Miocene, NZ) continues with colleagues in New Zealand and others in Univ NSW, Sydney (Professors Hand and Archer – mammals) and Univ Queensland (Steve Salisbury), who continue to reveal these E. Miocene faunas. A new large mystaciniid bat has at last got a name and the crocodilians should be getting press soon. On the bird front, pigeons got a look in with a new dove-sized one joining the fauna. Annual field work continued with a major excavation completed in the HH1a quarry with hundreds of new specimens awaiting preparation still.

Projects on Pacific avifaunas continue to progress. The description of the Mangarevan archaeological bird faunas is in press (with Stanislas Rigal and Pat Kirch) and work continues on Tongan faunas with David Burley.

DE PIETRI, V.L., SCOFIELD, R.P., TENNYSON A.J.D., HAND, S.J., & WORTHY, T.H. (2017): The diversity of early Miocene pigeons (Columbidae) in New Zealand. Proceedings of the 9th International Meeting of the

- Society of Avian Paleontology and Evolution. – *Contribuciones del Museo Argentino de Ciencias Naturales* 7: 49–68.
- DE PIETRI, V.L., SCOFIELD, R.P., PRIDEAUX, G.J., & WORTHY, T.H. (2018). A new species of lapwing (Charadriidae: *Vanellus*) from the late Pliocene of central Australia. – *Emu-Austral Ornithology*, 118: 334–343.
- MATHER, E.K., TENNYSON, A.J.D., SCOFIELD, R.P., DE PIETRI, V.L., HAND, S.J., ARCHER, M., HANDLEY, W.D., & WORTHY, T.H. (2018). Flightless rails (Aves; Rallidae) from the early Miocene St Bathans Fauna, Otago, New Zealand. – *Journal of Systematic Palaeontology*: 27 pp.
- MAYR, G., DE PIETRI, V.L., SCOFIELD, R.P., & WORTHY, T.H. (2018). On the taxonomic composition and phylogenetic affinities of the recently proposed clade Vegaviidae Agnolín et al., 2017 – neornithine birds from the Late Cretaceous of the Southern Hemisphere. – *Cretaceous Research*, 86: 178–185.

- LENTINI, P.E., STOJANOVIC, D., STIRNEMANN, I.A., WORTHY, T.H., & STEIN, J.A. (2018): Using fossil records to inform reintroduction of the kakapo as a refugee species. – *Biological Conservation*, 217: 157–165.
- WORTHY, T.H. & YATES, A. (2017): A review of the smaller birds from the late Miocene Alcoota local faunas of Australia with a description of a new anatid species. – *Contribuciones del Museo Argentino de Ciencias Naturales* 7: 221–252. In: *Paleontología Y Evolución de Las Aves. Proceedings of the 9th International Meeting of the Society of Avian Paleontology and Evolution, Diamante (Argentina), 1-6 August 2016*; C. Acosta Hospitaleche, F.L. Agnolín, N. Haidr, J.I. Noriega, C.P. Tambussi (eds). ISSN 1666-5503

AUSTRIA

In the past year, URSULA GÖHLICH mostly worked on Miocene mammals from a locality in Bosnia-Herzegovina on which she authored and co-authored several papers, which await publication. They will be published in 2019 in a special issue of a scientific journal dedicated to this locality, for which she additionally acts as a guest-editor. Recent ornithological research was limited to a small contribution about a very few bird fossils from an Oligocene locality (Shine Us) in Western Mongolia. This article, which she co-authored, will also be published in 2019. In September,

Ursula did a 3-week research trip to the USA, visiting several collections and Museums in Oregon and California for a project on Neogene mammutids (proboscidea).

- SPÖTL C., REIMER, P., & GÖHLICH, U.B. (2018): Mammoths inside the Eastern Alps during the last glacial period: radiocarbon constraints and palaeoenvironmental implications. – *Quaternary Science Reviews*, 190: 11–19.

BULGARIA

ZLATOZAR BOEV is involved in the following projects:

- 1) Zooarchaeological study of the 'Forum Serdica' based on the remains of vertebrates from the center of Sofia (4–19 BC) (2015 – 2018)
- 2) 'Thracians — Genesis and Ethnic Development, Cultural Identities, Civilization Interactions and Heritage of Antiquity' — Study of animal osteological materials (wild and domestic) from Neolithic to Late Middle Ages in order to search for continuity
- 3) Late Pleistocene avifauna of the Pešturina Cave (Nišava District, SE Serbia)
- 4) History of the National Museum of Natural History at the Bulgarian Academy of Sciences.

He is also the scientific tutor of three PhD candidates [Dimitar Plachyiski: "Distribution of Eurasian Capercaillie (*Tetrao urogallus* Linnaeus, 1758) in Bulgaria depending on the landscape-ecological habitat characteristics"; Dobromir Dobrev: "Distribution and ecology of the Gryffon vulture (*Gyps fulvus* Hablizl, 1783) in Bulgaria"; Volen Arkumarev: "Movement and individual range of the Gryffon Vulture (*Gyps fulvus* Hablizl, 1783) in Bulgaria".

- BOEV, Z. (2017): Bone remains of the Late Antiquity – Early Medieval deposits of the National Academy of Art (Sofia, Bulgaria). – *Bulletin of the Natural History Museum – Plovdiv* ISSN 2534-9635; Print ISSN 2534-9627, 2: 9–11.
- BOEV, Z. (2017): Fossil and subfossil record of Reptiles (Reptilia Laurenti, 1768) in Bulgaria. – *Historia*

naturalis bulgarica, 24: 165–178. ISSN 0205-3640 (print).

- BOEV, Z. (2017): Fossil and subfossil record of species of the Genus *Lynx* Kerr, 1792 (Mammalia: Felidae) in Bulgaria. – *Acta zoologica bulgarica*, 69 (3): 303–306.
- BOEV, Z. (2017): New data on the subfossil fauna from "Forum Serdica" (Sofia City, Bulgaria; 3-19th century A. D.). – *Historia naturalis bulgarica*, 24: 179–186. ISSN 0205-3640 (print)
- BOEV, Z. (2017): On the breeding of some mouse-like rodents (Muroidea Illiger, 1811) from Ograzhden Mountain (Southwestern Bulgaria). – In: Ivanov, I. (Ed.). A collection of papers of the National Scientific Conference dedicated to the 55th anniversary of the establishment of the Teacher's Institute in Smolyan and the 20th anniversary of its transformation into a branch of the Plovdiv University "Paisii Hilendarski". Education and science for personal and social development. Book 2. Natural Sciences, Mathematics and Informatics. Technical sciences. Biology and Chemistry. Medicine. Smolyan, 27–28 October 2017. Plovdiv University "Paisii Hilendarski", Branch – Smolyan. 45–54. (In Bulgarian; English summary).
- BOEV, Z. (2017): The National Museum of Natural History of the Bulgarian Academy of Sciences: Second birth (1972 -1974). – *Journal of the Bulgarian Academy of Sciences*, 6: 77–79. (In Bulgarian; English summary).

- BOEV, Z. (2018): Birds in everyday life and art in Bulgaria (Thracian and Roman periods). – *Historia naturalis bulgarica*, 25: 3–39.
- BOEV, Z. (2018): Bulgarian Names of Domestic Animals in the Balkan Peninsula and Their Correspondences in the Scientific Literature. – *Bulletin of the Natural History Museum – Plovdiv*, 3: 1–5.
- BOEV, Z. (2018): Fossil and Subfossil Record of Vertebrate Animals (Vertebrata J.-B. Lamarck, 1801) along the Western Black Sea Coast (Bulgaria). – In: GEORGIEVA, E., PEEV, D. (eds.). *First European Symposium: Research, Conservation and Management of Biodiversity in the European Seashores. RCMBES 2017.* – *Acta zoologica bulgarica*, Suppl. 11, 2018: 105–110.
- BOEV, Z. (2018): National Museum of Natural History in the period 1942-1947 - its difficult recovery, racking development. – In: *Cultural memory through time and space. Selected works, dedicated to the 65th anniversary of Prof. Dr. Sc. Art Simeon Nedkov.* Publ. House of the Sofia University "St. Kliment Ohridski". Sofia, 149–157.
- BOEV, Z. (2018): Subfossil fauna from "Forum Serdica" (Sofia City, Bulgaria) of Antiquity (2nd – 4th century AD) and Ottoman Epoch (15th – 18th century AD) (Excavations 2017). – *Bulletin of the Natural History Museum – Plovdiv*, 3: 7–13.
- BOEV, N. & BOEV, Z. (2018): Aurochs (*Bos primigenius* Bojanos, 1827) (Artiodactyla - Mammalia) in the nature and culture of Bulgaria. – *ZooNotes*. Supplement 5. ISSN 1313-9916. Plovdiv University Press "Paisii Hilendarski". Plovdiv, 1–120. www.zoonotes.bio.uni-plovdiv.bg
- PLACHIYSKI, D., POPGEORGIEV, G., AVRAMOV, S., & BOEV, Z. (2018): The Balkan Capercaillie *Tetrao urogallus rudolfi* Dombrowski, 1912 (Galliformes: Phasianidae): Distribution History and Current Status in Bulgaria. – *Acta zoologica bulgarica*, 70: 101–111.

POPULAR SCIENCE:

- BOEV, Z. (2017): Cock-a-doodle-doo traveller [Animal travellers] – *Osem*, 8: 116–125.
- BOEV, Z. (2017): Harvest 20th century. – *Spisanie Osem*, 9: 60–67.
- BOEV, Z. (2017): Kunino – a look at the Pleistocene nature of Bulgaria. – *Priroda, BAS*, 4: 34–41.
- BOEV, Z. (2017): The swot of the class [Wisent]. – *Osem*, 11: 126–131.
- BOEV, Z. (2017): Vital Vitosha. – *Spisanie Osem*, 10: 116–123.
- BOEV, Z. (2018): Birdlife of the Devetashka Cave. – *Priroda, BAS*, 1: 46–52.
- BOEV, Z. (2018): Green Giants. – *Spisanie Osem*, 6: 94–101.
- BOEV, Z. (2018): The Moths of the Night. – *Spisanie Osem*, 9: 104–111.
- BOEV, Z. (2018): The Wise Delicacy. – *Spisanie Osem*, 8: 110–117.
- BOEV, Z. (2018): Wingless Fliers. – *Spisanie Osem*, 4 : 68–75.
- BOEV, Z. (2018): Wings, feathers and beaks in the Kozarnika Cave 80 000 years ago. – *Priroda, BAS*, 2: 82–87

CANADA

GARY KAISER, Research Associate, Royal British Columbia Museum has just published *Feathered Life*, Telwell Publ., Victoria B.C. It follows the numerous biological and behavioural specializations in the Bird-Dinosaur Lineage. That series of specializations contributed to the initial success and subsequent

dominance of the terrestrial fauna in the Mesozoic. Later, they were key factors in the rise of the lineage's avian component in the Cenozoic, while many mammals remained huddled in burrows.

CZECH REPUBLIC

On 23 March 2018, DENNIS VOETEN successfully defended his doctoral thesis on the study of Mesozoic diapsids by means of synchrotron microtomography. One of the projects in his doctoral research investigated the cross-sectional geometry of humerus and ulna in a large variety of archosaurian taxa representing a broad range of locomotory strategies in order to contextualise the condition encountered in *Archaeopteryx*. It was found that the wing bones of *Archaeopteryx* exhibit particular adaptations most consistent with some form of incidental active volancy. Since the pectoral skeleton of *Archaeopteryx* is notoriously incompatible with the flight stroke of modern birds, this finding indicates that *Archaeopteryx* must have employed a more primitive mode of dinosaurian flight that is not represented by any extant bird. The referred study was presented at

SAPE2016 in Diamante and Dennis wishes to express his deep gratitude for the valuable feedback and encouragement received as well as for the enjoyable conversations on the topic that greatly inspired and motivated the accompanying publication in its eventual form. Dennis is presently finalising several pending projects that remain from his doctoral work and will be seeking new opportunities to continue in the fascinating field of vertebrate palaeontology.

VOETEN, D.F.A.E., CUBO, J., DE MARGERIE, E., RÖPER, M., BEYRAND, V., BUREŠ, S., TAFFOREAU, P., & SANCHEZ, S. (2018): Wing bone geometry reveals active flight in *Archaeopteryx*. – *Nature Communications*, 9: 923.

FRANCE

DELPHINE ANGST is continuing to work on large fossil flightless birds using a multidisciplinary approach. She

has recently finished a one year temporary teaching and researcher position close to Paris, at the Université

Versailles Saint-Quentin for the teaching part and at the Laboratoire des Sciences du Climat et de l'Environnement in Saclay for the research part. She is currently in a new postdoctoral two years position at the University of Bristol in the School of Earth Science with a Marie Curie Grant. She works in collaboration with Mike Benton and Emily Rayfield on a new project on the ecology and the biology of the dodo birds using multidisciplinary approaches, including skeletal function, bone microstructure and histology, isotope analyses and Finite Element Analyses. Using these different tools, she will work on the locomotion, the diet and the population structure of the dodo.

During the last year she worked on several projects on fossil large terrestrial birds, using multidisciplinary approaches, with several collaborators. She published recently a work done in collaboration with ANUSUYA CHINSAMY-TURAN on the ecological implication of the revised locomotion of two large terrestrial birds from South America: *Paraphysornis* and *Brontornis*. This work provides a new framework on the ecology of these large birds, and especially shows that all the Phorusrhacidae were not necessary runners. Indeed, *Paraphysornis* was clearly a walker bird. Delphine published with ERIC BUFFETAUT the French version in colors of the book entitled "Paleobiology of Giant Flightless Birds" published with the editions ISTE and Elsevier, entitled "Paléobiologie des oiseaux géant terrestres fossils". This book proposes a review of the knowledge about the ecology of the Dinornithiformes, the Aepyornithiformes, the Dromornithidae, the Phorusrhacidae, the Brontornithidae, the Gastornithidae and *Gargantuavis*. Finally, she submitted to *Journal of Anatomy* a work done in collaboration with Anusuya Chinsamy-Turan, Jonathan Barnoud and Raphaël Cornette on the variability of the guinea fowl bony crest and the impact on the fossils interpretations. This work provides for the first time an overview of the crest formation and growth through the ontogeny for these modern birds and highlight the importance of the keratin cap and its difference with the bony crest in term of size and shape.

Associated to these works, other studies are in progress on modern and fossil large ground birds. Delphine's work on the bone histology of the bony crests of guineafowl is in progress, and this work will allow us to have a better understanding of this structure (construction, function, ontogeny...) so as to better understand the similar structures in fossil birds such as dromornithids. In parallel, a bone histology study of the large ground birds, including Aepyornithidae, Gastornithidae, Dinornithiformes and Ratites is in progress with Anusuya Chinsamy and Aurore Canoville. A complementary and more complete study of the bone growth pattern of the Aepyornithidae is currently in progress in collaboration with Anusuya Chinsamy, Ursula Göhlich and Aurore Canoville. Moreover, the first sampling of Phorusrhacidae was done in order to do the first bone histology study of this group. A new study is in progress on the poorly known taxon *Gastornis russelli* from the Paleocene of France, with interesting implications about ontogenetic changes in *Gastornis*, as well as the description of a new very large mandible of *Gastornis* from southern France. Finally, two works are in progress in collaboration with Eric Buffetaut, one on a mysterious specimen attributed to *Macrornis tanaupus*, and the second on giant ostriches from the Pleistocene of China.

On top of these scientific publications, Delphine published several general public papers. She published two papers based on the recent results on the bone

histology of the Dodo, one in *Espèce* and the second in *Géochronique*. She also published two other papers in *Géochronique*, one on the fossil birds in general and one specific about *Gastornis*. Finally, she was involved as a co-editor, in a special issue about fossil birds in *Géochronique*.

ESTELLE BOURDON is a conservation contractor in the paleontological collections at the Paris Museum (MNHN). She is still working on various projects from her previous postdocs.

In November 2017, ERIC BUFFETAUT travelled to Cambridge with DELPHINE ANGST to examine the mysterious tibiotarsus from the Upper Eocene of Hordwell (Hampshire) described as *Macrornis tanaupus* by Seeley in 1866. Besides enjoying David Norman's exceptional hospitality, they could ascertain that the specimen is indeed a large avian tibiotarsus, not a crocodile femur as suggested by Harrison and Walker. Although the incompleteness of the bone makes a precise identification difficult, it does show that large, certainly flightless birds were present in Europe in the Priabonian.

Invited by Marcelo Sánchez, Eric visited Zurich to study the birds from the Santa Cruz Formation mentioned in the previous Newsletter. One of the most interesting specimens is a large beak that probably belongs to *Phorusrhacos longissimus* and suggests that the reconstruction published by Ameghino and often reproduced since then is incorrect. A description of that material should appear soon in a general multi-author paper on the Allemann collection.

Eric and Delphine have become interested in the giant ostriches from the Pleistocene of China. Mass estimates based on eggs from several localities in the loess of North China and on a femur from the Upper Cave at Zhoukoudian (kept at the IVPP, Beijing), do show that the Late Pleistocene *Struthio anderssoni* was significantly larger than the living *Struthio camelus*. A paper presenting these results was given by Eric at the second international congress on 'The Birds: Evolution, Palaeontology, Archaeozoology, Arts and Environment', a most pleasant and interesting meeting organised in Lisbon by Silvério Figueiredo in May/June 2018 and a preliminary extended abstract has appeared in the Portuguese journal *Evolução* (these results were also presented at the session on fossil birds organised by Delphine and Anusuya Chinsamy at the 5th International Paleontological Congress, held in Paris in July 2018). Eric later had the opportunity to measure additional eggs of *Struthio anderssoni* at the IVPP in Beijing and at the Hoang Ho Pai Ho Museum in Tianjin during a trip to China in September 2018. Furthermore, Eric and Delphine also had the opportunity to study a forgotten ostrich femur from the Lower Pleistocene Nihewan Formation of northern China, collected in the 1920s by the French Jesuit naturalist Emile Licent and kept at the Muséum National d'Histoire Naturelle in Paris. The bone indicates a giant ostrich even larger than *Struthio anderssoni* and apparently similar to *S. dmanisensis* from the Lower Pleistocene of Georgia.

On the occasion of the 5th International Paleontological Congress, Delphine and Eric edited a thematic issue on fossil birds of the magazine *Géochronique*, published by the French Geological Society. It includes papers (in French) by them and by Cécile Mourer-Chauviré, Estelle Bourdon, Antoine Louchart and Véronique Laroulandie.

Eric is also involved in a project on the history of *Aepyornis* remains in French collections, together with Cédric Audibert (Musée des Confluences, Lyon). This

incidentally led him to discover that a partial *Aepyornis* skeleton mounted in the 1950s at the Natural History Museum in La Rochelle contained a high proportion of dwarf hippopotamus bones!

The paper on the birds from the Paleocene of Menat by Gerald Mayr, Sophie Hervet and Eric Buffetaut has now been published online in the *Geological Magazine* and Eric's paper on the Bolivian *Brontornis* is available in the proceedings of the SAPE Diamante meeting.

ANTOINE LOUCHART had several studies eventually published after several years of work, more or less intermittently, including a paper on the developmental processes behind the unique pseudoteeth of the Odontopterygiformes, principally made when in the IGFL (ENS de Lyon). A study of ancient DNA from fossil remains of two species of '*Mascarenotus*' (we now merged into *Otus*) is also being published, following collective work at Palgene (ENS de Lyon). It makes it possible to trace the origin of the Mascarene owls to the ancestral lineage of southeast Asian *Otus sunia*. Other works are in press, on fossil birds from south Asia (essentially Miocene). Other works are in progress, especially on Oligocene birds from the Luberon, Neogene birds from Africa or Asia, and various projects on insular birds. SÉGOLÈNE RIAMON, who had previously worked on fossil birds during several internships, has obtained a PhD thesis grant to work on *Sylviornis neocaledoniae*, with several complementary research axes, supervised by Antoine. This promises to yield extremely interesting new results on this fascinating bird.

CÉCILE MOURER-CHAUVIRÉ is retired but she continues to work on a few papers. She is happy that her paper on the Eocene birds of Eocliff, Namibia, together with Martin Pickford and Brigitte Senut, has been published in the Proceedings of the 2016 SAPE international meeting in Diamante. This paper includes a description of a new parrot family, the Namapsittidae, and the presence of a form closely related to Turnicidae.

- ANGST, D. (2018): Les Gastornithidae, une famille d'oiseaux géants tertiaires longtemps méconnus. – *Géochronique*, 146: 28–34.
- ANGST, D. (2018): Les dodos, des oiseaux toujours très mystérieux. – *Géochronique*, 146: 63–71.
- ANGST, D. (2018): La vie intime du dodo révélé par ses os. – *Espèce*, 27.
- ANGST, D., BUFFETAUT, E. (2018): Paléobiologie des oiseaux géants terrestres fossiles. – ISTE Elsevier.
- ANGST, D., CHINSAMY-TURAN, A. (2018): Ecological implications of the revised locomotion of the South American giant birds: *Paraphysornis* and *Brontornis*. – *Revista del Museo Argentino de Ciencias Naturales*.
- ANGST, D., BARNOUD, J., CORNETTE, R., CHINSAMY-TURAN, A. (submitted): Variability of the Guinea fowl bony crest: impact on the fossils interpretations. – *Journal of Anatomy*, special issue.
- BUFFETAUT, E. (2017): A brontornithid from the Deseadan (Oligocene) of Bolivia. – *Contribuciones del Museo Argentino de Ciencias Naturales*, 7:39–47.
- BUFFETAUT, E. (2018): Les deux radiations évolutives des oiseaux. – *Géochronique*, 146: 20–27.
- BUFFETAUT, E. (2018): Les oiseaux géants de l'Amérique du Sud. – *Géochronique*, 146: 45–51.
- BUFFETAUT, E. & ANGST, D. (2018): How large was the giant ostrich of China? *Evolução*, 2/1: 6–8.

- BUFFETAUT, E. & ANGST, D. (2018). How large was the Pleistocene 'giant ostrich' of China? Mass estimates for *Struthio anderssoni* and their implications. – 5th International Paleontological Congress, Paris, Abstract Book: 169.
- BUFFETAUT, E. & ANGST, D. (2018): Les oiseaux fossiles. – *Géochronique*, 146: 15–19.
- CHINSAMY-TURAN, A., ANGST, D., CANOVILLE, A., & GÖHLICH, U.B. (in prep.): Biological implications of the bone histology of the Madagascan giant, extinct bird, *Aepyornis*. – *Journal of Anatomy*.
- LOUCHART, A. (2018): 6. Oiseaux des îles: évolutions puis extinctions. – *Géochronique*, 146: 52–58.
- LOUCHART, A., BUFFRÉNIL, V. DE, BOURDON, E., DUMONT, M., VIRIOT, L., & SIRE, J.Y. (2018): Bony pseudoteeth of extinct pelagic birds (Aves, Odontopterygiformes) formed through a response of bone cells to tooth-specific epithelial signals under unique conditions. – *Scientific Reports*, 8: 12952. DOI: 10.1038/s41598-018-31022-3.
- LOUCHART, A., BASTIAN, F., BAPTISTA, M., GUARINO-VIGNON, P., HUME, J.P., JACOT-DES-COMBES, C., MOURER-CHAUVIRÉ, C., HÄNNI, C., & OLLIVIER, M. (2018 in press): Ancient DNA reveals the origins, colonization histories and evolutionary pathways of two recently extinct species of giant scops owl from Mauritius and Rodrigues Islands (Mascarene Islands, southwestern Indian Ocean). – *Journal of Biogeography*. DOI: 10.1111/jbi.13450.
- LOUCHART, A. (in press): Birds. – In BADGLEY, C., PILBEAM, D., & MORGAN, M. (Eds.), *At the Foot of the Himalayas: Paleontology and Ecosystem Dynamics of the Siwalik Record of Pakistan*. Baltimore: Johns Hopkins University Press.
- LOUCHART, A., BIBI, F., & STEWART, J. (in press): 9. The birds of the late Miocene Baynunah Formation, Abu Dhabi Emirate. – In BIBI, F., KRAATZ, B.P., BEECH, M., & HILL, A. (Eds.), *The Late Miocene Baynunah Formation of Abu Dhabi (United Arab Emirates)*. New York: Springer.
- MAYR G., HERVET, S. & BUFFETAUT, E. (2018): On the diverse and widely ignored Paleocene avifauna of Menat (Puy-de-Dôme, France): new taxonomic records and unusual soft tissue preservation. – *Geological Magazine*, <https://doi.org/10.1017/S0016756818000080>
- MOURER-CHAUVIRÉ, PICKFORD, M., & SENUT, B. (2017): New data on stem group Galliformes, Charadriiformes, and Psittaciformes from the Middle Eocene of Namibia. – *Paleontología y Evolución de las Aves. Contribuciones Científicas del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"*, 7: 99–131.
- MOURER-CHAUVIRÉ, C. (2018): Les oiseaux fossiles. 3. Des oiseaux «fossiles vivants» sur les continents de l'hémisphère sud. – *Géochronique*, 146: 34–39.
- ZOUHRI, S., GINGERICH, P., ADNET, S., BOURDON, E., JOUVE, S., KHALLOUFI, B., AMANE, A., ELBOUDALI, N., RAGE, J.C., DE BROIN, F.D.L., & KAOUKAYA, A. (2018): Middle Eocene vertebrates from the sabkha of Guéran, Atlantic coastal basin, Saharan Morocco, and their peri-African correlations. – *C. R. Geoscience*, 350: 310–318.

GERMANY

GERALD MAYR continues his work on Paleogene birds and has various collaborations on fossils from Poland (with ZBIGNIEW BOCHENSKI and ALBRECHT MANEGOLD), USA (with DAN KSEPKA), and New Zealand (with PAUL SCOFIELD and VANESA DE PIETRI).

Gerald was surprised to see a recent paper that proposed the hypothesis that global deforestation after the K/Pg impact structured the early evolution of modern arboreal birds (Field et al. 2018. Early evolution of modern birds structured by global forest collapse at the end-Cretaceous mass extinction. *Curr. Biol.*). Virtually the same conclusions were published before on p. 93 and 204 of a recent book on Avian Evolution, which unfortunately has not been cited (Mayr, G. 2017, Avian Evolution). A more detailed comment is published here:

[https://www.cell.com/current-biology/fulltext/S0960-9822\(18\)30534-7](https://www.cell.com/current-biology/fulltext/S0960-9822(18)30534-7).

Another comment on a recent study on the developmental origin of bony teeth in pelagornithids can be found here: <https://www.nature.com/articles/s41598-018-31022-3>.

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ELZANOWSKI, A., & MAYR, G. (2018): Multiple origins of secondary temporal fenestrae and orbitozygomatic junctions in birds. – *Journal of Zoological Systematics and Evolutionary Research*, 56: 248-269.

ELZANOWSKI, A., PETERS, D.S., & MAYR, G. (2018): Cranial morphology of the Early Cretaceous bird *Confuciusornis*. – *Journal of Vertebrate Paleontology*, 38, e1439832.

MAYR, G. (2018): Size and number of the hypoglossal nerve foramina in the avian skull and their potential neuroanatomical significance. – *Journal of Morphology*, 279: 274-285.

MAYR, G. (2018): New data on the anatomy and paleobiology of sandcoleid mousebirds (Aves, Coliiformes) from the early Eocene of Messel. – *Palaeobiodiversity and Palaeoenvironments*, doi:10.1007/s12549-018-0328-1.

MAYR, G. (2018): A survey of casques, frontal humps, and other extravagant bony cranial protuberances in birds. – *Zoomorphology*, 137(3): 457-472.

MAYR, G. (2018): Vögel – die artenreichste Wirbeltiergruppe in Messel [Birds – the most species-rich vertebrate group in Messel]. Pp 169-214 in: Schaal, S.K.F., Smith, K. & Habersetzer, J. (eds.): Messel – Ein fossiles Tropenökosystem [Messel – An ancient greenhouse ecosystem]. Schweitzerbart, Stuttgart; 355 pp.

MAYR, G. (2018): Comparative morphology of the avian maxillary bone (os maxillare) based on an examination of macerated juvenile skeletons. – *Acta Zoologica*; doi: 10.1111/azo.12268.

MAYR, G. (2018): A previously unnoticed vascular trait of the middle ear suggests that a cranial heat-exchange structure contributed to the radiation of cold-adapted songbirds. – *Journal of Ornithology*; doi: 10.1007/s10336-018-1588-2.

MAYR, G., DE PIETRI, V. L., LOVE, L., MANNERING, A.A., & SCOFIELD, R.P. (2017): A well-preserved new mid-Paleocene penguin (Aves, Sphenisciformes) from the Waipara Greensand in New Zealand. – *Journal of Vertebrate Paleontology*, 37: e139816915.

MAYR, G., DE PIETRI, V.L., SCOFIELD, R.P., & SMITH, T. (2018): A fossil heron from the early Oligocene of Belgium – the earliest temporally well-constrained record of the Ardeidae. – *Ibis*, doi: 10.1111/ibi.12600.

MAYR, G., & GOEDERT, J.L. (2018): First record of a tarsometatarsus of *Tonsala hildegardae* (Plotopteridae) and other avian remains from the late Eocene/early Oligocene of Washington State (USA). – *Geobios*, 51(1): 51-59.

MAYR, G. & HERVET, S. & BUFFETAUT, E. (2018): On the diverse and widely ignored Paleocene avifauna of Menat (Puy-de-Dôme, France): new taxonomic records and unusual soft tissue preservation. – *Geological Magazine*, doi: 10.1017/S0016756818000080.

MAYR, G., SCOFIELD, R.P., DE PIETRI, V. L., & TENNYSON, A.J.D. (2017): A Paleocene penguin from New Zealand substantiates multiple origins of gigantism in fossil Sphenisciformes. – *Nature Communications* 8: 1927; 10.1038/s41467-017-01959-64.

MAYR, G., SCOFIELD, P., DE PIETRI, V., & WORTHY, T. (2018): On the taxonomic composition and phylogenetic affinities of the recently proposed clade Vegaviidae Agnolín et al., 2017 – neornithine birds from the Upper Cretaceous of the Southern Hemisphere. – *Cretaceous Research*, 86: 178-185.

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NORIEGA, J.I., & MAYR, G. (2018): The systematic affinities of the putative seriema *Noriegavis santacruzensis* (Noriega et al., 2009) from the Miocene of Argentina. – *Contribuciones del Museo Argentino de Ciencias Naturales*, 7: 133-139.

O'REILLY, S., SUMMONS, R., MAYR, G., & VINTHER, J. (2017): Preservation of uropygial gland lipids in a 48-million-year-old bird. – *Proceedings of the Royal Society B*, 284: 20171050. <http://dx.doi.org/10.1098/rspb.2017.1050>

HUNGARY

Last December, EUGEN (JENŐ) KESSLER, definitively finished his activity as a professor, but continued with the publication of studies on the evolution of the avifauna of the territory of the Carpathian Basin. Since autumn last year, he has published two papers on the evolution

of diurnal and nightly predators, and has three planned for this fall and next year.

- KESSLER, E. (J.) (2017): Evolution and skeletal characteristics of European owls – *Ornis Hungarica* 25(2): 65–103.
- KESSLER, E. (J.) (2018): Evolution and presence of diurnal predatory birds (Ord. Accipitriformes, and

Falconiformes) in the Carpathian Basin. – *Ornis Hungarica* 26(1): 102–123.

ITALY

In the last year, Marco Pavia continued the study of birds from African sites with the completion of the Buia project and the next steps in the study of Kromdraai (South Africa) with the recent submission on a paper on Ibises and the study of the other material still ongoing. In addition, the study of other sites is being planned for 2019. The study of Italian fossil birds will be focused on Late Pleistocene sites, as co-tutor of the PhD project of LISA CARRERA (Bologna University) on the species distribution modeling in the last 150,000 years and their morphological variations according to climate changes. He is also still busy with organizing the fossil and recent skeleton collections at the Torino University and in local projects on extant birds, including the collaboration with GARY VOELKER (Texas A&M University) on the evolution of European bird species, their relationships with Africa, also inferred by the study of blood parasites.

- CARRERA, L., PAVIA, M., PERESANI, M., & ROMANDINI, M. (2018): Late Pleistocene fossil birds from Buso Doppio del Broion Cave (North-Eastern Italy): implications for palaeoecology, palaeoenvironment and palaeoclimate. – *Bollettino della Società Paleontologica Italiana*, 57 (2): 145–174.
- PAVIA, M., BEDETTI, C., & CARRERA, L. (2018): A new Middle Pleistocene bird assemblage from Cava di Breccia di Casal Selce (Ponte Galeria, Rome,, Italy). – *Avocetta*, 42: 31-38.
- HUNTLEY, J.W., HARVEY, J.A., PAVIA, M., BOANO, G., & VOELKER, G. (2018): The systematic and biogeography of the Bearded Greenbuls (Aves: *Criniger*) reveals the impact of Plio-Pleistocene forest refuges on Afro-tropical avian diversity. – *Zoological Journal of the Linnean Society*, 183: 672–686.

- PAVIA, M., GALIMBERTI, A., PELLEGRINO, I., SILVANO, F., ZUCCON, D., & BOANO, G. (2018): New insights into the morphology and taxonomy of the *Acrocephalus baeticatus* / *scirpaceus* species complex based on a newly found West African syntopic population. – *Vie et Milieu, Life and Environment*, 68 (1): 25–31.
- DELFINO, M., CANDILLO, F., CARNEVALE, G., COPPA, A., MEDIN, T., PAVIA, M., ROOK, L., URCIOLI, A., & VILLA, A. (2018): The early Pleistocene vertebrate fauna of Mulhuli-Amo (Buia area, Danakil Depression, Eritrea). – *Bollettino della Società Paleontologica Italiana*, 57 (1): 27–44.
- CARRERA, L., PAVIA, M., ROMANDINI, M., & PERESANI, M. (2018): Avian fossil assemblages at the onset of the LGM in the eastern Alps: A palaeological contribution from the Rio Secco Cave (Italy). – *Comptes Rendu Palevol*, 17: 166–177.
- FERRERO, L., PAVIA, M., ARMANDO, E., TARICCO, C., RUBINETTI, S. (2017): Bernezzo, frazione S. Anna, località Vallone Romano. Crypta degli Avi. Rinvenimento e progetto di valorizzazione di resti di *Ursus arctos*. – *Quaderni di Archeologia del Piemonte*, 1: 233–235.
- PAVIA, M., DELFINO, M., LOZAR, F., MARTINETTO, E., PAVIA, G., & CARNEVALE G. (2017): Il patrimonio paleontologico conservato nel Museo di Geologia e Paleontologia dell'Università degli Studi di Torino. – *Museologia Scientifica Memorie*, 17: 76–80.
- PELLEGRINO, I., CUCCO, M., HARVEY, J.A., LIBERATORE, F., PAVIA, M., VOELKER, G., & BOANO, G. (2017): So similar and yet so different: taxonomic status of Pallid Swift *Apus pallidus* and Common Swift *Apus apus*. – *Bird Study*, 64 (3): 344–352.

JAPAN

JUNYA WATANABE completed the revision of the Pleistocene non-passeriform birds from Shiriya, northeastern Japan, for which he had been working for several years with his colleagues. The revision confirmed the presence of at least 38 non-passeriform species in the local fauna, of which 3 are extinct without post-Pleistocene record. The fauna also includes remains of the recently extinct Spectacled Cormorant *Phalacrocorax perspicillatus*, which had been considered endemic to Bering Island, which is ~2400 km apart. The results were summarized in three recent publications as listed below. He is now working on Pleistocene seabird materials from the Tokyo area. Apart from that, he has published a paper associated with his contribution to the Proceedings volume of the last SAPE meeting, which describes ontogenetic variation of surface texture and histology of major limb bones in five modern species of birds. This paper happened to appear in a special volume celebrating the 40th anniversary of the human teratology collection in his university (with which he has no association).

- WATANABE, J. (2018): Ontogeny of surface texture of limb bones in modern aquatic birds and applicability of textural ageing. – *The Anatomical Record*, 301: 1026–1045. doi: [10.1002/ar.23736](https://doi.org/10.1002/ar.23736).
- WATANABE, J., MATSUOKA, H., & HASEGAWA, Y. (2018): Pleistocene fossils from Japan show the recently extinct spectacled cormorant (*Phalacrocorax perspicillatus*) was a relict. – *The Auk*, 135: 895–907. doi: [10.1642/AUK-18-54.1](https://doi.org/10.1642/AUK-18-54.1).
- WATANABE, J., MATSUOKA, H., & HASEGAWA, Y. (2018): Pleistocene non-passeriform landbirds from Shiriya, northeast Japan. – *Acta Palaeontologica Polonica*, 63: 469–491. doi: [10.4202/app.00509.2018](https://doi.org/10.4202/app.00509.2018).
- WATANABE, J., MATSUOKA, H., & HASEGAWA, Y. (2018): Pleistocene seabirds from Shiriya, northeast Japan: systematics and oceanographic context. – *Historical Biology*. doi: [10.1080/08912963.2018.1529764](https://doi.org/10.1080/08912963.2018.1529764).

NEW ZEALAND

At Canterbury Museum, VANESA DE PIETRI & PAUL SCOFIELD have worked on a myriad of fossil bird projects over the past year, many of which are still ongoing. Museum visits to the east coast of the U.S.A. were made in May as part of Vanesa's fossil shorebird project funded by the Marsden Fund of the Royal Society of New Zealand. We would like to thank all our hosts during our trip for their hospitality, especially Helen James at the USNM, Scott Edwards at the MCZ, Paul Sweet and Joel Cracraft at the AMNH and Daniel Brinkman at Yale.

Vanesa was appointed early in 2018 to the editorial board of the Journal of Vertebrate Paleontology replacing Trevor Worthy who had been on the board for more than 10 years.

Excavations at the early Miocene St Bathans site in New Zealand's Central Otago province were undertaken in February 2018 in collaboration with Trevor Worthy, Alan Tennyson, and the University of New South Wales' Mike Archer and Sue Hand. Our next field season is scheduled for mid-March 2019. Excavations by LEIGH LOVE and preparation by AL MANNERING of Paleocene and Miocene birds from North Canterbury have led to several significant new early penguin and Aequornithine taxa being discovered which are now being described by the Canterbury Museum team.

Collaborations with Gerald Mayr on New Zealand and European Paleogene fossil birds are ongoing and we hosted visits by Andrei Zinoviev and Daniel Ksepka.

ALAN TENNYSON (Vertebrate Curator, Museum of New Zealand Te Papa Tongarewa, Wellington) is continuing annual field trips to the important lacustrine Miocene St Bathans site with colleagues Vanesa De Pietri, Paul Scofield, Trevor Worthy *et al.*, with articles on bats and rails from the site published during the past year. He assists many university students and staff with their research, primarily on Holocene fossils, and has begun several research projects on fossil penguins, spanning the Paleocene to the Holocene. He is also involved with the natural history exhibition redevelopment at the museum, with the new displays due to open in early 2019.

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POLAND

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RUSSIA

The Cabinet of paleornithology at the Borissiak Paleontological Institute in Moscow, where NIKITA ZELENKOV is working since 2011, is gradually expanding. ALEXANDER KARHU and KONSTANTIN MIKHAILOV constitute a solid part of the cabinet. They continue their long-term research on evolution of Apodiformes and eggshell, respectively. NATALIA VOLKOVA, who joined the cabinet in 2012, is currently working on a PhD project dedicated to the Miocene birds of Eastern Siberia. DARIA RAZMADZE, a former student of Nikita Zelenkov, has defended her MS degree in Moscow State University and joined the cabinet in 2018. A part of her MS work, supervised by Nikita Zelenkov and ALEXANDRA PANYUTINA, has been recently published. We are very proud that one of the most prominent Russian paleontologists, ALEXANDER AVERIANOV, is now holding a part-time position in the cabinet too. His research covers a broad range of topics in Paleontology, and in the Paleontological institute he will focus on dinosaurs and early birds. Finally, EKATERINA PALASTROVA from Ural State University (Yekaterinburg) joined the cabinet in October 2018 to conduct a PhD on Plio-Pleistocene birds on Baikal region and adjacent territories.

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SWEDEN

PER ERICSON continues to work on the systematics of birds using primarily molecular data. He is employing genomic methods for phylogenetic reconstructions and phylogeography, but also for studying the genetic foundations for physiological and morphological adaptations. Most recently he has begun to study these aspects in the bowerbird family (Ptilonorhynchidae). He has recently ended his term as science director and will spend more time on research.

ULF JOHANSSON (Curator of Birds, Swedish Museum of Natural History) continues to work on the phylogenetic relationships of birds using molecular data. His current research is mainly focused on the biogeographic history of the tits and chickadees (Paridae), but he is also involved in research on other groups such as rollers (Coraciidae) and tropicbirds (Phaethontidae).

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UNITED KINGDOM

DANIEL FIELD will be moving to the University of Cambridge in October 2018, to begin a tenure-track position in the Department of Earth Sciences. Work in his lab group is focused on the earliest stages of the avian crown group radiation, theoretical issues affecting divergence time estimation, and the refinement of avian features along the proximal avian stem group. Most recently, Daniel held a 50th Anniversary Prize Fellowship at the University of Bath from January 2017.

In April 2018, JULIAN PENDER HUME worked at the Smithsonian Institution to complete work on Pleistocene fossil material from Aldabra Atoll, southwest Indian Ocean. The first detailed description of the extinct *Pterodroma kurodai* is in preparation, as well as a paper on a multiple colonisation event and repeated evolution of flightlessness in a *Dryolimnas* rail. Tasmanian Native Hen *Gallinula mortieri* is presently confined to Tasmania, but this was not the case in the Pleistocene, and disappeared on the mainland of Australia along with the megafauna. Examination in May 2018 of subfossil remains from Naracoorte caves, South Australia, provide interesting comparisons with the extant population on Tasmania; a return trip is planned for November 2018 to complete the data set. Reports of

fossil remains from Itampolo, southwest Madagascar prompted a reconnaissance trip to survey the area in June. A limestone escarpment runs parallel with the coast and has a number of massive pitfall caves. For example, the surface entrance to one is less than 3m², but has a sheer drop of around 70m to the cave floor. A return trip is planned for June 2019 with heavy-duty cave descent equipment and extremely experienced cavers! Other cave material collected in 2016 in Beanka, central-west Madagascar, has been written up with the first paper in press. The site contains a rich, diverse fauna that accumulated through human agency, and includes new ranges for some of the extinct taxa. At a second site, the discovery of cave art associated with fossil remains is also being finalised, and may constitute some of the only known drawings of the extinct megafauna. Another reconnaissance was undertaken on Mauritius in September, based entirely on a mid-1800 report in the Proceedings Royal Society of Arts and Sciences, Mauritius, about small marshes containing giant tortoise remains. With the use of a drone and much hiking, a fossil-rich marsh was discovered, so a major excavation is planned for next year. A monograph on the Mascarene Rallidae is finally

complete after 5 years of background work. Fortuitously and just before submission, Trevor Worthy mentioned to me about Mascarene rail material he had seen at Canterbury Museum, New Zealand. Paul Scofield kindly sent photographs and some measurements of the numerous elements identified as the extinct Mauritian Red Rail *Aphanapteryx bonasia* held in the collections, of which some are very rare. They were received in 1912 from the Mauritius Institute in exchange for moa bones, and almost certainly comprise an associated individual and only the second known. This epitomises the importance of old museum collections, and it is also one of the reasons why research is so rewarding.

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California

LUIS CHIAPPE and his avian research group (FRANCISCO 'KIKO' SERRANO, ALYSSA BELL, STEPHANIE ABRAMOWICZ, MAUREEN WALSH, NATE CARROLL, BECKY WU) continue their international collaborations (mostly in China, Brazil, and Spain) centered on the study of Cretaceous birds from the Jehol Biota, Brazil, Spain, and Myanmar (amber). FRANCISCO 'KIKO' SERRANO is

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USA

focused on understanding the aerial properties of early Cretaceous birds based on quantitative analyses and computational models. The study of two Enantiornithes from Las Hoyas (Spain)—*Concornis lacustris* and *Eoalulavis hoyasi*—revealed an early capacity for bounding flight. He has conducted aerodynamic analyses of two other enantiornithines, from the

Huajiyang Formation of China, which add to the flight repertoire of these birds (these papers have already been submitted). Kiko and Luis have also studied the effect of paleoatmospheric variations in the evolution of flight in birds— preliminary results were presented at the last SAPE, and a more detailed paper was recently published in *Gondwana Research*. ALYSSA BELL continues her studies of aquatic adaptations. She and Luis are reviewing the morphology of the hesperornithiform *Parahesperornis* and a study of modern analogues to these extinct Cretaceous birds is in press in *Palaeogeography, Palaeoclimatology, and Palaeoecology*. After a stellar contribution to CHIAPPE & MENG'S Birds of Stone (Johns Hopkins University Press) preparing and photographing a wide range of Jehol birds, MAUREEN WALSH and STEPHANIE ABRAMOWICZ have shifted some of their attention to the William's Quarry, a new site with Late Cretaceous birds in southern Brazil (they continue to work on Jehol fossils, too). USC graduate students NATE CARROLL and BECKY WU are focusing on their dissertations on feather development and tooth replacement, respectively. Nate has submitted a paper on ornamental feather development, based on new amber specimens from the mid-Cretaceous of Myanmar to *Scientific Reports*.

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SERRANO, F.J., CHIAPPE, L.M., PALMQVIST, P., FIGUERIDO, B., MARUGAN-LOBON, J. & SANZ, L. (2018): Flight reconstruction of two European enantiornithines (Aves, Pygostylia) and the achievement of bounding flight in early Cretaceous birds. – *Palaeontology* doi: 10.1111/pala.12351.

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XING, L., O'CONNOR, J.K, CHIAPPE, L.M., ET AL. (2018): A flattened enantiornithine in mid-Cretaceous Burmese amber: Morphology and preservation. – *Science Bulletin*, 63: 235–243. <https://doi.org/10.1016/j.scib.2018.01.019>.

Connecticut

DANIEL KSEPKA continues to enjoy his tenure at the Bruce Museum, where he is simultaneously overseeing the renovation of the permanent natural history galleries and planning a Penguin Evolution exhibition for the inaugural show in the soon-to-be expanded rotating exhibition gallery. His research interests remain focused on penguins and phylogenetic. Ksepka spent part of the summer visiting various museums in New Zealand to collect data on fossil penguins and was delighted that his one year son Michael displayed exceptional comportment on his first international flight and developed a healthy interest in dinosaurs on the trip. Currently, Ksepka serves as co-PI on two NSF projects, "Collaborative Research: Advancing Bayesian

Phylogenetic Methods for Synthesizing Paleontological and Neontological Data" and "All Birds: A Time-scaled Avian Tree from Integrated Phylogenomic and Fossil Data" and is working on several papers combining molecular and fossil datasets to explore divergence dating, brain evolution, and convergence.

DEGRANGE, F.J., KSEPKA, D., & TAMBUSI, C.P. (2018): Redescription of the oldest crown clade penguin: cranial osteology, jaw myology, neuroanatomy and phylogenetic affinities of *Madrynornis mirandus*. – *Journal of Vertebrate Paleontology*, 38 (2), e1445636.

Gainesville, Florida

During the past year, DAVE STEADMAN and post-doc JESSICA OSWALD have been working on a number of projects involving avian paleontology on islands. Their main focus has been in the Bahamas, where late Quaternary changes in sea level, island area, climate, and habitat had dramatic effects on the birdlife.

STEADMAN, D.W., ALBURY, N.A., MEAD, J.I., SOTO-CENTENO, J.A., & FRANKLIN, J. (2017): Holocene vertebrates from a dry cave on Eleuthera Island, Commonwealth of The Bahamas. – *The Holocene*, 28: 806–813. DOI: 10.1177/0959683617744270

MEAD, J.I. & STEADMAN, D.W. (2017): Late Pleistocene snakes (Squamata: Serpentes) from Abaco, The Bahamas. – *Geobios*, 50: 431–440. Doi.org/10.1016/j.geobios.2017.09.001

STEADMAN, D.W. & FRANKLIN, J. (2017): Reply to Benkman: Hispaniolan crossbills formerly resided in the Bahamas. – *Proceedings of the National Academy of Sciences, USA*. doi/10.1073.pnas.1717497114

OSWALD, J.A. & STEADMAN, D.W. (2018): The late Pleistocene bird community of New Providence, Bahamas. – *The Auk: Ornithological Advances*, 135: 359–377. Doi: 10.1642/AUK-17-185.1

FRANKLIN, J., ANDRADE, R., DANIELS, M., FAIRBAIRN, P., GILLESPIE, T., GONZALEZ, G. GONZALEZ, O., IMBERT, D., KAPOS, V., KELLY, D., MARCANO-VEGA, H., MELÉNDEZ-ACKERMAN, E., McCLAREN, K., McDONALD, M., RIPPLINGER, J., ROJAS-SANDOVAL, J., ROSS, M., RUIZ LINARES, J., STEADMAN, D.W., TANNER, E. & TERILL, I. (2018): Geographical ecology of dry forest tree communities in the West Indies. – *Journal of Biogeography* 45: 1168–1181. DOI:10.1111/jbi.13198

TAKANO, O.M. & STEADMAN, D.W. (2018): Another new species of flightless rail (Aves: Rallidae) from

Abaco, The Bahamas. – *Zootaxa* 4407: 376–382. doi.org/10.11646/Zootaxa.4407.3.5

MAVRODIEV, E.V., SUN, M., SCHRODER, L., STEADMAN, D.W., & EBACH, M.C. (2018): Moving from modern toward post-modern science: comment on “An integrated assessment of the vascular plants of the Americas.” – *Phytotaxa* 351(1): 96–98. doi.org/10.11646/phytotaxa.351.1.10

OSWALD, J.A., STEADMAN, D.W., & FRANKLIN, J. (In review): Unexpected limb proportions in a Pleistocene population of Eastern Meadowlark *Sturnella magna* from the Bahamas. – *Ibis* (19 MS pp. + 3 tables, 5 figures, supplementary info)

South Carolina

ADAM SMITH continues as curator of Clemson University's Campbell Geology Museum and has primarily occupied his time with ongoing studies of Oligocene birds from South Carolina. Adam recently published a monograph on the phylogeny and systematics of Eocene zygodactylids from North America and is progressing towards publication of several collaborative projects including: crown versus stem avian diversity across the K/T boundary; the philosophical underpinnings of the avian origins 'debate'; and the evolution of dinosaur encephalization. Although severe storm damage to the Campbell

Geology Museum early in 2018 interfered with plans for field work this year, plans are in place to prospect for Paleocene avian fossils in North Dakota in the new year.

SMITH, N.A., DEBEE, A.M. & CLARKE, J.A. (2018): Systematics and phylogeny of the Zygodactylidae (Aves, Neognathae): with description of a new species from the early Eocene of Wyoming, USA. – *PeerJ*. 6:e4950; DOI 10.7717/peerj.4950.