



SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

- Newsletter -

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SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION

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Argentina) – Member at large
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Denmark) – Member at large
WANG MIN (Institute of Vertebrate Paleontology and
Paleoanthropology, China) – Member at large

Dear Friends, Colleagues, and SAPE Members,

I believe this will be my last letter as SAPE President as my term should end at our upcoming meeting in Malaga. As we emerge from the Pandemic, and hopefully other global crises, I look forward to a stronger SAPE, with new leadership, new ideas, and new research advances forged by the collaborative nature of our international meetings. I'm glad to share with you that our Secretary—Vanesa De Pietri—and our Treasurer—Adam Smith—will remain in their roles and continue to provide advise and a longer perspective to the incoming leadership. Their contributions and dedication are invaluable, and I hope you join me in thanking them for their outstanding service. At the meeting, and according to our bylaws, our current Vice President—Ursula Göhlich—will become our President, and new Vice President and Executive Council members will be voted by our members. Now is the time when we need you to provide nominations of members who can fulfill these important roles moving forward. As always, and in the spirit of our international and multicultural society, we would like to have members from every continent conforming a diverse Executive Council.

After such a long time of not being surrounded by colleagues and friends, I'm sure I'm not alone looking forward to our upcoming meeting and to get to know a new cohort of avian paleontologist and evolutionary biologists for whom this will be their first SAPE meeting. As I read our dispatches from around the world, it is clear to me that despite the years without a meeting, our collective research outcomes and ability to collaborate across borders remain unabated. As I reflect on my decades of attending SAPE meetings—my first meeting was in Frankfurt in 1992—and on my own field of study—Mesozoic stem birds—I see a wealth of discoveries and advances that far exceeds what I could have imagined 30 years ago. Our society is small but let's all remember that this gargantuan edifice of knowledge about avian evolution was in large part built by SAPE members!

I can't wait to see you all in Malaga!

Best wishes

Luis M. Chiappe, SAPE President



SOCIETY OF AVIAN PALEONTOLOGY AND EVOLUTION



4th Circular

10th International Meeting of the Society of Avian Paleontology and Evolution

Malaga, Spain

8-12 May 2023

After more than two years of difficulties and restrictions due to the Covid-19 pandemic that resulted in two postponements of our meeting, **we are glad to welcome you to the 10th International Meeting of the Society of Avian Paleontology and Evolution (SAPE). The meeting will be held at the University of Málaga (Spain), from May 8 to 12, 2023.**

The meeting is open to paleontologists, ornithologists and anyone with a general interest in bird evolution. Birds are excellent models for addressing a wide range of scientific questions, hence we encourage students and professionals of relevant research areas—functional morphology, evo-devo, conservation paleontology, and molecular systematics, among others—to take part in the scientific sessions of the 10th SAPE Meeting.

Málaga is a beautiful city on the Mediterranean coast that enjoys good weather year-round. As one of the largest cities in Spain, Málaga has all the amenities necessary to host an international scientific meeting (e.g., international airport, national railway station, many hotels, and exceptional food). This 2800-year-old

multicultural city boasts a spectacularly rich cultural heritage, which is reflected by the numerous art museums, archaeological sites, and historical landmarks. In addition, the close proximity to spectacular birding areas will allow you to enjoy the Iberian avifauna during meeting excursions.

We extend a warm invitation to every researcher and bird enthusiast to come and participate in the meeting.

Best regards,

Francisco J. Serrano

Organizing Committee of SAPE 2023

Meeting website and contact

<https://sape2020.com>
info@sape2020.com

Organizing committee

FRANCISCO JOSÉ SERRANO, Universidad de Málaga
PAUL PALMQVIST, Universidad de Málaga
BORJA FIGUEIRIDO, Universidad de Málaga
ANTONIO-ROMÁN MUÑOZ GALLEGU, Universidad de Málaga
ALBERTO MARTÍN-SERRA, Universidad de Málaga
JUAN ANTONIO PÉREZ-CLAROS, Universidad de Málaga
ALEJANDRO PÉREZ-RAMOS, Universidad de Málaga
MIREIA COSTA PÉREZ, Universidad de Málaga
JAVIER CASTRO TEROL, Universidad de Málaga
GUILLERMO NAVALÓN, University of Cambridge, U.K.

Scientific committee

ALYSSA BELL, Natural History Museum of Los Ángeles County, U.S.A
LUIS M. CHIAPPE, Natural History Museum of Los Ángeles County, U.S.A
ANUSUYA CHINSAMY-TURAN, University of Cape Town, South Africa
JORGE CUBO, Sorbonne Université, France
DANIEL J. FIELD, University of Cambridge, U.K.
MICHAEL HABIB, University of Southern California, U.S.A
JESÚS MARUGÁN-LOBÓN, Universidad Autónoma de Madrid, Spain
JINGMAI O'CONNOR, Field Museum Chicago, U.S.A
MARCO PAVIA, Museo di Geologia e Paleontologia Torino, Italy
ADAM SMITH, Campbell Geology Museum, U.S.A

FRANCISCO J. SERRANO, Universidad de Málaga, Spain
GERALD MAYR, Senckenberg Research Institute,
Germany
CLAUDIA TAMBUSI, Universidad Nacional de Córdoba,
Argentina
ALEXANDER VARGAS, Universidad de Chile, Chile

TREVOR WORTHY, Flinders University, Australia
NIKITA ZELENKOV, Russian Academy of Sciences, Russia

Registration and conference fees

This information will be provided soon on the meeting's [website](#).

Dates and Deadlines

Registration opening: January 16th to April 7th, 2023
Proposals for symposia: before March 1st, 2023
Abstract submission: January 30th to March 31st, 2023
Extended manuscripts submission for Proceedings: August, 2023

Proceedings

We are pleased to announce that the 10th SAPE meeting and the subsequent proceedings will be dedicated to Professor José Luis Sanz in order to honor his outstanding paleontological contributions to the understanding of avian and non-avian dinosaurs. Previously, we had an agreement to publish the proceedings as a thematic issue of the journal *Geobios*

(Elsevier). We expect to reconfirm this agreement with the editor of the journal. Extended manuscripts of the papers presented at the meeting should be submitted shortly after the meeting, in August 2023.

Symposia or special sessions

Proposals for symposia must be sent to info@sape2020.com before March 1st, 2023.

Scientific communications

Both oral and poster communications are invited. We encourage presentations on all aspects related to Avian Evolution: Paleontology, Morphology, *Evo-Devo*, Speciation, Phylogeny, Genetics, simulation models, etc.

Abstracts will be reviewed by the scientific committee.

Abstract submission will be opened from January 30th to March 31st, 2023.

[Format information will be provided soon on the meeting website.](#)

Plenary speakers

Dr. Gerald Mayr
Curator of Ornithology, *Senckenberg Research Institute (Germany)*

Dr. Jingmai O'Connor
Associate Curator of Fossil Reptiles, *Field Museum Chicago (U.S.A)*
Adjunct Professor, *Institute of Vertebrate Paleontology and Paleoanthropology (Beijing, China)*

Auction

Members are encouraged to bring reprints, books, casts or any other items to be auctioned. The auction benefits

SAPE and allows the Society to provide additional aid for travel to meetings.

Venue

The meeting will be held at the Rectorate Building of the University of Malaga, a neo-Mudéjar style building that is located in the heart of the old town. Malaga is the capital of the Costa del Sol and one of the major cities in Spain, with an impressive history and an even more interesting

present. Its excellent weather and beaches combined with its impressive heritage and network of world-class museums makes Malaga an ideal venue for the 10th International Meeting of SAPE.

How to get to Málaga

Málaga is the center of an important communications hub, so getting here is easy, whatever the means of transportation you prefer using. Additional information is provided below and on the website www.malagaturismo.com

Airport

The Málaga-Costa del Sol Airport has connections to major cities worldwide. Located just eight miles from the city's Historic Quarter, it is renowned for its modern terminals and extensive shopping areas. Málaga airport receives around 13 million passengers a year, making it

the gateway of Andalusia. Currently, more than 60 airlines use its facilities.

Website: <http://www.aena.es/es/aeropuerto-malaga/index.html>

You can travel from the airport to downtown Málaga using:

Suburban train: The airport has an underground station for Cercanías Málaga commuter trains, connecting it with Málaga. The station is located at the Arrivals area of Terminal 3. Trains run every 20 minutes between Málaga City and Fuengirola City via Málaga Airport. (<http://www.aena.es/en/malaga-airport/train.html#1237554421651>)

Bus: There is a bus station located underground at the airport. It can be reached from the Arrivals level of the transportation hub or from Arrivals in terminal 3, which can be accessed from all terminals. (<http://www.aena.es/en/malaga-airport/city-buses.html#1237554407937>)

Taxi: The airport has a well-signposted taxi area outside the Arrivals area of Terminal 3. (<http://www.aena.es/en/malaga-airport/taxi.html>) route.

Website: www.estabus.emtsam.es

Accommodation

Málaga is a very touristic place with many hotels of different categories in the town's center, near to the Rectorate Building where the meeting will be held.

Field trips

Mid-meeting Excursion

A half-day excursion to the Natural Reserve "Desembocadura del Guadalhorce" is planned. This place is the estuary area of the river Guadalhorce that ends in the Mediterranean Sea. There, we will enjoy watching birds that are typical of lacustrine and marine environments (waders, ducks, rails, ospreys, spoonbills, gannets, gulls, terns, and more). We will also enjoy ringing birds trapped in nets, mainly small passerines.

Post-meeting Excursion

We also plan a one-day excursion to "El Caminito del Rey" and "Laguna de Fuente de Piedra" that will allow attendees to appreciate the amazing geology and nature of the Province of Malaga.

Railway

Málaga's María Zambrano Station is one of the most heavily used railway communication hubs in Southern Spain. In fact, Málaga is connected to Spain's major cities through the Spanish High Speed (AVE) network. Its central location and excellent communications with other forms of transport make Málaga Station an important departure and arrival point when planning a visit to the city.

RENFE (National Railway Service) website: www.renfe.es

Bus

The bus station operates with companies that have routes to destinations to the cities and villages of Malaga Province, Andalusia and destinations all over Spain. Furthermore, it also operates with companies that serve routes to and from Europe and can even provide tickets and stop offs for North of Africa.

The bus station is situated in a central location, making transfer to other forms of transport simple and easy. In fact, it is right next to the train station, as well as on the airport bus

[Information regarding special rates for meeting attendants will be provided soon on the website.](#)

"El Caminito del Rey" is a breath-taking trail that passes through a canyon (Gorge "Desfiladero de los Gaitanes") carved by the Guadalhorce river, which at some points is only 10 meters wide and 700 meters deep. This spectacular trail is almost 8 km long, and takes 3-4 hours to be crossed. Griffon Vultures are easily watched during the hike. More information can be consulted on the web <http://www.caminitodelrey.info/>.

The saline lagoon "Laguna de Fuente de Piedra" is home to one of the largest colonies of flamingoes in Europe. We will enjoy flamingoes and other inland lacustrine birds through a guided visit around this lagoon. After the trip, we will enjoy enjoy of a tasting of local food at the visitor center.

CALL FOR NOMINATIONS

We would like to remind you that the Executive Council has set up a Nominations Committee to seek candidates for Vice President of the Society and for five new Members at Large to serve during the next term. Members at Large cannot serve consecutive terms but are allowed to skip a term and be re-elected. Nominations should be sent to the Secretary, who will distribute them to the Committee. Self-nominations are accepted. As stated in our bylaws, only those members who have belonged to the Society continuously for five

years or more are eligible for election to an office of the Society or to the Executive Council as a Member-at-Large. The election of these future Executive Council members will take place at the next meeting.

We would also like to remind you that the Executive Council is seeking proposals from institutions and/or individuals interested in hosting the 11th Meeting of the Society. A vote will take place at our next meeting. In the meantime, expressions of interest can be sent to the President Luis Chiappe.

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

A vote to move SAPE meetings from a four- to a three-year cycle and therefore change our Constitution (see proposed amendment below) will take place in Málaga. In 2016, the Society's Secretary sent out an email to members and non-members gauging interest in shortening our meeting cycles. The overwhelming response was a "yes". Now, and according to our Constitution, we have received five proposals by members of the Society to amend the Constitution accordingly. The proposed amendment was distributed in the newsletter from 2019 and is reproduced again below. The Executive Council will present its recommendation on this proposed amendment at the Stated Business Meeting of the SAPE. Adoption of an amendment by the SAPE requires three-fourths majority vote of members of the SAPE present and voting at the Stated Business Meeting. Adopted amendments shall become effective at the close of that Stated Meeting.

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.

A MESSAGE FROM THE TREASURER – SAPE MEMBERSHIP RENEWAL

Anyone not listed on the website as a current SAPE member is encouraged to follow the instructions on the SAPE website (<http://www.sapesociety.org>) and renew your membership immediately.

The membership rate remains unchanged at \$20.00 USD for an approximately 4-year period between SAPE meetings. Dues paid now will cover the period from now until the potential SAPE meeting in 2026 or 2027. In Malaga next year, members will vote to adopt or reject the proposed plan to move to a 3-year meeting cycle instead of a 4-year cycle, and members in attendance will also have the chance to discuss options and vote on any membership fee issues that potentially arise as a result of adopting a 3-year meeting schedule.

Membership renewal instructions can be found on the SAPE website (<http://www.sapesociety.org>). Please follow the links provided and make your payment online. Only payments via PayPal are accepted.

The entire executive council would like to thank you in advance for renewing your membership and supporting SAPE and our mission. If you would like to make an additional gift to the society please reach out to Treasurer, Adam Smith (paleobirdsmith@gmail.com) and/or SAPE President Luis Chiappe (lchiappe@nhm.org).

NEWS FROM MEMBERS AND RECENT PUBLICATIONS

ARGENTINA

JORGE IGNACIO NORIEGA, from the CICYTTP-Diamante (CONICET-UADER), and colleagues studied the fossil birds from the Santa Cruz Formation (early middle Miocene) of Patagonia (Argentina) at the Cerro Boleadoras locality and are now studying those of the Río Chalía Valley (in preparation).

CAROLINA ACOSTA HOSPITALECHE, from the Museo de La Plata and CONICET, continues working on Antarctic and South American birds. Among the avian remains from the Cretaceous of Vega and Seymour islands, it is worth mentioning the discovery of several concretions, currently in preparation, that will be studied in collaboration with FACUNDO IRAZOQUI, a new Ph.D. student working in La Plata Museum. Another recently examined Cretaceous neornithine bird collected by KAREN PANZERI and JOSÉ O'GORMAN, corresponds to a large-sized anseriform from the La Colonia Formation outcropping in Patagonia (Argentina).

Paleogene penguins are also the topic of two doctoral thesis under the supervision of Carolina. MARÍA ALEJANDRA SOSA continues working on morpho-functional aspects and modularity of Antarctic specimens, and muscular reconstructions based on modern representatives. LUIS GARAT studies the osteo-histology of extinct and extant penguin species. As a result, sexual and ontogenetic differences were found. Finally, ALEJANDRA PIRO is still working on procellariiform systematics; this year, she was dedicated to completing an extensive data matrix including the comparison of different rhamphotheca types.

Among the new Antarctic findings with which Carolina is involved, there are phorusrhacids, crocodyliforms, and other undetermined birds from the Eocene, currently in preparation and/or under study. From Miocene levels of Chile and Argentina, sphenisciforms, flamingos, and waterfowls, will be studied during the next months.

An extensive taphonomic analysis of two abandoned penguin colonies excavated in the Potter Peninsula (The King George Island, South Shetland Islands) was performed during the last year. In the same region, Carolina, JAVIER N. GELFO, and JOSÉ O'GORMAN, collected the first fossils of the area, that constitute two plant assemblages, currently under examination.

More historical, theoretical, and review papers made in this period include an exhaustive study of South American and Antarctic fossil Rheidae and putative ratitae, the continental and marine avian assemblages from Bryn Gwyn (Miocene of Patagonia, Argentina), and two contributions dealing with the history of paleoherpetological investigations.

Apart from that, Carolina continues teaching as a Professor at the Universidad Nacional de La Plata in: Principles of Paleontology (Second year of the paleontology career and fifth year for teachers of secondary school) and Vertebrate Paleontology (fifth year of paleontology). Complementary classes for students that need to revise fossil materials is given this year together with Javier N. Gelfo to compensate for the missing classes during the pandemic.

Another important contribution of Carolina (with ARIANA PAULINA CARABAJAL and ROBERTO YURY-YÁÑEZ) was the examination of *Spheniscus urbinai*, a penguin from the Miocene of South America, first recorded in Peru, and later in Chile and Argentina. As a part of this study, a

re-description of the cranial osteology including individual variations, brain morphology, and cranial pneumatic systems were analyzed.

Research at the LACEV (Laboratorio de Anatomía Comparada y Evolución de los Vertebrados, at the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia") currently focuses on diverse topics on birds and early bird evolution. Published works of FEDERICO AGNOLIN and the team include detailed analyses of wing osteology and myology of the American Ostrich (*Rhea americana*), with special comparisons made with non-avian dinosaurs (LoCoco et al., 2022). This follows a series of previous works in which members of our Lab compare the anatomy of flightless palaeognath birds with non-avian theropods with the aim to better understand the non-avian dinosaur/bird transition.

The group also described *Kaririavis mater*, the first Mesozoic ornithuromorph from Brazil (Carvalho et al., 2021), which has deep palaeobiogeographical implications. Published papers also detail new records of fossil birds from the Pleistocene of Argentina (Agnolin et al., 2022; Álvarez Herrera et al., 2022), and several new Pleistocene fossil birds are waiting to be published. Work in progress include the recognition of several new taxa, including a new avian assemblage from the Miocene of Patagonia. The PhD student G. ÁLVAREZ HERRERA is currently working on several topics on the anatomy of *Vegavis iaai*, and S. ROZADILLA is doing his PhD thesis on palaeognath classification and evolution.

The Avian Biomorphodynamics Research Group (ABRG) works on several topics on paleobiology and evolution of South American and Antarctic birds using different approaches and methodological tools in order to understand the development, morphology and evolution of extant and extinct birds. Constituted by CONICET (National Scientific and Technical Research Council, Argentina) researchers CLAUDIA TAMBUSI, FEDERICO "DINO" DEGRANGE and MARÍA MANUELA DEMMEL FERREIRA (Research Center on Earth Sciences - CICTERRA- National University of Córdoba) in Córdoba, and RICARDO DE MENDOZA, CLAUDIO G. BARBEITO and JULIETA CARRIL (Laboratory of Histology and Descriptive, Experimental and Comparative Embryology -LHYDEC- Faculty of Veterinary Sciences, National University of La Plata) in Buenos Aires, the ABRG uses different approaches and methodological tools, which include: biomechanical studies, such as finite element analysis, developmental studies using several histological techniques and anatomical network analysis, reconstruction of soft structures and 3D modelling using CT scans, and macroevolutionary studies using phylomorphospaces, cladistics and reconstructions of ancestral character states. Works in progress include biomechanical analyses and performance disparity in different bird skulls of different trophic habits, the analysis of brain morphology in stem-Anseriformes and in the teratorn *Argentavis*, brain disparity in extant and fossil Tyrannides, the description of new species of Passeriformes, Anseriformes, Accipitriformes and Strigiformes and other fossil birds collected in Buenos Aires, Catamarca and Chubut, and the study of the architecture of the cranio-mandibular complex of zoophagous birds (including the extinct Phorusrhacidae), and of the hindlimbs' muscles and bones in arboreal birds.

In addition, LHYEDEC members of this group participated as organizing committee of the 4th Vertebrate Morphology Workshop (4TAMV), that took place in Mar del Plata city (Buenos Aires province) during September. This workshop aims to gather different specialist in order to discuss and share different visions and opinions about the latest tools, concepts and approaches on vertebrate morphology.

ACOSTA HOSPITALECHE, C., & TONNI, E. (2022): Historia de los estudios paleornitológicos en el Museo de La Plata. – *Publicación Electrónica de la Asociación Paleontológica Argentina* 22(1): 275–282. <http://dx.doi.org/10.5710/PEAPA.08.07.2021.359>.

ACOSTA HOSPITALECHE, C., & PICASSO, M. (online 2022): About the alleged record of the Rheidae *Diogenornis* in the Cenozoic of Argentina: new interpretations. – *Historical Biology*. <https://doi.org/10.1080/08912963.2022.2098489>

ACOSTA HOSPITALECHE, C., GELFO, J., QUAGGIA, B., REGUERO, M. (in press). Taphonomy of two Holocene penguin taphocoenoses in Potter Peninsula, South Shetland Islands, Antarctica. – *Historical Biology*.

ACOSTA HOSPITALECHE, C., GARCÍA, R., PÉREZ, L., MÁRQUEZ, G. (online 2022): Neolithology of endolithic lichens in fossil bones and teeth. – *Historical Biology*. DOI: 10.1080/08912963.2022.2084693

ACOSTA HOSPITALECHE, C., SOTO ACUÑA, S. (in press): The tiniest penguin cranium (Aves, Spheniscidae) from the late Miocene of Bahía Inglesa Formation, Atacama Desert (Chile). – *Comptes Rendus Paleovol*.

Agnolín, F.L., Brissón Egli, F., & Álvarez-Herrera, G. (2022): Large condor (Aves, Cathartidae) from the Late Pleistocene of Buenos Aires Province, Argentina. – *Historical Biology*, 1-6.

ÁLVAREZ-HERRERA, G. P., AGNOLÍN, F.L., MÉNDEZ, C., LUNA, C., CUARANTA, P., CONTRERAS, S., & ZURITA, A. E. (2022): The Northernmost record of the goose genus *Chloephaga* (Eyton, 1838) (Aves, Anatidae) and its biogeographical implications. – *Journal of South American Earth Sciences*, 103988.

CARRIL, J.; DEGRANGE, F.J.; DE MENDOZA, R.S. & TAMBUSI, C.P. (2021): A low-cost, easy-to-build, and portable bite-force transducer for birds. – *Journal of Field Ornithology*, 92: 485-491.

CARVALHO, I. D. S., AGNOLIN, F. L., ROZADILLA, S., NOVAS, F. E., ANDRADE, J. A. F. G., & XAVIER-NETO, J. (2021): A new ornithuromorph bird from the Lower Cretaceous of South America. – *Journal of Vertebrate Paleontology*, e1988623.

DEGRANGE, F.J. (2022): A new species of *Dryornis* (Aves, Cathartiformes) from the Santa Cruz Formation (early Miocene), Patagonia, Argentina. – *Journal of Vertebrate Paleontology*. DOI: 10.1080/02724634.2021.2008411.

DE MENDOZA, R.S. & GÓMEZ, R.O. (2022): Ecomorphology of the tarsometatarsus of waterfowl (Anseriformes) based on geometric morphometrics and its application to fossils. – *The Anatomical Record*. DOI: 10.1002/ar.24891

DE MENDOZA, R.S.; CARRIL, J.; DEGRANGE, F.J. & TAMBUSI, C.P. (2022): Hindlimb musculoskeletal architecture in living and fossil diving birds. – *Evolutionary Biology*. DOI: 10.1007/s11692-022-09568-y

DE MENDOZA, R.S.; CARRIL, J.; DEGRANGE, F.J.; DEMMEL FERREIRA, M.M.; NIETO, M.N. & TAMBUSI, C.P. (2022): Redefining the simplicity of the cranio-mandibular complex of nightjars: the case of *Systellura longirostris* (Aves: Caprimulgidae) by means of Anatomical Network Analysis. – *Journal of*

Morphology. DOI: 10.1002/jmor.21482

IRAZOQUI, F., & ACOSTA HOSPITALECHE, C. (2021 online): Bioerosive traces in fossil penguin bones (Aves, Sphenisciformes) from the Eocene of Seymour Island (West Antarctica). – *Historical Biology*. <https://doi.org/10.1080/08912963.2021.2017915>

LO COCO, G. E., MOTTA, M. J., AGNOLÍN, F. L., & NOVAS, F. E. (2022): Wing osteology, myology, and function of *Rhea americana* (Aves, Rheidae). – *Journal of Morphology*, 283(8): 1015-1047. <https://doi.org/10.1007/s00300-021-02986-2>

NORIEGA, J.J., CENIZO, M., BRANDONI, D., PÉREZ, L., TINEO, D., BONA, P., & GOTTARDI, M.G. (2022): First record of a pelican (Aves: Pelecaniformes: Pelecanidae) from the Late Miocene of Argentina. VI Simposio del Mioceno-Pleistoceno del Centro y Norte de Argentina, C.A.B.A, 2021. – PE-APA 22 (R1), Libro de Resúmenes, R26. DOI: 10.5710/PEAPA.28.12.2021.407

O'GORMAN, J. ACOSTA HOSPITALECHE, C., REGUERO, M., & GASPARINI, Z. (2022): Historia de la paleornitología y paleoherpetología argentina en Antártida. – *Publicación Electrónica de la Asociación Paleontológica Argentina* 22(1): 399–410. (Gasparini, Z, Salgado, L., Desojo, J., eds.) *Historia de Paleoherpetología Argentina*.

PELEGRÍN, J. & ACOSTA HOSPITALECHE, C. (2022): Evolutionary and biogeographical history of penguins (Sphenisciformes): Review of the dispersal patterns and adaptations in a geologic and paleoecological context. – *Diversity*, 14 (4): 255. <https://doi.org/10.3390/d14040255>

PICASSO, M., ACOSTA HOSPITALECHE, C., MOSTO, C. (2022): An overview and update of South American and Antarctic fossil Rheidae and putative ratitae (Aves, Palaeognathae). – *International Journal of South American Earth Sciences* 115, 103731. <https://doi.org/10.1016/j.jsames.2022.103731>

SOSA, M.A. & ACOSTA HOSPITALECHE, C. (2022): Postnatal ontogeny of the spine of *Aptenodytes forsteri* (Aves, Sphenisciformes) and modularity of the neck. – *Polar Biology*, 45: 309–329.

TAMBUSI, C.P. (2022): Un pico que toma lugar de pata. – *Ciencia Hoy* 51: 12-13.

TAMBUSI, C.P. & DEGRANGE, F.J. (2022): Córdoba y la paleoherpetología: historia y reflexiones. – *PeAPA* 22: 170-174.

VIZCAÍNO, S.F., BARGO, M.S., PÉREZ, M.E., ARAMENDÍA, I., CUITIÑO, J.I., MONSALVO, E.S., VLACHOS, E., NORIEGA, J.I. & KAY, R.F. (2022): Fossil vertebrates of the early-middle Miocene Cerro Boleadoras Formation, northwestern Santa Cruz Province, Patagonia, Argentina. – *Andean Geology*, 49 (3): 382–422. DOI: 10.5027/andgeoV49n3-3425

BOOK CHAPTERS

DEGRANGE, F.J.; CARRIL, J.; DE MENDOZA, R.S.; DEMMEL FERREIRA, M.M. & TAMBUSI, C.P. (in press). Anatomy and Evolution of Avian Brain and Senses: What Endocasts Can Tell Us. – In A. Paulina-Carabajal, T.E. Macrini, S. Walsh & M.T. Dozo (eds.) *Paleoneurology of Amniotes: New Directions in the Study of Fossil Endocasts*. Springer. DOI: 10.1007/978-3-031-13983-3

CONFERENCE ABSTRACTS

ACOSTA HOSPITALECHE, C., O'GORMAN, J., & PANZERI, K. (2022): Un nuevo Anseriformes del Maastrichtiano

- (Cretácico Tardío) de la Formación La Colonia (Patagonia, Argentina). RCAPA 2022, Salta, 22 al 25 de noviembre de 2022.
- ACOSTA HOSPITALECHE, C., IRAZOQUI, F., BONA, P., O'GORMAN, J., PAULINA CARABAJAL, A., GELFO, & Y REGUERO. (2022): El rol del Continente Antártico en el origen y diversificación de las aves modernas. I Congreso Científico Provincial sobre Antártida, Ushuaia, 19 al 21 de octubre de 2022.
- BONA, P., PEREYRA, M., GELFO, J., ACOSTA HOSPITALECHE, C., GARCÍA LÓPEZ, D., IRAZOQUI, F. & REGUERO, M. (2022): A recent discovery sheds light on the presence of crocodiles in the Eocene of West Antarctica. RCAPA 2022, Salta, 22 al 25 de noviembre de 2022.
- GELFO, J., BONA, P., PEREYRA, J., ACOSTA HOSPITALECHE, C., GARCÍA LÓPEZ, D., IRAZOQUI, F. & REGUERO, M. (2022): Primeras evidencias sobre la presencia de Crocodylia en el Eoceno del Continente Antártico. I Congreso Científico Provincial sobre Antártida, Ushuaia, 19 al 21 de octubre de 2022.
- MÁRQUEZ, G., ACOSTA HOSPITALECHE, C., PÉREZ, L., & GARCÍA, R. (2022): Las herramientas de la microscopía electrónica de barrido en el estudio de los procesos que causan el deterioro de los fósiles. 7° CONGRESO ARGENTINO DE MICROSCOPIA. LA PLATA, 2022.
- MARTÍNEZ, L., PANTI, C., PUJANA, R., ACOSTA HOSPITALECHE, C., GELFO, J., O'GORMAN, J. & REGUERO, M. (2022): El registro fósil paleobotánico del Paleógeno de la península Potter, isla 25 de Mayo, islas Shetland del Sur, Antártida. I Congreso Científico Provincial sobre Antártida, Ushuaia, 19 al 21 de octubre de 2022.
- PIRO, A. & ACOSTA HOSPITALECHE, C. (2022): Un nuevo procelárido del Mioceno temprano-medio de Bryn Gwyn (Provincia del Chubut, Argentina). RCAPA 2022, Salta, 22 al 25 de noviembre de 2022.
- 35.as Jornadas Argentinas de Paleontología de Vertebrados. BRIZUELA, S.; DEGRANGE, F.J. & GONZÁLEZ RUIZ, L. 2022. New Squamata and Aves from the Collón Curá Formation at Cerro Zeballos (middle-late Miocene), Chubut province (Argentina). Libro de resúmenes de las 35.as Jornadas Argentinas de Paleontología de Vertebrados.
- 35.as Jornadas Argentinas de Paleontología de Vertebrados. DEMMEL FERREIRA & DEGRANGE, F.J. 2022. Inside *Pseudoseisuropsis nehuen's* skull: details of the neuroanatomy of a Pleistocene Furnariidae (Aves, Passeriformes) from Argentina. Libro de resúmenes de las 35.as Jornadas Argentinas de Paleontología de Vertebrados.
- 28th International Ornithological Congress (IOC). DE MENDOZA, R.S.; CARRIL, J.; DEGRANGE, F.J. & TAMBUSSI, C.P. 2022. Anatomical Network analysis applied to the posterior locomotor system of aquatic birds. IOC Abstract booklet: 23.
- XIX Reunión Argentinas de Ornitología. DEMMEL FERREIRA, M.M. 2022. Aspectos neuroanatómicos y paleoecológicos del género extinto *Pseudoseisuropsis* (Aves, Passeriformes). Libro de Resúmenes XIX Reunión Argentina de Ornitología: 30.
- XIX Reunión Argentinas de Ornitología. TORRES ETCHEGORRY, M.; DEGRANGE, F.J. & DEMMEL FERREIRA, M.M. 2022. Comparación de la neuroanatomía de dos aves Accipitriformes icónicas. Libro de Resúmenes XIX Reunión Argentina de Ornitología: 179.

AUSTRALIA

The 2021-22 year has again been a busy one for Avian Palaeontology at Flinders University, South Australia.

We are excited to report that Dr ELLEN MATHER was awarded her PhD for a thesis titled "Taxonomy of fossil eagles and vultures (Aves, Accipitridae) from Australia". A second chapter from that is now published establishing vultures in Australia, and a third describing a very large aegyptiine vulture is nearing submission.

JACOB BLOKLAND is continuing his PhD research thoroughly assessing the Oligocene-Miocene fossil rail-like birds of Australasia in the context of modern relatives. This has involved much morphological character development for use in phylogenetic analyses, and descriptions of fossil elements. He has also been participating in the description of the skull of *Genyornis newtoni*, that forms a major part of fellow PhD candidate Phoebe McInerney's thesis and has been teaching into various palaeontology or illustration-related university course topics. BSc Honours student Tim Niederer has commenced a PhD studying the fossil flamingos of Australia, which range from the Late Oligocene to the late Pleistocene.

PHOEBE MCINERNEY'S paper on the skull of an Australian dromornithid, *Genyornis newtoni*, which compares skull morphology and myology across the Galloansere radiation, is now complete. This is currently awaiting co-author revisions but will be ready for publication soon. She has started work on an assessment of the inner ear morphology of the

Dromornithidae and flightless galloanseres, as well as revising and expanding a character matrix for phylogenetic analyses.

Trevor Worthy teamed up once more with ANUSUYA CHINSAMY-TURAN and WARREN HANDLEY to describe the histology of *Dromornis stirtoni* bones. Research continues with colleagues on the St Bathans Fauna of New Zealand, with a couple papers, one establishing a swan-sized anatid from the St Bathans Fauna, and another describing an aegothelid and a new family of a small bird from among the higher landbirds.

LUCY JORDAN from the University of Newcastle is about halfway through her PhD on visual representations of Cenozoic avians, with an emphasis on codifying the rules of extant avian colouration into a practical framework (if ultimately possible! she adds). The research is finally moving from the theoretical into the practical application and she's looking forward to getting some feedback from the wider SAPE community as it progresses.

CHINSAMY, A., HANDLEY, W.D., WORTHY, T.H. (2022): Osteohistology of *Dromornis stirtoni* (Aves: Dromornithidae) and the biological implications of the bone histology of the Australian mihirung birds. – The Anatomical Record. DOI: 10.1002/ar.25047

MATHER E. K., LEE, M.S.Y., WORTHY, T.H. (2022): A new look at an old Australian raptor places "*Taphaetus*"

- Iacertosus* de Vis 1905 in the Old World vultures Aegypiinae (Accipitridae: Aegypinae). – *Zootaxa*, 5168(1): 1-23. <https://doi.org/10.11646/zootaxa.5168.1.1>
- KEIRNAN, A., WORTHY, T.H., SMAERS, J., MARDON, K., IWANIUK, A., & WEISBECKER, V. (2022): Not like night and day: the nocturnal Letter-winged Kite does not differ from diurnal congeners in orbit or endocast morphology. – *Royal Society Open Science*, 9: 220135. <http://doi.org/10.1098/rsos.220135>
- LAMBRIDES A.B.J., WEISLER M.I., CLARK J.T., QUINTUS S., WORTHY T.H. & BUCKLEY H. (2022): Assessing foraging variability on small islands in Manu'a (American Samoa) during the first millennium BC. – *Archaeology in Oceania*, 57(1): 39-58. DOI: 10.1002/arco.5257.
- MCINERNEY P.L., ARNOLD, L.J., BURKE, C., CAMENS, A.B., & WORTHY, T.H. (2022): Multiple occurrences of pathologies suggesting a common and severe bone infection in a population of the Australian Pleistocene giant, *Genyornis newtoni* (Aves, Dromornithidae). – *Papers in Palaeontology*, 8(1): e1415, [24 pp] <https://doi.org/10.1002/spp2.1415>
- WORTHY T.H., SCOFIELD, R.P., SALISBURY, S.W., HAND, S.J., DE PIETRI, V.L., BLOKLAND, J.C., & ARCHER, M. (2021 [2022]): A new species of *Manuherikia* (Aves: Anatidae) provides evidence of faunal turnover in the St Bathans Fauna, New Zealand. – *Geobios*, 70: 87-107, [Available online 13 December 2021 with Zoobank ID, Print Version 17 March 2022] <https://doi.org/10.1016/j.geobios.2021.08.002>
- WORTHY T.H., SCOFIELD, R.P., SALISBURY, S.W., HAND, S.J., DE PIETRI, V.L., & ARCHER, M. (2022): Two new neoavian taxa with contrasting biogeographical implications from the early Miocene St Bathans Fauna, New Zealand. – *Journal of Ornithology*, 163: 643-658. <https://doi.org/10.1007/s10336-022-01981-6> [5 April 2022 online early]
- WORTHY T.H., SCOFIELD, R.P., HAND, S.J., DE PIETRI, V.L., & ARCHER, M. (2022): A swan-sized fossil anatid (Aves: Anatidae) from the early Miocene St Bathans Fauna of New Zealand. – *Zootaxa*, 5168(1): 39–50. <https://doi.org/10.11646/zootaxa.5168.1.3>

AUSTRIA

URSULA GÖHLICH from the Natural History Museum in Vienna currently supervises a Bachelor thesis on a late Pleistocene *Lagopus* material from an Austrian Cave. As always, in 2021/2022 she was mostly occupied with collection curatorial tasks, hosted an important number of collection guests and recently organized an excavation of Triassic fishes in Tyrolia (Austria). She was involved in the study (submitted) of a *Confuciusornis* specimen housed at the NHMW, but her research in 2021/22 was dominated by non-avian paleontological topics.

- FEICHTINGER I., FRITZ, I. & GÖHLICH, U.B. (2022): Tiger shark feeding on sirenian – first fossil evidence from the middle Miocene of the Styrian Basin (Austria). *Historical Biology*, 34(2): 193-200. <https://doi.org/10.1080/08912963.2021.1906665> (2021 online first)
- GÖHLICH, U.B. & HARZHAUSER, M. (2022): Die paläogeographische Vergangenheit des Marchfeldes. – Katalog zur Niederösterreichischen

Landesausstellung 2022, Marchfeld Geheimnisse: 69 (Schallaburg Kulturbetriebs GmbH, Schallaburg); ISBN 978-3-903436-00-8.

- GÖHLICH, U.B. & HARZHAUSER, M. (2022): Tiere und Pflanzen der geologischen Vorzeit des Marchfeldes. – Katalog zur Niederösterreichischen Landesausstellung 2022, Marchfeld Geheimnisse: 62-68. (Schallaburg Kulturbetriebs GmbH, Schallaburg); ISBN 978-3-903436-00-8.
- KOENIGSWALD VON, W., BŘEZINA, J., WERNEBURG, R. & GÖHLICH, U.B. (2022): A partial skeleton of „*Mammut*“ *borsoni* (Proboscidea, Mammalia) from the Pliocene of Kaltensundheim (Germany). – *Palaeontologia Electronica*, 25(1):a10. <https://doi.org/10.26879/1188> (online March 2022)
- KOENIGSWALD VON, W., WIDGA, CH., & GÖHLICH, U.B. (accepted): New mammutids (Proboscidea) from the Clarendonian and Hemphillian of Oregon – a survey of Mio-Pliocene mammutids from North America. – *Bulletin of the Museum of Natural History University of Oregon*, 30:

BULGARIA

ZLATOZAR BOEV is supervising two Ph D students: (1) Ivaylo Angelov: “Number, age structure and food spectrum of the breeding population of the Golden Eagle (*Aquila chrysaetos* Linnaeus, 1758) in Bulgaria”; and (2) Mihail Iliev: Spatial ecology and migration strategy in the Red-breasted Goose (*Branta ruficollis* Pallas, 1769).

- BEST, J., DOHERTY, S., ARMIT, I., BOEV, Z., BÜSTER, L., CUNLIFFE, B., FOSTER, A., FRIMET, B., HAMILTON-DYER, S., HIGHAM, T., LEBRASSEUR, O., MILLER, H., PETERS, J., SEIGLE, M., SKELTON, C., SYMMONS, R., THOMAS, R., TRENTACOSTE, A., MALBY, M., LARSON, G., SYKES, N. (2022): Redefining the timing and circumstances of the chicken's introduction to Europe and north-west Africa. – *Antiquity*, 2022 Vol. 0 (0): 1–16. Published by

Cambridge University Press on behalf of Antiquity Publications Ltd. <https://doi.org/10.15184/aqy.2021.90>

- BOEV, Z. (2022): Animal remains of the Late Antique fortified site (4th -6th century AD) near Shipot village (Vidin Region, NW Bulgaria. – *Bulletin of the Natural History Museum – Plovdiv*, 7: 5-11.
- BOEV, Z. (2022): Avian remains from the Palace Center and the Citadel of the medieval capital Pliska of Bulgaria (10th century AD). – *ZooNotes*, 195: 1-4.
- BOEV, Z. (2022): History of the Bulgarian ornithology (A review of the research fields and achievements for 277 years with complete bibliography). – *Bulletin of the Natural History Museum, Plovdiv, Supplement 3*: 1-55.

- BOEV, Z. (2022): Late Pleistocene and Early Holocene Birds of Northern Vietnam (Caves Dieu and Maxa I, Thanh Hoa Province) – Paleornithological Results of the Joint Bulgarian-Vietnamese Archaeological Expeditions, 1985–1991 (Paleoavifaunal Research). – Quaternary, 5: 31. <https://doi.org/10.3390/quat5030031>
- BOEV, Z., BOZUKOV, V. (2021): Satovcha (Blagoevgrad Province, SW Bulgaria), a new Middle Miocene avian locality. – Comptes rendus de l'Académie bulgare des Sciences, 74 (3): 406-411.
- BOEV, Z., MIKKOLA, H. (2022): First Pleistocene record of Great Grey Owl (*Strix nebulosa* Forster, 1772) in

Bulgaria. – Comptes rendus de l'Académie bulgare des Sciences, 75 (5): 680-685.

POPULAR SCIENCE:

- BOEV, Z. (2022): Fossil birds named after Bulgaria. – Priroda, BAS, 1: 46-51.
- BOEV, Z. (2022): The first feathers of fossil birds in the National Natural History Museum – Priroda, BAS, 2: 100-102.

CHINA

ZHIHENG LI and his colleagues from the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP) reported one of the most complete owl fossils from Linxia Basin in Northwest China (Li et al., 2022a). Based on the sclerotic ring ossicle measurements and phylogenetic functional discriminant analysis, the new named owl fossil, *Miosurnia* was reconstructed as the earliest diurnal owl. Ancestral state reconstruction also suggested the ancestral state of Surniinae owl was also likely to be diurnal. Li Zhiheng and colleagues from IVPP and UT-Austin also reported a new small head Enantiornithine with the proportionally the longest hyoid bone from Jehol Biota. With the longer hyoid relative to the skull, the new named bird *Brevirostruavis* might use the tongue for specialized feeding mode for catching food, like woodpecker or humming bird (Li et al., 2022b).

HAN HU continues working on the cranial evolution of birds and applying 3D geometric morphometric to the ecomorphological study of early birds, especially the specimens from Jehol Biota, China. In 2022, Hu and her colleagues conducted high-resolution synchrotron tomography on a new skull of *Jeholornis*, providing a near-complete cranial reconstruction for this key lineage (Hu et al., 2022a). Based on morphometric analyses of the mandible and cranium, and comparisons with the 3D alimentary contents of extant birds, this study show that *Jeholornis* provides the earliest evidence for fruit consumption in birds and indicates that birds may have been recruited for seed dispersal during the earliest stages of the avian radiation. A detailed description of the cranial osteology of *Jeholornis prima* was also provided in another paper (Hu et al., 2022b), confirming the overall plesiomorphic morphology of its skull, with the exception of the more specialized rostrum. The results also

suggested that olfaction was an important aspect of *Jeholornis* ecology, and it has a strongly diurnal habit, supporting the hypothesis that early-diverging birds were predominantly active during the day.

- HU, H., WANG, Y., MCDONALD, P. G., WROE, S., O'CONNOR, J. K., BJARNASON, A., BEVITT, J. J., YIN, X., ZHENG, X.-T., ZHOU, Z.-H. & BENSON, R. B. J. (2022a): Earliest evidence for fruit consumption and potential seed dispersal by birds. – eLife, 11:e74751. doi: 10.7554/eLife.74751.
- HU, H., WANG, Y., FABBRI, M., O'CONNOR, J. K., MCDONALD, P. G., WROE, S., YIN, X., ZHENG, X.-T., ZHOU, Z.-H. & BENSON, R. B. J. (2022b): Cranial osteology and palaeobiology of the Early Cretaceous bird *Jeholornis prima* (Aves: Jeholornithiformes). – Zoological Journal of the Linnean Society, in press.
- LI, Z.-H., STIDHAM, T.A., ZHENG, X.-T., WANG, Y., ZHAO, T., DENG, T. & ZHOU Z.-H. (2022a): Early evolution of diurnal habits in owls (Aves, Strigiformes) documented by a new and exquisitely preserved Miocene owl fossil from China. – Proceedings of the National Academy of Sciences, 119 (15): e2119217119.
- LI, Z.-H., WANG, M., STIDHAM, T. A., ZHOU Z.-H. & CLARKE, J. (2022b): Novel evolution of a hyper-elongated tongue in a Cretaceous enantiornithine from China and the evolution of the hyolingual apparatus and feeding in birds. – Journal of Anatomy, 240 (4): 627-638

FRANCE

Several times delayed due to covid, a field trip to Saint Helena Island finally took place in August-September, a project by ANTOINE LOUCHART, ANAÏS DUHAMEL and JULIEN JOSEPH for the French side, and joined by JULIAN P. HUME for the British side; there was also KEVIN GEPFORD (USA), specialist of tortoises (interested in Jonathan the 190+ years old Saint Helena tortoise – an Aldabra tortoise). They were all welcomed, supported and helped by the people of Saint Helena in an extraordinary way, and they are eager to go back to the island as soon as possible to continue the project. They found around 7000 bird fossils, as well as other evidence, which will deliver their secrets in the following months. The project will from now grow, and it will also include colleagues who specialize in other taxa (including pollen, plants, snails). It was a great

experience to walk in the footsteps of, among others, the late STORRS OLSON in 1971. Antoine and colleagues warmly thank all people and authorities of Saint Helena, and say: see you soon!

In Lyon, SÉGOLÈNE RIAMON finished and defended her thesis on *Sylviornis neocaledoniae*, with remarkable results pertaining to its paleoecology, behavior, as well as diet, and perspectives on phylogeny. A first paper is accepted about sensory capacities of this fascinating lost bird of New Caledonia. ANAÏS DUHAMEL did an intermediate year between Master 2 and thesis (with internships useful for her thesis then in preparation); her thesis started this autumn and consists of finding and using osteological proxies of migrating behavior, to be used in the fossil record. AUDREY PORTAL studied, as a

Master 1 internship, the endocast and inner ear of several caprimulgiform birds, including *Steatornis*, with interesting results on the behavior of this other fascinating bird.

CÉCILE MOURER-CHAUVIRÉ and ESTELLE BOURDON completed a study dedicated to the description of postcranial remains of *Gastornis laurenti* from the early Eocene of La Borie (Saint-Papoul, Southwestern France). New fossils from this locality also include three taxa of neognathous birds.

ERIC BUFFETAUT and DELPHINE ANGST have edited a special issue of *Diversity on Evolution and Palaeobiology of Flightless Birds*, containing nine papers (https://www.mdpi.com/journal/diversity/special_issues/flightless_birds). It is also available in book form : <https://www.mdpi.com/books/book/5586>

Eric's work with Delphine on Late Cretaceous birds from southern France (both enantiornithines and *Gargantuavis*) is going on, as well as his research on newly discovered avian remains from the Maastrichtian phosphates of Morocco (including some rather unexpected specimens). He has also published a review of the enigmatic oogenus *Psammornis* (in the above-mentioned special issue) and a revision of the first-named fossil ostrich, *Struthio asiaticus*, from the Siwaliks of India, has recently appeared.

BUFFETAUT, E. (2021) : L'origine et l'évolution des oiseaux. – *La Science au Présent*, 2021: 153-162.

BUFFETAUT, E. (2022) : The enigmatic avian oogenus *Psammornis* : a review of stratigraphic evidence. – *Diversity*, 14: 123, <https://doi.org/10.3990/d14020123>

BUFFETAUT, E. (2022) : De nouvelles données sur l'évolution des autruches. – *La Science au Présent*, 2022: 26-29.

BUFFETAUT, E. (2022) : The first-named fossil ostrich : a revision of *Struthio asiaticus*, from the Siwaliks of India. – *Diversity*, 14(10) : 860, <https://doi.org/10.3390/d14100860>

BUFFETAUT, E. & ANGST, D. (2022) : Les autruches géantes de la Chine préhistorique. – *Espèces*, 45: 42-49.

DUHAMEL, A., & LOUCHART, A. (2021): Regard sur l'avifaune fossile de l'Oligocène du Parc du Luberon et ses implications paléobiologiques, incluant de nouvelles données fossiles. – *Courrier scientifique du Parc naturel régional du Luberon et de la Réserve de biosphère Luberon-Lure*, n° 16 – 2019-2020: 98–117.

ELZANOWSKI, A., & LOUCHART, A. (2022): Metric variation in the postcranial skeleton of ostriches, *Struthio* (Aves: Palaeognathae), with new data on extinct subspecies. – *Zoological Journal of the Linnean Society*, 195: 88–105. DOI: 10.1093/zoolinnean/zlab049.

LOUCHART, A., BIBI, F., & STEWART, J.R. (2022): Birds from the Baynunah Formation. – *In "Sands of Time: Ancient Life in the late Miocene of Abu Dhabi, United Arab Emirates"*. BIBI, F., KRAATZ, B.P., BEECH, M., & HILL, A. (Eds.). New York: Springer. pp. 125–139.

MOURER-CHAUVIRÉ, C., BOURDON, E., DUFFAUD, S., LE ROUX, G. & LAURENT, Y. (Accepted): New avian remains from the early Eocene of La Borie, southern France. – *Geobios*.

RIAMON, S., BALOUET, J.C., ROLLAND-GUILLARD, J., SALAVIALE, C., GUENSER, P., STEYER, J.S., & LOUCHART, A. (in press): Twilight, sensitive giant bird: comparative endocranial analysis of the extinct insular *Sylviornis neocaledoniae* (Aves, Galliformes). – *Scientific Reports*.

GERMANY

GERALD MAYR has published an updated second edition of "Paleogene fossil birds", which includes numerous color images of relevant fossils. Currently, he mainly works on fossil birds in the collection of the late Michael Daniels. Together with Vanesa de Pietri and PAUL SCOFIELD he furthermore studies new birds from the Paleocene of New Zealand.

BELL, P., HENDRICKX, C., PITTMAN, M., KAYE, T. & MAYR, G. (2022): The exquisitely preserved integument of *Psittacosaurus* and the scaly skin of ceratopsian dinosaurs. – *Communications Biology*, 5: 809; doi: 10.1038/s42003-022-03749-3.

DE PIETRI, V.L., MAYR, G., COSTEUR, L. & SCOFIELD, R.P. (2022): New records of buttonquails (Aves, Charadriiformes, Turnicidae) from the Oligocene and Miocene of Europe. – *Comptes Rendus Palevol*, 21 (11): 235-244.

MAYR, G. (2022): *Palaeogene fossil birds*, 2nd edition. Cham, Switzerland.

MAYR, G. (2022): A survey of the uncinat bone and other poorly known ossicles associated with the lacrimal/ectethmoid complex of the avian skull. – *The Anatomical Record*, 305: 2312–2330.

MAYR, G., DE PIETRI, V.L. & SCOFIELD, R.P. (2022): New bird remains from the early Eocene Nanjemoy Formation of Virginia (USA), including the first records of the Messelasturidae, Psittacopedidae, and Zygodactylidae from the Fisher/Sullivan site. – *Historical Biology*, 34 (2): 322-334.

MAYR, G., LECHNER, T. & BÖHME, M. (2022): Nearly complete leg of an unusual, shelduck-sized anseriform bird from the earliest late Miocene hominid locality Hammerschmiede (Germany). – *Historical Biology*

MAYR, G. & KITCHENER, A. (2022): New fossils from the London Clay show that the Eocene Masillaraptoridae are stem group representatives of falcons (Aves, Falconiformes). – *Journal of Vertebrate Paleontology*, e2083515.

MAYR, G. & KITCHENER, A. (2022): Oldest fossil loon documents a pronounced ecomorphological shift in the evolution of gaviiform birds. – *Zoological Journal of the Linnean Society*; doi: 10.1093/zoolinnean/zlac045.

MAYR, G. & KITCHENER, A. (2022, in press): Early Eocene fossil illuminates the ancestral (diurnal) ecomorphology of owls and documents a mosaic evolution in the strigiform stem lineage. – *The Ibis*; doi: 10.1111/ibi.13125.

SANGSTER, G., BRAUN, E. L., JOHANSSON, U. S., KIMBALL, R. T., MAYR, G. & SUH, A. (2022): Phylogenetic definitions for 25 higher-level clade names of birds. – *Avian Research*, 13: 100027.

SELVATTI, A.P., GALVÃO, A., MAYR, G., MIYAKI, C.Y. & DE MORAES RUSSO, C.A. (2022, in press): Southern hemisphere tectonics in the Cenozoic shaped the pantropical distribution of parrots and passerines. – *Journal of Biogeography*; doi: 10.1111/jbi.14466

HUNGARY

EUGEN KESSLER and his Ph.D. student IDA HORVÁTH continue the study of the Neogene (Middle Miocene) avifauna of the Carpathian Basin, publishing this year papers with as yet unidentified Pliocene and Miocene material. They have also started the identification of newly discovered pieces from the Badenian of Matraszölös 3 and 4 (N-Hungary) and from other Miocene fossil sites.

KESSLER, J. (E). (2020): Evolution of Songbirds (Passeriformes) and their Presence in the Neogene and the Quaternary in the Carpathian Basin. – *Ornis Hungarica*, 28(2): 158–203. DOI: 10.2478/orhu-2020-0024

KESSLER, J. (E). & HORVÁTH, I. (2021): The wing phalanges (phalanx proximalis digiti majoris) of Gaviiformes, Podicipediformes, Pelecaniformes, Ardeiformes, Anseriformes, Gruiformes, Ralliformes,

Charadriiformes and Galliformes. – *Ornis Hungarica*, 29(1): 149–169. DOI: 10.2478/orhu-2021-0012

KESSLER, J. (E). & HORVÁTH, I. (2022): Presentation of so far undetermined bird remains from the Pliocene of Beremend 26 and Csarnóta 2 and 4 (Baranya County, South Hungary). – *Ornis Hungarica* 30(1): 47–68. DOI: 10.2478/orhu-2022-0004

KESSLER, J. (E). & HORVÁTH, I. (2022): Presentation of so far undetermined bird remains from the Upper Miocene (MN 13) of Polgárdi 4 and 5 (Fejér county, West Hungary) (in press).

KESSLER, J. (E). & HORVÁTH, I. & PECSICS, T. (2021): The wing phalanges (Phalanx proximalis digiti majoris) of Accipitriformes and Falconiformes. – *Ornis Hungarica* 29(1): 93–106. DOI: 10.2478/orhu-2021-0022

ITALY

In the last year, MARCO PAVIA continued the study of birds from African sites with the publication of the bird association from Cooper's Cave. At the same time, he continues the activities on the locality of Langebaanweg (South Africa), leaded by the Iziko Museum of Cape Town, where the study on diurnal raptors is now almost finished. Other projects on fossil birds from Italy are still going on, with the description of the earliest evidence of *Buteo* from the late Miocene of northern Italy.

He is also still busy in local projects on extant birds about the evolution of European bird species, their relationships with Africa, also inferred by the study of blood parasites.

BOANO, G., BELEMSOGBO, U., SILVANO, F., HEMA, E. M., BELEMSOGBO, A., DIMOBE, K., PAVIA, M., (2022): An annotated checklist of the birds of Burkina Faso. – *Zoosystema*, 44 (2): 27-107.

CARRERA, L., PAVIA, M., VARELA, S. (2022): Birds adapted to cold conditions show greater changes in range

size related to past climatic oscillations than temperate birds. – *Scientific Reports*, 12: 10813.

NASUELLI, M., ILAHIANE, L., BOANO, G., CUCCO, M., GALIMBERTI, A., PAVIA, M., PIOLTELLI, E., SHAFAEIPOUR, A., VOELKER, G., PELLEGRINO, I. (2022): Phylogeography of *Lanius senator* in its breeding range: conflicts between alpha taxonomy, subspecies distribution and genetics. – *The European Zoological Journal*, 89 (1): 941-956.

PAVIA, M., VAL, A., CARRERA, L., STEINIGER, C.M. (2022): Fossil birds from Cooper's D aid in reconstructing the Early Pleistocene paleoenvironment in the Cradle of Humankind (Gauteng, South Africa). – *Journal of Human Evolution*, 167: 103185.

PAVIA, M., CAVAGNA, S., PELLEGRINO, I., PELLEGRINO, L., CARNEVALE, G. (2022): The oldest fossil record of *Buteo* (Aves, Accipitridae) from the Late Miocene of Italy and its evolutionary implications. – *Bollettino della Società Paleontologica Italiana*, 61 (2): 145-158.

NEW ZEALAND

In Christchurch, VANESA DE PIETRI (University of Canterbury, UC) and PAUL SCOFIELD (Canterbury Museum), continue their research on the Paleocene birds from the Waipara Gorge. The team, which includes GERALD MAYR, CATHERINE REID (UC), ERICA CROUCH (GNS), AL MANNERING and LEIGH LOVE, is currently working on dating the sediments associated with the fossil specimens and cataloguing all finds for environmental assessments. Fieldwork is led by Leigh Love, and so far, more penguins and other key vertebrate specimens have been uncovered — descriptions are underway. More to come on this soon!

SOPHIE KELLY is doing her MSc thesis at UC, under the supervision of Vanesa, Catherine, and Paul, on Pliocene procellariiforms from the Taranaki Region. Her primary aim is to determine the taxonomic diversity of this seabird fauna, which existed before the onset of major extinction events during the Quaternary.

Work on the Miocene St Bathans fauna from central Otago continues alongside TREVOR WORTHY (see recent publications). The team's annual trip to the fossil sites can be expected to take place sometime in late summer. There are still some outstanding manuscripts on shorebirds (in collaboration with ALAN TENNYSON, Te Papa Tongarewa) that have been nearing completion for a while (Vanesa took some time off!), but hopefully will be listed in the next edition of the newsletter!

DE PIETRI, V.L., MAYR, G., COSTEUR, L., & SCOFIELD, R.P. (2022): New records of buttonquails (Aves, Charadriiformes, Turnicidae) from the Oligocene and Miocene of Europe. – *Comptes Rendus Palevol*, 21(11): 235-244.

MAYR, G., DE PIETRI, V.L. & SCOFIELD, R.P. (2022): New bird remains from the early Eocene Nanjemoy

Formation of Virginia (USA), including the first records of the Messelasturidae, Psittacopedidae, and Zygodactylidae from the Fisher/Sullivan site. – *Historical Biology*, 34: 322-334; doi: 10.1080/08912963.2021.

- VAN HETEREN, A.H., WROE, S., TSANG, L.R., MITCHELL, D.R., ROSS, P., LEDOGAR, J.A., ATTARD, M.R.G., SUSTAITA, D., CLAUSEN, P., SCOFIELD, R.P. AND SANSALONE, G. (2021): New Zealand's extinct giant raptor (*Hieraetus moorei*) killed like an eagle, ate like a condor. – *Proceedings of the Royal Society B*, 288(1964): p.20211913.
- WORTHY T.H., SCOFIELD, R.P., SALISBURY, S.W., HAND, S.J., DE PIETRI, V.L., BLOKLAND, J.C., & ARCHER, M. (2021 [2022]): A new species of *Manuherikia* (Aves: Anatidae) provides evidence of faunal turnover in the St Bathans Fauna, New Zealand. – *Geobios*, 70: 87-

107, [Available online 13 December 2021 with Zoobank ID, Print Version 17 March 2022] <https://doi.org/10.1016/j.geobios.2021.08.002>

- WORTHY T.H., SCOFIELD, R.P., SALISBURY, S.W., HAND, S.J., DE PIETRI, V.L., & ARCHER, M. (2022): Two new neoavian taxa with contrasting biogeographical implications from the early Miocene St Bathans Fauna, New Zealand. – *Journal of Ornithology*, 163: 643-658. <https://doi.org/10.1007/s10336-022-01981-6> [5 April 2022 online early]
- WORTHY T.H., SCOFIELD, R.P., HAND, S.J., DE PIETRI, V.L., & ARCHER, M. (2022): A swan-sized fossil anatid (Aves: Anatidae) from the early Miocene St Bathans Fauna of New Zealand. – *Zootaxa*, 5168(1): 39–50. <https://doi.org/10.11646/zootaxa.5168.1.3>

NORWAY

HANNEKE MEIJER and colleagues finally published her major update on the extinct giant stork from the Late Pleistocene of Flores (available online at <https://royalsocietypublishing.org/doi/10.1098/rsos.220435>). This work describes 21 new bone remains of this enigmatic species, and thus forms the largest sample of any fossil Asian stork. The new material reveals that the wing bones of *Leptoptilos robustus* were well-developed and this species was almost certainly capable of active flight. Moreover, *L. robustus* bones are broadly similar to *Leptoptilos falconeri* remains from sites in Africa and

Eurasia, and its overall size range is comparable to fossils attributed to *L. falconeri*, as well as those of *Leptoptilos lüi* (China) and *Leptoptilos titan* (Java). We propose that a Pleistocene dispersal of *L. falconeri* into Island Southeast Asia may have given rise to populations of giant marabou storks in this region. As *L. robustus* and *L. titan* are the most recent known representatives of these once plentiful giant marabou storks, Island Southeast Asia likely acted as a refugium for the last surviving members of this lineage.

POLAND

ELZANOWSKI, A., & LOUCHAR, A. (2022): Metric variation in the postcranial skeleton of ostriches, *Struthio* (Aves: Palaeognathae), with new data on extinct subspecies. – *Zoological Journal of the Linnean Society*, 195: 88–105. DOI: 10.1093/zoolinlean/zlab049.

JADWISZCZAK, P., SVENSSON-MARCIAL, A. AND MÖRS, T. (2022 – an accepted article): An integrative insight into the synsacral canal of fossil and extant Antarctic penguins. – *Integrative Zoology*.

SPAIN

FRANCISCO “KIKO” SERRANO continues with his role at the University of Malaga (Spain) and as Research Associate at Natural History Museum of Los Angeles County (CA, U.S.A). He continues his research on the aerial properties of early Cretaceous birds, the morphological disparity among neornithines and the evolution of avian flight. Now he is also involved in two projects in which he studies the disparity of the axial skeleton in birds, dinosaurs and other tetrapods, and the impact of avian remains in ancient hominin populations.

BERNAL-GARCÍA, R., GÓMEZ-MORENO, F, SERRANO, F.J., HERAS, C., & YRAVEDRA, J. (2021): The role of birds in Roman imperial funerary rituals at La Magdalena (Alcalá de Henares, Spain): osteoarchaeological and symbolic analysis – *Archaeological and Anthropological Sciences* 13, 67: 1-14

FIGUEIRIDO, B., SERRANO, F.J., PÉREZ-RAMOS, A., FERRÓN, H., ESTEBAN, J.M., MARTÍN-SERRA A. (2022): Body-axis organization in tetrapods: a model-system to disentangle the developmental origins of convergent evolution in deep time. – *Biology Letters*, 18: 20220047

PALMQVIST, P., RODRÍGUEZ-GÓMEZ, G., BERMÚDEZ DE CASTRO, J.M., GARCÍA-AGUILAR, J.M., ESPIGARES, P., FIGUEIRIDO, B., ROS-MONTOYA, S., GRANADOS, A., SERRANO, F.J., MARTÍNEZ-NAVARRO, B., GUERRA-MERCHÁN, A. (2022): Insights on the Early Pleistocene hominin population of the Guadix-Baza Depression (SE Spain) and a review on the ecology of the first peopling of Europe. – *Frontiers in Ecology and Evolution*, 10: 881651

SERRANO, F.J., & CHIAPPE, L.M. (2021): Independent origins for powered flight in paravian dinosaurs? – *Current Biology*, 31: R370–R372

SWEDEN

PER ERICSON continues to work on the systematics of birds using primarily molecular data and is currently involved in a long-term investigation of the bowerbird family (Ptilonorhynchidae). Together with colleagues, he has also published a paleogenomic study of the extinct New World Vulture, *Coragyps occidentalis*. This research project began 35 years ago as a paleontological study of a Late Pleistocene bird fauna from Casa del Diablo the Andean Peru. The extremely well-preserved fossils contain good quality DNA, which has allowed whole-genome resequencing. The results show that this predominantly high-altitude taxon evolved from within a population of the Black Vulture in South America ca. 300-400 kya.

TOMMY TYRBERG recently finished a complete revision and update of his 1998 monograph "Pleistocene Birds of the Palearctic". He would very much appreciate any additions and corrections to it and will send a copy to anyone interested. Please contact him at tommy.tyrberg@gmail.com

CHEN, Y., JIANG, Z., FAN, P., ERICSON, P.G.P., SONG, G., LUO, X., LEI, F. & QU, Y.H. (2022): Considering intraspecific variation shows genomic offset or niche modeling alone inadequate in predicting climate-change driven vulnerability. – Nature Communications. doi:10.1038/s41467-022-32546-z

ERICSON, P.G.P., IRESTEDT, M. & QU, Y.H. (2022): Demographic history, local adaptation, and vulnerability to climate change in a tropical mountain

bird in New Guinea. – Diversity and Distributions. doi:10.1111/ddi.13614

ERICSON, P.G.P., IRESTEDT, M., ZUCCON, D., LARSSON, P., TISON, J.-L., EMSLIE, S.D., GÖTHERSTRÖM, A., HUME, J.P., WERDELIN, L., QU, Y.H. (2022): A 14,000-year-old genome sheds light on the evolution and extinction of a Pleistocene vulture. – Communications Biology, 5: 857.

ERNST, M., JØNSSON, K.A., ERICSON, P.G.P., BLOM, M.P.K. & IRESTEDT, M. (2022): The value of museomics for tracing complex evolutionary histories and species boundaries in endangered populations: an avian case study. – Heredity, 128: 159-168.

IRESTEDT, M., THÖRN, F., MÜLLER, I., JØNSSON, K.A.J., ERICSON, P.G.P. & BLOM, M.P.K. (2022): A guide to avian museomics: Insights gained from resequencing hundreds of avian study skins. – Molecular Ecology Resources, 22: 2672-2684.

SANGSTER, G., KING, B.F., IRESTEDT, M. & ERICSON, P.G.P. (2022): Integrative taxonomy of eared nightjars (Aves: *Lyncornis*) underscores the complementarity of morphology, vocalizations and DNA evidence. – Zoological Journal of the Linnean Society. doi:10.1093/zoolinnean/zlac037/6591392

SANGSTER, G., LUKSENBURG, J.A., PÄCKERT, M., ROSELAAR, C.S., IRESTEDT, M. & ERICSON, P.G.P. (2022): Integrative taxonomy documents two additional cryptic *Erithacus* species on the Canary Islands (Aves). – Zoologica Scripta. doi:10.1111/zsc.12561

UNITED KINGDOM

DANIEL FIELD's lab in the Department of Earth Sciences at Cambridge remains primarily focused on the early evolution of crown birds and comparative bird anatomy. Daniel has enjoyed his first year as the Strickland Curator of Ornithology at the University of Cambridge Museum of Zoology, and as co-director of the Cambridge Biotomography Centre CT scanning facility. He has also commenced a new role as a Research Associate at the Natural History Museum (London), helping to manage the fossil bird collection. The Field Palaeobiology Research Group currently includes a number of postdocs (Dr Junya Watanabe, Dr Guillermo Navalón, Dr Juan Benito, Dr Albert Chen) and postgraduate students (Lizzy Steell, Klara Widrig, Pei-Chen Kuo, Bassel Arnaout, Katrina van Grouw, Armin Schmitt, Oliver Demuth, Grace Burton, Annabel Hunt), who are exploring a range of topics in avian palaeontology and macroevolution. Last year, JUAN BENITO and ALBERT CHEN became the first lab members to complete their PhDs, on the osteology of crownward Mesozoic birds and the systematics of Strisores, respectively. Abi Crane and GRACE BURTON both completed MPhils, on avian mandibular anatomy and humeral pneumaticity, respectively, while Dr NEIL BROCKLEHURST completed his postdoc on crown bird diversification and Dr SIMON DUCATEZ completed his on the evolution of avian developmental mode. The lab looks forward to welcoming Dr CARLA DU TOIT as a Newton International Fellow in early 2023.

Recently, JUNYA WATANABE has primarily been working on theoretical and methodological developments in morphometrics. Nevertheless, he has an ongoing project on the morphology of flightless carinates and presented some preliminary results on the International Ornithological Congress earlier this year.

Palaeo life kick started again for JULIAN PENDER HUME in December 2021, with a field trip to Aldabra Atoll, southwestern Indian Ocean. Reworking of the Pleistocene sites recorded by previous workers took place, as well as discovering some new sites, so the trip was an outstanding success. In February 2022, JPH attended a private memorial service in honour of Storrs Olson, attended by Storrs's immediate family, Helen James and her family, as well as William Suárez. It was a wonderful celebration of Storrs's life, with his ashes buried in a beautiful location in Tallahassee, Florida, his childhood abode. In August, JPH, along with ANTOINE LOUCHART, finally made it to St Helena, South Atlantic, after three years of delay. We were the first outsiders to arrive on the island since the island locked down due to covid, so you can imagine how nervous the St Helenians were about meeting us. However, by the end of the first week all was well. We had numerous zoom meetings with Philip Ashmole and Colin Lewis, who had worked the island in the 60s and early 2000s and gave us excellent logistic details, but it was especially Storrs Olson and his description of the sites from the 1970s that proved particularly useful. Again, like Aldabra, the trip was a great success. JPH departs for Itampolo,

southwestern Madagascar in October 2022 to excavate some fossil lakes, accompanied by Steve Goodman, amongst others, so hopefully good news will arise from that to report next year.

- BENITO, J., CHEN, A., BHULLAR, B.A-S., FIELD, D.J. (2022): 40 new specimens of *Ichthyornis* provide unprecedented insight into the postcranial morphology of crownward stem group birds. – PeerJ.
- CHEKE, A. S. & HUME, J. P. (2021): The diet, and pellet residue taphonomy, of Barn Owls *Tyto alba* on a Greek island reveals an exceptional diversity of avian prey. – *Acrocephalus* 14(184/185): 3–24.
- CHIAPPE, L.M., NAVALÓN, G., NAVA, W., MARTINELLI, A.G., FIELD, D.J. (2022): Three-dimensional enantiornithine braincase clarifies the origin of the avian central nervous system and inner ear. – *Proceedings B*.
- DEMUTH, O.E., BENITO, J., TSCHOPP, E., LAUTENSCHLAGER, S., MALLISON, H., HEEB, N., FIELD, D.J. (2022): Topology-based three-dimensional reconstruction of delicate fossil remains and the quantification of taphonomic deformation. – *Frontiers in Earth Science*.
- ERICSON, P.G.P., IRESTEDT, M., ZUCCON, D., LARSSON, P., TISON, J.-L., EMSLIE, S.D., GÖTHERSTRÖM, A., HUME, J.P., WERDELIN, L., QU, Y.H. (2022): A 14,000-year-old genome sheds light on the evolution and extinction of a Pleistocene vulture. – *Communications Biology*, 5: 857.
- HUME, J. P. (in press): A new subfossil ground thrush (Aves: Turdidae: Geokichla) from Mauritius, Mascarene Islands. – *Bulletin of the British Ornithologists' Club*.
- HUME, J. P. (in press): Osteological and historical data on extinct island night herons (Aves: Ardeidae), with

special reference to the Mascarene Islands and Ascension. – *Geobios*.

- KSEPKA, D.T., FIELD, D.J., HEATH, T.A., PETT, W., THOMAS, D.B., GIOVANARDI, S., TENNYSON, A.J.D. (2022): Largest-known fossil penguin clarifies the evolution of sphenisciform body size and flipper anatomy. – *Journal of Paleontology*.
- MATTHEWS, T. J., WAYMAN, J., CARDOSO, P., SAYOL, F., HUME, J. P., ULRICH, W., TOBIAS, J. & TRIANTIS, K. (2022): Threatened and extinct island endemic birds: distribution, threats and ecological function. – *Journal of Biogeography*, 2022: 00–21.
- STELL, E.M., NGUYEN, J., BENSON, R.B.J., FIELD, D.J. (2022): Evolution of the passerine carpometacarpus helps illuminate the early fossil record of crown Passeriformes. – *Journal of Anatomy*.
- TRIANIS, K. A., RIGAL, F., WHITTAKER, R. J., HUME, J. P., SHEARD, C., POURSANIDIS, D., ROLLAND, J., SFENTHOURAKIS, S., MATTHEWS, T. J., THÉBAUD, C. & TOBIAS, J. A. (2022): Deterministic assembly and anthropogenic extinctions drive convergence of island bird communities. – *Global Ecology and Biogeography*, 00: 1–15.
- WALTERS, M. & HUME, J. P. (2022): *Extinct birds of Hawaii*, 2nd ed. – Honolulu, Hawaii, Mutual Publishing.
- WATANABE, J. (2022): Detecting (non)parallel evolution in multidimensional spaces: angles, correlations and eigenanalysis. – *Biology Letters*, 18: 20210638. doi: [10.1098/rsbl.2021.0638](https://doi.org/10.1098/rsbl.2021.0638).
- WIDRIG, K.E. & FIELD, D.J. (2022): The evolution and fossil record of palaeognathous birds (Neornithes: Palaeognathae). – *Diversity*.

USA

California

A big congratulations to Drs. BECKY WU and NATE CARROLL who obtained their PhDs (University of Southern California-Natural History Museum of Los Angeles County) at the end of 2021. They were both supervised by LUIS CHIAPPE. Becky has remained as a postdoctoral fellow at NHMLAC working on a variety of projects focused on the tooth cycling of Mesozoic birds and their non-avian theropod relatives (she presented some of her work at SVP in Toronto); Nate returned to his native Montana to work for the Carter County Museum in Ekalaka. Luis continues to collaborate with a number of colleagues from around the world. In Spain, he is working with SERGIO NEBREA and JESUS MARUGAN on the study of birds from Las Hoyas; in Brazil he works with WILLIAM NAVA (Museu Paleontologico Marilia) and AGUSTIN MARTINELLI (Museo Argentino de Ciencias Naturales) on the amazing William's Quarry Site of western Sao Paulo State (some of these fossils are being studied in collaboration with GUILLERMO NAVALON and DANIEL FIELD at the University of Cambridge in the U.K.); and he continues with projects involving Jehol

Biota fossils, although these projects have been severely impacted by the restrictions imposed by the Pandemic. Finally, Luis and ALYSSA BELL continue working on all aspects of hesperornithiform evolution; not only they wrote a comprehensive review of these birds (Bell & Chiappe 2022) but they also presented a paper at the 6th International Paleontological Congress in Khon Kaen, Thailand (November, 2022).

- MARUGAN-LOBON, J & CHIAPPE, L.M. (2022): Ontogenetic niche shifts in the Mesozoic bird *Confuciusornis sanctus*. - *Current Biology*, 32: 1-6.
- BELL, A. & CHIAPPE, L.M. (2022): The Hesperornithiformes: A review of the diversity, distribution, and ecology of the earliest diving birds. – *Diversity*, 14: 267.
- CHIAPPE, L.M., NAVALON, G., MARTINELLI, A., NAVA, W. & FIELD, D. (2022): Fossil basicranium clarifies the origin of the avian nervous system and inner ear. - *Proceedings of the Royal Society B*, 289(1983): 20221398.

Florida / Arizona

Dave Steadman is happily retired in Sonoita, Arizona. His single publication since the last newsletter involved a Miocene flamingo from California, co-authored with Gregory McDonald.

MCDONALD, H.G. & STEADMAN, D.W., (2022): Fossil Flamingo (Phoenicopteriformes) from the Miocene (Hemingfordian) of Southern California, USA. –

Historical Biology, pp.1-9.
<https://doi.org/10.1080/08912963.2022.2103694>

South Carolina

ADAM SMITH continues in his 7th year as Director & Curator at Clemson University's Campbell Geology Museum. Ongoing projects include collaborations focused on fossil birds from locations in the USA, Egypt,

Australia and China, as well as projects on avian neuroanatomy, bone histology and feather microstructure in collaboration with Clemson University students, faculty, and colleagues from abroad.