2023

8th International Galliformes Symposium (East Java, Indonesia: October 9-13, 2023): Book of Abstracts

IUCN-SSC Galliformes Specialist Group

World Pheasant Association

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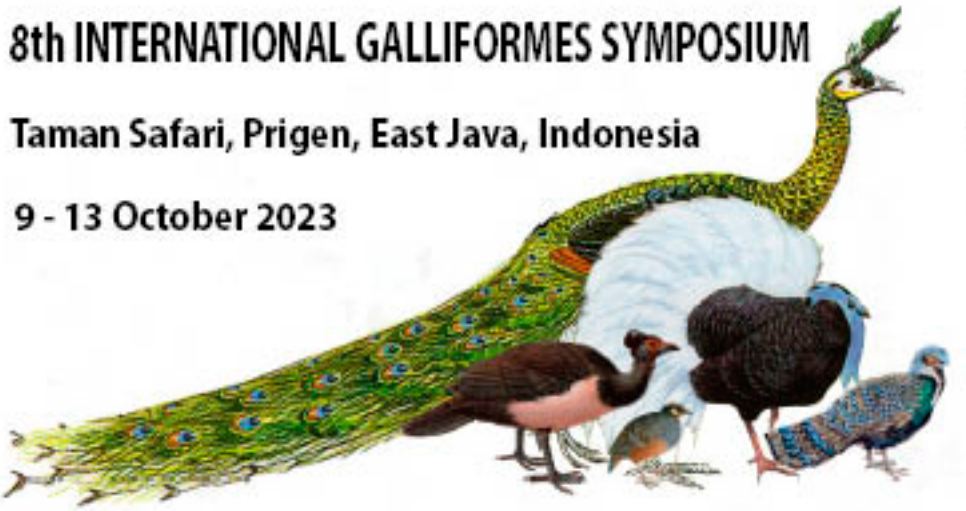
National Parks Board, Singapore

IUCN-SSC Galliformes Specialist Group



Book of Abstracts

Abstract Book
Edited by Geoffrey Davison

Printed in memory of WPA Council Member Ian Clark and James Goodhart who both contributed very significant and generous funding to help bring delegates to this symposium.

Contents

Foreward

There are a few of you in the audience here today who are not yet members of the World Pheasant Association (WPA). This is something you should rectify for it is a very remarkable organisation. It began 48 years ago with a brief tribute to its first President, Dr Jean Delacour, for his part in the international conservation of all the world's gamebirds. In recent years the embracing name Galliformes has taken over from 'gamebirds'.

In May 2023, WPA funded and ran, in conjunction with the Game and Wildlife Conservation Trust in Scotland, a conference on the problems facing Scotland's grouse species. For instance, Ptarmigan numbers are down some 80% in the last 20 years. A species hit by global warming! Ptarmigan turn white in winter, to match the normal snow, but now find themselves a white blob on a brown heather background when there is no winter snow, and totally at the mercy of birds of prey like Golden Eagles. Capercaillie are struggling to survive, due partly to the flourishing numbers of the fully protected Pine Marten, traditionally its most efficient predator.

Just five months later, here we are in East Java, in a totally different part of the world and different habitat, holding a Symposium looking at all the world's Galliformes and, what is more, no fewer than 120 participants. From Scotland and its snow to Indonesia and its tropical heat where megapodes use natural heat to incubate their eggs. What other conservation organisation crosses the world in this way?

WPA was the first bird conservation organisation to set up Specialist Groups. Five in all, for Grouse, Megapodes, Pheasants, Cracids, and for Partridges, Francolins and Quail. It was the first bird organisation to produce Action Plans for the groups of birds for which it was responsible. Those Action Plans need to be revisited and brought up to date, considering the global threats that have arisen since they were first produced.

In the 48 years of its existence WPA has been responsible, mainly through the funding of field studies, for contributions towards the setting up of National Parks and Wildlife Reserves. It has set up **13** stud books for those of its species that are in captivity. It now knows the status and distribution of all the species for which it is responsible

How many organisations have run international symposia in so many countries? Nepal, India (2), Thailand (2), China (3), Pakistan, Malaysia, Vietnam and now Indonesia bringing exchanges of knowledge among scientists and, we hope, helping to establish careers for young professionals, in all these countries.

WPA began with nothing but the enthusiasm of its six founder members to study the status and needs of all the Galliformes species in their countries of origin and ensure their survival. It is very sad that one of the six founders Iain Grahame died just a few weeks ago. However, he lived long enough to know that the WPA he helped start from nothing is now a very healthy conservation organisation thanks to good management, good fundraising and wise investment of funds dedicated to Galliformes conservation.

I am sure that this Symposium in Indonesia will add further to what has already been achieved. I wish all its participants well.

Keith Howman
President Emeritus
World Pheasant Association

Acknowledgements

The world is changing faster than ever, and it seems there is little time left for many species on this planet. We should never have to stand by and watch a species slip through our care. Yet we will, as we are confronted with difficult choices that could prove to be misjudged, misguided, or simply rushed. Organisations like the World Pheasant Association strive to maintain a scientific approach through sound research and strong links with many organisations around the world. Gatherings of this kind are the engines that build links they carry ideas and enthusiasm forward, and into the fieldwork where our heart lies.

I would like to acknowledge the help and generous support from Taman Safari Prigen, including Tony Sumampau, Owner and President Commissioner of the Taman Safari Indonesia Group, Jochen Menner, Curator of Birds at Prigen Conservation Breeding Ark, Adyah Ningtyas, Social media and communication officer of PCBA Taman Safari Indonesia Prigen, for all the assistance with symposium facilities, room bookings, catering, support for some participants in the form of sponsored rooms and/or meals, assistance with transport and logistics.

Thanks also to the Ministry of Environment and Forestry, Government of Indonesia, and to the National Research and Innovation Agency (BRIN) for their generous welcome and participation.

WPA also appreciates the participation and support of IUCN and members of the Galliformes Specialist Group. We are particularly grateful to Professor Jon Paul Rodriguez, Director of the Species Survival Commission, IUCN.

I would like to acknowledge the members of the scientific committee Dr Geoffrey Davison, Dr Dewi Prawiradilaga, Dr Nurul M. Winarni, Prof. Zhang Zhengwang, Dr Rahul Kaul, Professor John Carroll and Nguyen Vy Tran for putting together an exceptional programme.

Thanks to our Indonesian hosts, colleagues and friends who made the whole symposium possible.

In addition, we appreciate the generous financial sponsorship from Keith Chalmers Watson, John Corder, Geoffrey Davison, Keith & Jean Howman, John Zey and the late Ian Clark and James Goodhart.

Terima Kasih, Hatur Nuhun Pisan, and Thank you to everyone here and all who support the conservation of Galliformes.

Jo Gregson
Chair
World Pheasant Association

Programme

Monday 9th October 2023

Arrivals and Registration

19:15 Welcome Dinner & Speeches

Tuesday 10thOctober

06:30 Breakfast

08:45 Day 1 Start

0845 – 0855 Opening remarks (Chair, WPA)

0855 – 0910 Opening (Ministry of Environment & Forestry, Indonesia)

0910 – 0915 Welcome remarks (National Research & Innovation Agency, BRIN)

0915 – 0945 Keynote address (Dr. Jon-Paul Rodriguez, Species Survival Commission, IUCN)

0945 – 1000 Photo session

1000 – 1025 Coffee break

THE NATURAL HERITAGE OF INDONESIA

1030 – 1050 Overview of Galliformes research and conservation in Indonesia (Dewi Prawiradilaga)

1050 – 1110 Impact of climate change and human pressure on Galliformes (Nurul Winarni)

1110 – 1130 Distribution model of Great Argus pheasant in Bukit Barisan Selatan NP (Femei Rahmilija)

1130 – 1150 Camera trapping for pheasant surveys in Kalimantan (Agus Sudibyo Jati)

1200 – 1300 Lunch

1330 – 1350 Community-based conservation of Maleo across Sulawesi (Marcy Summers)

1350 – 1410 Research on Moluccan Megapode (Handy Leimena)

1410 – 1430 Ecology and conservation of *Aepypodius arfakianus* in Papua (Freddy Pattiselanno)

1430 – 1450 Using knowledge of common megapodes to aid the conservation of endangered species (Darryl Jones)

1500 – 1530 Tea break

CONSERVATION		MACRO- AND MICRO-EVOLUTION	
1530 – 1550	History of Vietnam Pheasant breeding at Hanoi Zoo (Đăng Gia Tùng)	1530 – 1550	Arboreal foraging behaviors in Galliformes (Si Xingfeng)
1550 – 1610	Vietnam Pheasant recovery program (Rik Dams/Pham Tuan Anh)	1550 – 1610	Evolutionary history and biogeography of hill partridges, *Arborophila* spp. (Chen De)
1610 – 1630	Effects of dummy necklace transmitters on captive Vietnam Pheasants (Max Lehmann)	1610 – 1630	Evolution of sexual dichromatism in landfowl: female-biased selection in Wallace's model (Li Zheng)
1630 – 1650	Annamite Crested Argus at Saigon Zoo	1630 – 1650	Annamite Crested Argus at Saigon Zoo

1915 Dinner

Evening sessions:

1. **VIETNAM PHEASANT CONSERVATION**
2. **PEACOCK-PHEASANTS**

Wednesday 11th October

06:30 Breakfast

08:45 Day 2 Start

0845 – 1000 POSTER SESSION

1000 – 1030 Coffee break (participants may continue viewing posters)

SPECIAL TOPICS IN GENETICS, BREEDING AND CONSERVATION

1030 – 1050 The draft genome of the Tibetan partridge (*Perdix hodgsoniae*) (Wu Rongjie)

1050 – 1110 Spatial distribution, activity patterns and responses to human interference of Galliformes in Qilian Mountain National NR, China (An Bei)

1110 – 1130 Dispersal patterns of Reeves's Pheasant: genetic and behavioral evidence (Xu Jiliang)

1130 – 1150 Conflict between cultural development and wildlife conservation: A potential threat to Reeves's pheasant (Wang Nan)

1200 – 1300 Lunch

POPULATIONS AND DISTRIBUTION

1310 – 1330 Recent records of Pheasants in Pyuthan, Nepal, with focus on Cheer Pheasant and Koklass Pheasant (Chiranjeevi Khanal)

1330 – 1350 Predicting potential distribution of Cheer Pheasant *Catreus wallichii* in Pakistan Himalaya (Muhammad Kabir)

1350 – 1410 Safe Breeding Zones in Cheer Conservation in Machiara NP, Pakistan (Md Naeem)

1410 – 1430 Decline of Cheer Pheasant in Nepal: Conservation through Community Engagement
(Hari Basnet)

1430 – 1450 Population status and habitat assessment of Cheer Pheasant in W Nepal (Chokhal)

1500 – 1530 Tea break

1530 – 1550 Status of White-crested Kalij in Margallah Hills NP, Pakistan (Sakhavat)

1550 – 1610 Status & distribution of swamp francolin (*Francolinus gularis*) in Nepal (Paras Singh)

1610 – 1630 Spring Survey of Galliformes in Pipar and Santel in 2022, Annapurna Conservation Area, Nepal (Laxman Poudyal)

1630 – 1650 Distribution of pheasants in Guangdong and population estimation in Nanling NP, China (Zhang Min)

1650 – 1710 Western Hazel Grouse: The End (Simon Bruslund)

1915 Dinner

1. CHEER PHEASANT ACTION PLANNING

A conservation planning session led by Rahul Kaul, Galliformes Specialist Group

2. GREEN PEAFOWL

Thursday 12th October

HABITATS, HABITAT USE AND MODELLING

06:30 Breakfast

08:30 Day 3 Start

0830 – 0900 Pheasant studies in the Palas Valley, Pakistan (Rab Nawaz)

0900 – 0920 Microhabitat requirement of Hill Partridge (*Arborophila torqueola*) (Avantika)

0920 – 0940 Ecology and distribution of Palawan Peacock-pheasant in lowland forest of Victoria-Anepa'an Range (Lemuel Pabico)

0940 – 1000 Nesting success and potential nest predators of the Red Junglefowl *Gallus gallus jabouillei* (Rao Xiaodong)

1000 – 1020 Mount Cameroon Francolin (Francis Guetse)

1020 – 1045 Coffee break

PEAFOWL, CONSERVATION AND CAPTIVITY

1050 – 1110 Ecology of endangered Javan Green Peafowl in Mt. Cikuray, West Java (Asep)

1110 – 1130 Green Peafowl in Cambodia (Christel Griffoen)

1130 – 1150 Parent rearing of captive Galliformes in Chester Zoo (Jonathan Beilby)

1200 – 1300 Lunch

CONSERVATION AND PROTECTED AREAS

1330 – 1350 Pheasants of Nepal: Current status and future needs (Neelam, Hem Baral et al.)

1350 – 1410 Strengthening Protected Areas for threatened Galliformes in China (Zhang Zhengwang)

1410 – 1430 Conservation status and outlook for endangered pheasants in China (Zhang Jing)

1430 – 1450 SUMMARY

1500 – 1530 Tea break

1530 – 1700 FILMS AND VIDEOS

Nat Geo slide show (Joel Sartore)

Megapodes (Ann Göth & Darryl Jones)

Cabot's Tragopan in the Nanling Mountains of China (Yin Xiuming)

Great Argus display (BBC Natural History Unit, "The Mating Game")

1915 Closing Banquet

Keynote Address

OVERVIEW OF THE RESEARCH AND CONSERVATION OF GALLIFORMES IN INDONESIA

Dr Jon-Paul Rodriguez

ABSTRACT:

TITLE	**OVERVIEW OF THE RESEARCH AND CONSERVATION OF GALLIFORMES IN INDONESIA**
Names	Dewi M. Prawiradilaga
Addresses	Research Center for Biosystematics and Evolution BRIN Jl. Raya Jakarta Bogor Km 46 Cibinong, KST Soekarno, Bogor 16911 Indonesia
Abstract	There are 2 families of Galliformes found in Indonesia: Megapodiidae (15 species), Phasianidae (27 species), as well as 1 family of morphologically similar buttonquails Turnicidae (4 species). Among them are 13 endemic species: 3 in Megapodiidae, 9 in Phasianidae and 1 in Turnicidae. All species of Megapodiidae, 5 species of Phasianidae and 1 species of Turnicidae (*Turnix everetti*) are protected by the Government of Indonesia under The Ministry of Environment and Forestry's Regulation No. 106/MenLHK/SETJEN/KUM.1/12/ 2018. Based on IUCN category, the Maleo *Macrocephalon maleo* (Megapodiidae) and Malay Crestless Fireback *Lophura erythrophthalma* (Phasianidae) are critically endangered (CR) species. In order to explore research and conservation of Galliformes, data were collected by tracing online through repository of Indonesian universities, proceedings, ejournals and private records/collections. Whenever necessary, interviews were conducted with key persons. The results indicated that the proportion of studied species in Megapodiidae was 46.7% (7 out of 15), Phasianidae 18.5% (5 out of 27) and Turnicidae 25% (1 out of 4). The most intensively studied species among the three families was the Maleo (Megapodiidae). Other species of Megapodiidae that have been studied were *Eulipoa wallacei, Aepypodius arfakianus, Megapodius reinwardt, M. cumingi, M. freycinet* and *M. forsteni*. The studied species in Phasianidae included *Argusianus argus, Pavo muticus, Gallus gallus, G. varius* and *Polyplectron schleiermacheri*. Only 1 species in the family of Turnicidae i.e. *Turnix suscitator* had been studied. Research done on the critically endangered Maleo Bird has covered many aspects from distribution, ecology (habitat characteristics, vegetation analysis, food plants etc.), morphology, physiology, behaviour (chick, young, egg laying), genetics to efforts for protecting the species. In addition, the Ministry of EF has produced a guidebook on Strategic Plan for Conservation Action of the *Macrocephalon maleo* 2020-2030 and declared Maleo Day on 21 November. A Technical Guideline for Ecology and Population Survey of *Macrocephalon maleo* at the Bogani Nani Warta Bone National Park is also available. On the other hand, there is a lack of study on the Phasianidae species. Even, none has been done on Malay Crestless Fireback which is critically endangered.

ABSTRACT:

TITLE	**IMPACT OF CLIMATE CHANGE AND HUMAN PRESSURE ON GALLIFORMES**
Names	Nurul L. Winarni and Habiburrachman A.H. Fuad
Addresses	Research Center for Climate Change-Universitas Indonesia Gd. Lab Multidisiplin FMIPA-UI Lt. 7. Kampus UI Depok. Indonesia 16424
Abstract	Climate change can exacerbate deforestation, and deforestation can worsen climate change. Deforestation not only impacts the climate but also leads to habitat destruction and loss of biodiversity, including Galliformes. Most Galliformes species are sensitive to disturbance. As ground birds, Galliformes tend to be affected when habitat is disturbed. We used Global Biodiversity Information Facility (GBIF) data to look at the occurrence of Greater Sunda's Phasianidae species in lowland and mountain areas. We then used Human Footprint Index (HFI) to understand the response of Phasianidae to human pressure. We selected two species, Red junglefowl (*Gallus gallus*) and Great argus (*Argusianus argus*) due to their different response to anthropogenic disturbance. In this analysis, HFI was overlaid in GIS environment with Indonesian administrative boundaries and the distribution of the two species. Among the 25 species of Phasianidae in Greater Sunda, 13 species reside in lowland areas and 12 species reside in mountains of up to 500 m asl. However, data between 2020-2023 suggested that there were 46% and 75% occurrence data for lowland and mountain species. Looking more deeply at the two species, the average HFI value of the Red junglefowl was higher (29.7) compared with the Great argus (15.86). These results suggested the higher tolerance of Red junglefowl to human pressure than the Great argus. Mountain-dwelling species could face the impacts of climate change, whereas deforestation might have consequences for species inhabiting lowland areas. Some species, like the Red junglefowl, exhibit a higher degree of adaptability to human disturbances, potentially making them more susceptible to hunting pressure. The difficulty in comprehending how Galliformes respond to climate change remains a significant concern, primarily because these species tend to be elusive and challenging to observe in their natural habitats.

ABSTRACT:

TITLE	**DISTRIBUTION MODEL OF THE GREAT ARGUS PHEASANT IN THE BUKIT BARISAN SELATAN NATIONAL PARK**
Names	Femei Rahmilija[1], Jarwadi Budi Hernowo[2] and Lilik Budi Prasetyo[2]
Addresses	1 Graduate Program of Tropical Biodiversity Conservation, Faculty of Forestry and Environment, IPB University, Bogor, West Java; 2 Departement of Forest Resources Conservation and Ecotourism, Faculty of Forestry and Environment, IPB University, Bogor, West Java.
Abstract	The Great Argus (*Argusianus argus*) has been listed as vulnerable after about 20 years of being listed as a near-threatened species under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Globally, there has been a decline in its population due to deforestation and habitat fragmentation over time. Conservation efforts are urgently needed to reverse this situation. Here, we build a species distribution model and identify the environmental variables that affect the presence of the Great Argus in Way Canguk Research Station (WCRS) - BBSNP. Species distribution is known to be one of the fundamental factors in wildlife conservation. The algorithm used was Maximum Entropy (MaxEnt) with presence data collected from field surveys and camera traps. The environmental variables used were physical parameters (elevation, slope, distance to river, NDMI), climatic parameters (temperature, rainfall), proxy parameters of anthropogenic disturbance factors (distance to road, distance to settlement), and biological parameters (NDVI, land cover). The species distribution model with MaxEnt accurately mapped the suitability of the Great Argus habitat (AUC = 0.846). The predictor factors that affected the distribution of the Great Argus were distance to road, the presence of forests, and rainfall. Specifically, the Great Argus prefers primary forest habitats away from human activities with low rainfall intensity. WCRS still provides suitable habitat for the Great Argus population; however natural forest conservation efforts such as suppressing deforestation and restoration of degraded lands should be carried out to improve habitat suitability.

ABSTRACT:

TITLE	**SURVIVING LOGGING: THE PERSISTENCE OF PHEASANTS IN SUSTAINABLY MANAGED LOGGED FORESTS IN EAST KALIMANTAN, INDONESIA**
Names	Agus Sudibyo Jati[1,2], Hiromitsu Samejima[3], Kanehiro Kitayama[2]
Addresses	1 University of Maine, Orono, Maine, USA; 2 Kyoto University, Kyoto, Japan; 3 Institute for Global Environmental Strategies, Kanagawa, Japan
Abstract	The tropical rainforest of Borneo is one of the most biodiverse regions in the world, housing numerous pheasant species. However, Borneo has also attracted significant investment in logging, one of the major contributors to deforestation. We examined the responses of pheasant species to logging intensity in two natural production forests managed under sustainable practices, i.e., reduced impact logging, in East Kalimantan, Indonesia. We distributed 21 plots across the concession forests between 2012-2016. On each plot, we randomly deployed ten camera traps within a 500 m radius of the plot center to record wildlife for one to two years. We recorded six pheasant species, in order from the most abundant: *Argusianus argus* (Vulnerable), *Lophura ignita* (Vulnerable), *Rollulus rouloul* (Vulnerable), *L. bulweri* (Vulnerable), *L. pyronota* (Endangered), and *Polyplectron schleiermacheri* (Endangered). Using Generalized Linear Models, we discovered that the abundance of *A. argus, R. rouloul*, and *L. bulweri* was positively affected by forest intactness ($p<0.05$). Through occupancy modeling, we found that the occupancy probability of *A. argus, L. ignita*, and *R. rouloul* was high across the concession forest ($\Psi>0.73$), while the occupancy probability of three other species was relatively lower ($\Psi<0.26$). Our study indicates the high persistence of pheasants in sustainably managed logged forests. Despite being managed for timber production, biodiversity conservation should also be integral in managing such forests. We encourage the implementation of sustainable forestry to facilitate biodiversity conservation in production forests throughout Borneo.

ABSTRACT:

TITLE	**RESPECT FOR NATURE, RESPECT FOR PEOPLE: SUCCESSFUL COMMUNITY-BASED CONSERVATION COULD LEAD TO RECOVERY OF THE MALEO (MACROCEPHALON MALEO, CR) ACROSS SULAWESI**
Names	Marcy Summers[1,2] and the ALTO team[2]
Addresses	1 Alliance for Tompotika Conservation, 21416 86th Ave SW, Vashon, WA, 98070 USA; 2 Aliansi Konservasi Tompotika, Jl. Tadulako No. 69, Kilongan, Luwuk 94711 Central Sulawesi, Indonesia.
Abstract	In 2006, in response to local villagers' request, a small international partnership ("ALTO") was established to prevent the extirpation of the maleo (*Macrocephalon maleo*, CR) at Libuun, Tompotika, Central Sulawesi. Working with ALTO, villagers agreed to end egg poaching and protect Libuun's nesting ground, its travel corridor, and nearby forest. Using a "Respect for Nature" approach, egg-taking by humans is prevented but eggs are left undisturbed in place. Since 2006, maleo numbers at Libuun have increased seven-fold. In November 2022, 199 adult maleos were counted at once, more than have been seen at any nesting ground for decades. Subsequently, ALTO has used the same approach to protect nesting grounds in two additional Tompotika villages; maleo numbers at these sites, Kaumosongi and Panganian, have both increased four-fold. With appropriate outreach, villagers have voluntarily ended egg-taking, while gaining employment in guarding and monitoring nesting grounds. Outreach–including school-based conservation education, field trips, maleo festivals, and Art for Conservation activities–has helped build community awareness and support for maleo conservation. Concurrently, the ALTO team has conducted research throughout Sulawesi to assess the maleo's range-wide status and investigate the causes of its decline. Results suggest that egg-taking by humans is the primary range-wide threat to maleos, followed by degradation of travel corridors connecting nesting grounds to primary forest. Sulawesi appears to harbor now-isolated sub-populations of maleo, but careful design of new community engagement projects in areas where the most rescuable nesting-grounds are clustered has every potential to recover Sulawesi's remarkable mascot.

ABSTRACT:

TITLE	**Advantages and disadvantages of the traditional egg-harvesting policy for Moluccan Scrubfowl (*Eulipoa wallacei*) on Haruku Island, Indonesia**
Names	Handy Erwin Pier Leimena
Addresses	Biology Department, Faculty of Mathematics and Natural Sciences, Pattimura University, M. Putuhena Street, Pattimura University Campus, Poka – Ambon – Indonesia *97233*
Abstract	The Moluccan Scrubfowl (*Eulipoa wallacei*) is an endemic megapode to the Maluku Islands whose eggs have been harvested for centuries based on traditional beliefs. This study aims to examine the effects of traditional policies on the viability of the Haruku Island population of Moluccan Scrubfowl. The stages of the assessment method consisted of (1) the initial assessment process and its flaws, (2) the incorporation of indigenous knowledge, which accommodates objective biological criteria for traditional and scientific knowledge to assess species at risk, (3) the application of the dual assessment process, and (4) the final assessment. This study demonstrates that traditional policies and practices for the use and exploitation of Moluccan Scrubfowl eggs can potentially reduce the number of new individuals entering the population as a new reproductive group. On the other hand, the activity of consuming bird eggs, which is influenced by community trust factors, demonstrates the significance of economic and social aspects associated with egg consumption. However, there are many positive aspects of traditional policies, particularly those that prohibit the capture of adults and juveniles and preserve nesting habitats. Efforts to increase public awareness of the importance of integrating knowledge of the biology and ecology of the Moluccan Scrubfowl, such as the long-term effects of egg consumption on population survival and the availability of bird eggs, can be implemented as a solution

ABSTRACT:

TITLE	**CONSERVATION STATUS OF ARFAK MEGAPODE (AEPYPODIUS ARFAKIANUS) NESTING SITES IN THE ARFAK MOUNTAINS NATURE RESERVE**
Names	Freddy Pattiselanno[1], Lukas Y Sonbait[2]
Addresses	[1] Laboratory of Animal Science Universitas Papua, Manokwari 98314 West Papua; [2] Animal Science Department Universitas Papua Manokwari 98314 West Papua
Abstract	The utilization rate of the Arfak Megapode (*Aepypodius arfakianus*) by the community through hunting and egg collection is quite high. This has an impact on the status of this bird's population in nature. Research on the conservation status of Arfak Megapode nests has been carried out to determine nest conditions that affect the population. Data collection was conducted between May and June 2016 in Sigim Village, around the Arfak Mountains Nature Reserve area. The description method with survey techniques and direct observation was used in collecting data at the research location. Of the nine nests found and observed, six nests were relatively close to settlements or less than 1.0km away, so they were under more pressure from hunting and egg collection. Based on their status, two nests were abandoned, and four nests were threatened. The other three nests within 2-3km of the settlement are not threatened. The consequences of converting forest area for other purposes (building public facilities and infrastructure such as developing roads and building settlements) as well as clearing plantation and agricultural land provide easy access to the Arfak Megapode nesting sites. This has an impact on the conservation status of the nest, due to uncontrolled bird hunting and egg collection.

ABSTRACT:

TITLE	**Home and away: using knowledge of common megapodes to aid the conservation of endangered species**
Names	Darryl Jones [1] and Ann Göth [2]
Addresses	1 School of Environment and Science, Griffith University, Nathan QLD 4111, Australia; 2 Australian Chair of SSC/WPA/Birdlife Megapode Specialist Group. 42/77 Peninsula Drive, Breakfast Point, NSW 2137, Australia.
Abstract	Most of the 22 extant megapode species face serious threats to their survival. Preparing conservation and management plans requires detailed information on many aspects of their lives. Yet endangered megapodes are difficult to study: many are rare and live a secretive life in remote areas where field work is logistically challenging. At the same times, two species – Australian Brush-turkeys *Alectura lathami* and Orange-footed Scrubfowl *Megapodius reinwardt* - are currently undergoing a remarkable recovery and are now common in areas they were once almost extinct. This provides an invaluable opportunity to study features shared by all megapodes, enabling important information to be gathered easily and applied to rarer species. All share the unique breeding strategy of incubating their eggs using external heat sources, and many physiological and behavioural features are shared by different megapode species. Hence, existing findings may be applied to projects where, for example, eggs need to be handled or incubated artificially, the effects of incubation temperatures on the physiology of embryos and other crucial characteristic need to be known. Similarly, conservation plans can benefit from studies on the feeding ecology, habitat choice, mating systems and vocalisations of the common species. In this presentation, we aim to review some of the most important insights derived from studies of the common species (near home) and suggest how these may be utilized for endangered megapodes (often far away).

ABSTRACT:

TITLE	**COOPERATION PROCESS BETWEEN HANOI ZOO AND WORLD PHEASANT ASSOCIATION AND EDWARD'S PHEASANT CONSERVATION AND BREEDING RESULTS IN HANOI ZOO (FROM 2021 – 2023)**
Names	Nguyen Cong Nghiep
Addresses	Hanoi Zoo Thu Le, Ngoc Khanh, Ba Dinh, Hanoi, Vietnam
Abstract	The cooperation process between Hanoi Zoo and the World Pheasant Association (WPA) and the receipt of the Edward's Pheasant from different sources. Conservation breeding results of Edward's Pheasant (*Lophura edwardsi*) and Vietnam Pheasant (*Lophura hatinhensis*) at Hanoi Zoo (from 2021 to 2023) Hanoi Zoo conducts conservation breeding of Edward's Pheasant (*Lophura edwardsi*) and Vietnam Pheasant (*Lophura hatinhensis*) at Hanoi Zoo (Thu Le Park) and Cau Dien Breeding Center (it is far from Thu Le Park 7 km). Hanoi Zoo (as of September 19, 2023) manages 40 specimens of Edward's Pheasant (*Lophura edwardsi*) and Vietnam Pheasant (*Lophura hatinhensis*), in which: The number of Edward's Pheasant (*Lophura edwardsi*) is 34 specimens (14 male, 15 female, 5 unknow sex). These specimens are raised at 2 locations (Thu Le Park and the Cau Dien Breeding Center) managed by the Hanoi Zoo. The number of Vietnam Pheasant (*Lophura hatinhensis*) is 6 specimens (2 male, 4 female). These specimens are raised at Cau Dien Breeding Center.

ABSTRACT:

TITLE	**Vietnam pheasant recovery programme**
Names	Rik Dams[1], Pham Tuan Anh[1], etc.
Addresses	1 Viet Nature Conservation Centre, Hanoi, Vietnam
Abstract	One of Vietnam's endemic birds, the Vietnam Pheasant *Lophura edwardsi* (VP) has not been seen in the wild since 2000 and may already be extinct in the wild. The captive population of over 1,000 birds, mostly kept overseas, is currently the only hope for the species' recovery. Since 2014, two successive VP conservation action plans been developed with the overall goal of securing safe suitable habitats and genetic integrity for the long-term persistence of the VP in the wild by 2030. An international VP Recovery Group was also established in 2019, after WPA's 7th Symposium in Vietnam, led by IUCN/SSC GSG, to coordinate ex-situ and in-situ conservation efforts. So far, the first VP conservation breeding centre is under construction to prepare the birds for reintroduction. The first birds are planned to be transferred to the centre in 2024. Trial release, then full release, will be carried out after 2-3 generations of parent-reared birds at the centre, provisionally from 2025-2026 at Khe Nuoc Trong which is in the middle of the former range of the VP. Following that it is intended to conduct controlled releases in at least two additional to-be-selected sites earliest from 2026/2027. Buy-in and support from local stakeholders for site selection and preparation is paramount for a reintroduction attempt to have any chance of success. In addition, it is expected that control of snaring and disturbances will also benefit the other highly threatened endemic species found in the same habitat, including the Critically Endangered Vietnamese Crested Argus.

ABSTRACT:

TITLE	**Effects of Dummy Necklace Transmitters on Captive Vietnam Pheasants (*Lophura edwardsi*)**
Names	Max Lehmann[1]
Addresses	1 Zoological Research Museum Alexander Koenig; Vogelpark Heiligenkirchen maxlehmann@web.de
Abstract	The Vietnam Pheasant *Lophura edwardsi* (Oustalet, 1896) is supposed to be extinct in the wild due to a lack of evidence during the last decades. A reintroduction program with the aid of captive birds is planned by a union of different stakeholders. The success of reintroduction programs of animals increases with a consolidated knowledge of its behavior and habitat use. An appropriate tool for this purpose is the use of geo-locators. However, it is often used without precognition of possible deleterious effects which demolishes the benefits from these instruments. Here we show that necklace mounted dummy transmitters of a particular weight and size have no lasting negative effects on the behavior, spatial use and food consumption of captive *Lophura edwardsi* (n=16). Effects have been seen in the beginning but could be shown to be temporary and a habituation to the transmitter starts already after one week. In the prospective project, a habituation time of at least one month in the rewilding aviary and an adequate time lap to the breeding season should be provided. Furthermore, time budgets of this species for different behaviors are presented for the first time. Although still discussed controversial, our results support the assumption that necklace transmitters are appropriate for the work with phasianid species but also demonstrate, that an ascertainment for every species considered to be tagged is necessary. We anticipate this work to play its part to a knowledge based and sustainable reintroduction program of the Vietnam Pheasant in the future.

ABSTRACT:

TITLE	**Arboreal foraging is widespread in ground-dwelling birds and may buffer negative effects of resource scarcity**
Names	Wande Li [1], Chen Zhu [2], Ingo Grass [3], Peng Han [1], Ping Ding [2], Xingfeng Si [1,*]
Addresses	1 Zhejiang Zhoushan Archipelago Observation and Research Station, Institute of Eco-Chongming, Zhejiang Tiantong Forest Ecosystem National Observation and Research Station, School of Ecological and Environmental Sciences, East China Normal University, 200241 Shanghai, China; 2 MOE Key Laboratory of Biosystems Homeostasis and Protection, College of Life Sciences, Zhejiang University, Hangzhou, 310058 Zhejiang, China; 3 Ecology of Tropical Agricultural Systems, University of Hohenheim, 70599 Stuttgart, Germany.
Abstract	Habitat changes can alter animal behaviors, especially of large-bodied animals. Landfowls (Galliformes) are a phylogenetically diverse group of large-bodied ground-dwelling birds that are generally considered reluctant flyers. However, some species of landfowls have also been found to forage in arboreal habitats, which could be particularly advantageous under declining habitat quality. However, the prevalence of arboreal foraging behavior (AFB) and how it relates to habitat changes are still unexplored. Here, we reviewed life-history traits related to foraging behaviors in 288 landfowl species worldwide and examined the prevalence of AFB across the global landfowl phylogeny. In addition, we used data from camera trapping on 22 subtropical reservoir islands and six nearby mainland sites in the Thousand Island Lake region of China to assess AFB of Silver Pheasant (*Lophura nycthemera*), the largest landfowl in this lake system, with declining island area. Globally, 79 species of landfowls (27%) showed evidence of AFB, with a strong phylogenetic signal. Camera trapping revealed the highest frequency of AFB of Silver Pheasant on mid-sized islands, indicative of behavioral adaptation of the species to declining resources on the ground with declining habitat area. Our study suggests that arboreal foraging of ground-dwelling birds is much more widespread than previously acknowledged, and that AFB allows ground-dwelling birds to respond to resource scarcity under declining habitat quality. These findings call for more studies into species behavior to better guide conservation policies for large-bodied animals in the Anthropocene.

ABSTRACT:

TITLE	**Disentangling the evolutionary history and biogeography of hill partridges (Phasianidae, Arborophila)**
Names	De Chen[1], Yang Liu[2], Geoffrey Davison[3], Ding Li Yong[4,5], Shenghan Gao[6], Junhua Hu[7], Shou-Hsien Li[8], Zhengwang Zhang[1*]
Addresses	1MOE Key Laboratory for Biodiversity Science and Ecological Engineering, College of Life Sciences, Beijing Normal University, Beijing 100875, China 2State Key Laboratory of Biocontrol, School of Ecology/School of Life Sciences, Sun Yat-sen University, Guangzhou, 510275, China 3National Biodiversity Centre, National Parks Board, 1 Cluny Road, 259569, Singapore 4BirdLife International (Asia), 354 Tanglin Road, #01-16/17, Tanglin International Centre, Singapore 247672, Singapore 5Fenner School of Environment and Society, The Australian National University, Linnaeus Way, Canberra, ACT 2601, Australia 6State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese Academy of Sciences, Beijing, 100101, China 7Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China 8Department of Life Science, National Taiwan Normal University, Taipei 11677, Taiwan, China
Abstract	The advent of the phylogenomic era has significantly improved our understanding of the evolutionary history and biogeography of Southeast Asia's diverse avian fauna. However, the taxonomy and phylogenetic relationships of many Southeast Asian birds remain poorly resolved, especially for those with large geographically range, which might have experienced both ancient and recent geological and environmental changes. In this study, we examined the evolutionary history and biogeography of the hill partridges (Galliformes: Phasianidae: *Arborophila* spp.), currently the second most speciose galliform genus, and thought to have colonized Southeast Asia from Africa. We present a well-resolved phylogeny of 14 *Arborophila* species inferred from ultra-conserved elements, exons, and mitochondrial genomes from both fresh and museum samples, which representing almost complete coverage of the genus. Our fossil-calibrated divergence time estimates and biogeographic modeling showed the ancestor of *Arborophila* arrived in Indochina during the early Miocene, but the initial divergence within *Arborophila* did not occur until ~10 Ma when global cooling intensified. Subsequent dispersal and diversification within *Arborophila* were driven by several tectonic and climatic events. In particular, we found evidence of rapid radiation in Indochinese *Arborophila* during the Pliocene global cooling and extensive dispersal and speciation of Sundaic *Arborophila* during the Pleistocene sea-level fluctuations. Taken together, these results suggest that the evolutionary history and biogeography of *Arborophila* were influenced by complex interactions among historical, geological and climatic events in Southeast Asia

ABSTRACT:

TITLE	**The evolution of sexual dichromatism in a large radiation of landfowl: Re-examining female-biased selection in Wallace's model**
Names	Zheng Li[1], De Chen[1], Lu Dong[1]
Addresses	1. Ministry of Education Key Laboratory for Biodiversity and Ecological Engineering, College of Life Sciences, Beijing Normal University, Beijing 100875, China
Abstract	Sexual dichromatism has been particularly important for studying the interplay between sexual and natural selection. However, previous studies on the evolutionary forces of sexual dichromatism examining Darwin's and Wallace's models have produced mixed results. Phasianidae is a species-rich family with worldwide distribution and a wide diversity of plumage patterns and colourations. Here, we use phylogenetic comparative methods to determine the relationship between sexual dichromatism and the colour complexity of males and females in terms of both evolutionary direction and tempo, including all species in Phasianidae. We also explored how the ecological factors and life-history traits affect the evolution of sexual dichromatism in Phasianidae. We show that the evolutionary direction of sexual dichromatism is negatively correlated with females' colour but not males' colour, and the evolutionary rates of sexual dichromatism are positively correlated with the evolutionary rates of colour in both sexes. These results highlight the important role of female colour evolution in shaping sexual dichromatism in the pheasant and provide strong empirical support for Wallace's hypothesis via a mosaic of sexual and natural selection in both sexes.

ABSTRACT:

TITLE	**Identification of variation in Fibromelanosis region for determining the purity of Indonesian Cemani chicken**
Names	Anik Budhi Dharmayanthi[1], Keiji Kinoshita[2], Isyana Khaerunnisa3, Rona Saumy Safitry[4], Syam Budi Iryanto[5], Yohanna[1], Sutikno[3], Andi Baso Lompengeng Ishak[6], M Syamsul Arifin Zein[1], Yoko Satta[7], Toyoko Akiyama[8], Cece Sumantri[4]
Addresses	1. Research Center for Biosystematics and Evolution, The National Research and Innovation Agency, Bogor, Indonesia; 2. State Key Laboratory for Conservation and Utilisation of Bio-Resources in Yunnan, Yunnan Agricultural University, Kunming, China; 3. Research Center for Applied Zoology, National Research and Innovation Agency, Bogor, Indonesia; 4. Department of Animal Production and Technology, Faculty of Animal Science, IPB University, Bogor, Indonesia; 5. Research Center for Computing, The National Research and Innovation Agency, Bogor, Indonesia; 6. Indonesia Agency for Agricultural Instrument Standardization, Ministry of Agriculture, Bogor, Indonesia; 7. Department of Evolutionary Studies of Biosystems, SOKENDAI (The Graduate University for Advanced Studies), Kanagawa, Japan; 8. Department of Biology, Keio University, Yokohama Japan
Abstract	Ayam Cemani is an Indonesian local chicken with heavy pigmentation in plumage colour, skin, and inner body organs. This trait is identical to Fibromelanosis (Fm) mutation in a Silkie chicken. The causal mutation of the Fm trait is due to an inverted duplication and junction of two genomic regions involving the Endothelin3 gene on chromosome 20. Determining birds that are homozygous or heterozygous at this locus is useful for unifying the Fm trait of Cemani populations. We aim to establish a simple method for detecting homozygous (Fm/Fm) and heterozygous (Fm/fm+) individuals with Fm mutation and to clarify the degree of fixation of the Fm trait in the Cemani populations and the association between the phenotype and genotype. This study develops a method for determining the presence or absence of Fm mutation by PCR amplification using the inverted sequences specific to the Fm allele. It develops the restriction fragment length polymorphism (RFLP) method in regions common to the Fm and wild-type fm+ allele. We also sequenced the 664bp region using ONT. The result showed that mostly, the phenotype for Cemani with Fm/ fm+ genotype is reddish black in their comb; meanwhile, the Cemani with (Fm/Fm) genotype showed heavy black pigmentation. Our study concluded that this PCR-RFLP method is effective for judging the purity of Cemani. We can discriminate between Fm homozygous and heterozygous birds in the Cemani population. Thus, this briefly genotyping method effectively maintains and protects the pure line of Cemani chicken.

ABSTRACT:

TITLE	**The draft Genome of the Tibetan partridge (Perdix hodgsoniae) provides insights into its phylogenetic position and high-altitude adaptation.**
Names	Chuang Zhou[1], Xiaofeng Zheng[1], Kaize Feng[1], Kexin Peng[1], Guangqing Zhao[1], Yang Meng[1], Li Zhang[2], Bisong Yue[1], Yongjie Wu[1,*]
Addresses	1 Key Laboratory of Bioresources and Ecoenvironment (Ministry of Education), College of Life Sciences, Sichuan University, Chengdu, 610064, P.R. China; 2 Chinese Institute for Brain Research, Beijing (CIBR) 102206, China.
Abstract	The Tibetan partridge (*Perdix hodgsoniae*) is a widely distributed endemic species in high-altitude areas across the Tibetan Plateau where the hypoxia, lower temperature and high ultraviolet (UV) radiation are pivotal factors influencing survival. However, the underlying genetic adaptation of the Tibetan partridge to extreme environments and its phylogenetic position remains uncertain due to limited genomic resources. We de novo sequenced, assembled and annotated the whole genome of the Tibetan partridge. The genome size was 1.15 Gb with contig N50 of 3.70 Mb. A total of 202.30 Mb (17.61%) repetitive elements and 445,876 perfect microsatellites were identified. A total of 16,845 functionally annotated protein-coding genes were identified in the Tibetan partridge. Genomic phylogenetic analysis across 30 Galliformes species indicated a close relationship between Perdix and typical pheasants composed of Chrysolophus, Symaticus, Phasianus, Crossopilon, Lophura. Comparative genomic results identified NFKB1 and CREBBP positively selected genes (PSGs) related to hypoxia with three and two Tibetan partridge-specific missense mutations, respectively. Expanded gene families were mainly associated with energy metabolism and steroid hydroxylase activity, meanwhile, contracted gene families were mainly related to immunity and olfactory perception. Our genomic data considerably contributes to the phylogeny of Perdix and the underlying adaptation strategies of the Tibetan partridge to a high-altitude environment.

ABSTRACT:

TITLE	**Spatial distribution, activity patterns and responses to human interference of Galliformes in Qilian Mountain National Nature Reserve, China**
Names	Dexi Zhang[1,2], Bei An[2], Lixun Zhang[1,2*]
Addresses	1 College of Ecology, Lanzhou University, No. 222, Tianshui South Road, Lanzhou 730000, China; 2,Yuzhong Mountain Ecosystems Observation and Research Station, Lanzhou University, Lanzhou 730000, China; anb@lzu.edu.cn 3School of Basic Medicine Sciences, Lanzhou University, Lanzhou 730000, China* Correspondence:
Abstract	Prioritizing protected areas in the landscape is challenging due to the lack of updated species information. Galliformes biodiversity knowledge is scarce in the Qilian Mountains, China. Investigations were carried out in six research areas by 137 infrared cameras at Qilian Mountain National Nature Reserve (QMNNR) in China from August 2017 to August 2020. Species' activity patterns and temporal overlap by kernel density method are analyzed to explore whether human interference affected activity patterns of the most abundant Galliformes species in QMNNR. Eight Galliformes species were identified from 678 independent captures. Among them, three of the most four abundant species were endemic to China, and one is Near Threatened by IUCN. The most four abundant species were mainly distributed in Sidalong and Haxi areas. The four species showed diurnal activity. The diel activity pattern of Blue Eared-pheasant in Qifeng was more early in the morning peak activity than those in the other four study areas. Galliformes behaviourally responded and temporally avoided the activity of human interference both in breeding ($P < 0.01$) and winter seasons ($P < 0.05$) in the Haxi area. Protection planning should incorporate the spatial-temporal activity patterns of Galliformes and human interference. Our research in other systems, worldwide, that has been faced with similar pressures, should permit a systematic evaluation of the management and conservation strategies needed to rebuild or maintain populations, restore ecosystems, and support conservation policies in human-altered landscapes.

ABSTRACT:

TITLE	**Dispersal patterns of Reeves's Pheasant (*Syrmaticus reevesii*) based on the genetic and behavioral evidence**
Names	Shuai Lu [1], Xian Hou [1], Shan Tian [1], Zhengxiao Liu [1], Yunqi Wang [1], Ting Jin [1], Jianqiang Li [1], Pengcheng Wang [2] and Jiliang Xu [1]
Addresses	1. School of Ecology and Nature Conservation, Beijing Forestry University, Beijing 100083, China; 2. School of Life Sciences, Nanjing Normal University, Nanjing, 210000, China. Corresponding author: xujiliang@bjfu.edu.cn
Abstract	Dispersal is an important life history trait that plays a crucial role in inbreeding avoidance. Uncovering the dispersal pattern of endangered species will facilitate the conservation effort. Galliformes are the forest-dwelling terrestrial birds with weak dispersal ability, and 40.6% are threatened species. However, little is known about the dispersal behavior of Galliformes, of which 93.4% of dispersal patterns of species are unknown, including the Reeves's Pheasant (*Syrmaticus reevesii*), a vulnerable species in the world and endemic to China. Here, we integrated behavioral and genetic analyses to investigate the dispersal pattern of Reeves's Pheasant. Our results revealed that the natal dispersal of the Reeves's Pheasant was male-biased, and there was no significant sex biased in the breeding dispersal. Although the genetic diversity of the Reeves's Pheasant population in patchy habitats was low, there was no inbreeding signature in the populations, which could be mitigated by male-biased natal dispersal. Our research highlight that the dispersal patterns of sex-biased may be the behavior mechanism of wildlife to avoid inbreeding in fragmented habitat, based on the integrated method of gene and behavior analysis.

ABSTRACT:

TITLE	**Conflict between Cultural Development and Wildlife Conservation: A Potential Threat to Reeves's pheasant**
Names	Xingming Li, Bochi Wang, Jing Zhang, Geoffrey Davison, Changqing Ding, Nan Wang*
Addresses	Nan Wang (Corresponding author, wangnan761227@bjfu.edu.cn), Xingming Li, Bochi Wang, Changqing Ding, Beijing Forestry University, No. 35 Qinghua East Road, Haidian District, Beijing, 100083, China Jing Zhang, Beijing Zoo Management Office, No.137 Xizhimenwai Street, Xicheng District, Beijng, 100044, China Geoffrey Davison, National Biodiversity Centre, Singapore 259569
Abstract	Unsustainable wildlife use and trade are a major threat to wildlife conservation. Understanding the sociological background of specific animal products and identifying the source may promote more effective management. In China, the tail feathers of Reeves's pheasant have been used as headgear by Xiqu (Chinese opera) since ancient times, and are known as Lingzi to express the personality and emotions of the characters. In recent decades, the population of Reeves's pheasant has declined significantly, and the use of feathers by Xiqu is proposed to be an important threatening factor. There are now 348 Xiqu genres in mainland China, of which 164 have staged plays wearing Lingzi. Xiqu genres using Lingzi are concentrated in the central and eastern regions of China, covering the historical distribution of Reeves's pheasant or being relatively close. The analysis of stable isotopes of δ13C and δ15N showed that the samples from Xiqu troupes are likely to be derived from wild sources. We suggest strengthening the supervision of the acquisition of feathers from Reeves's pheasant. Stable isotope analysis can be an effective method to identify the source of tail feathers, which will support law enforcement efforts.

ABSTRACT:

TITLE	**Recent records of Pheasants in Pyuthan, western midhills of Nepal with focus on Cheer Pheasant *Catreus wallichii* and Koklass Pheasant *Pucrasia macrolopha***
Names	Chiranjeevi Khanal[1*], Madan Sapkota[1], Deepak K.C[1], Bhuwan Singh Bist[2], Prabhat Kiran Bhattarai[3]
Addresses	1. Ministry of Forest and Environment, Lumbini Province, Nepal 2. The School of Forestry and Natural Resource Management, Kritipur, Nepal 3. Institute of Forestry, Tribhuvan University Nepal
Abstract	Pheasants are large in body size and ground dwelling bird species. The males are often with brightly colored plumage and inhabit in diverse habitats in the tropical and temperate forests of Asia and Africa. In Nepal eight species of pheasants are recorded among which the Constitution of Nepal has declared the Himalayan Monal as a national bird, while Cheer Pheasant, Himalayan Monal and Satyr Tragopan are protected species listed under National Parks and Wildlife Conservation Act, 1973. In Nepal very little information is available on ecology and population status on pheasants among the scientific and the conservation fraternity. We did a study on pheasants using opportunistic observations method and camera trapping in different landscape of Pyuthan district. This paper presents the recent records of six species of pheasants: Common Peafowl *Pavo cristatus*, Red Junglefowl *Gallus gallus*, Himalayan Monal *Lophophorus impejanus*, Cheer Pheasant *Catreus wallichii*, Koklass Pheasant *Pucrasia macrolopha*, and Kalij Pheasant *Lophura leucomelanos* from Pyuthan, one of the unexplored areas in terms of ornithological research in western midhills of Nepal. An unusual record of a single adult Indian peafowl was made at the elevation of 3196m. The forest of Pyuthan was found very important site for pheasants but are under high threats like hunting and forest fire. This area should be emphasized for conservation of biodiversity and further surveys would help to clarify pheasant status from the western midhills of Nepal.

ABSTRACT:

TITLE	**Predicting potential distribution of Cheer Pheasant *Catreus wallichii* in Pakistan Himalaya**
Names	Muhammad Kabir[1] and Muhammad Naeem Awan[2]
Addresses	1. Wildlife Ecology Lab| University Of Haripur, Khyber Pakhtun khawa. Pakistan kabir_ajk@hotmail.com 2. World Pheasant Association, Pakistan , 216, Upper Mall, Lahore Pakistan.
Abstract	Habitat suitability modelling and identification of potential habitat are valuable information for predicting suitable habitat and describing the occurrence of species. Cheer Pheasant, Catreus wallichii, an endemic to the Western Himalaya, is categorized as vulnerable by IUCN. The species is further legally protected in Pakistan. Current occurrence status of cheer pheasant remains unknown in Pakistan, subsequently conservation struggles for the species is thwarted by lack of scientific data. This study intended to predict suitable habitat of species in Pakistan. Climate, landcover, topographic, anthropogenic variable and presence points were used to develop species distribution modelling (SDM). Our model showed high levels of predictive performances as seen from the values of the area under curve (0.971±0.002). Temperature, NDVI, distance to settlements and aspects were the key variables in predicting species distribution. The SDM predicted ca. 37 km^2 of areas suitable for Cheer Pheasant in Pakistan, with major part fall in Azad Jammu & Kashmir (AJ&K) and Khyber Pakhtunkhwa (KP). The habitat highlighted in AJK is well documented and explored but suspected range in KP province need to be explored for baseline data of species. The species distribution model can inform future management policies by facilitating conservation agencies detect important conservation areas.

ABSTRACT:

TITLE	**From rediscovery to population expansion: Importance of Safe Breeding Zones in Cheer Conservation in Machiara National Park, Pakistan**
Names	Muhammad Naeem Awan
Addresses	World Pheasant Association, Pakistan 216, Upper Mall, Lahore Pakistan. Email. ajkwildlife@gmail.com
Abstract	Machiara National Park, Pakistan, is formerly well known for its Cheer population but no records of the species have been made since 1986 and considered as locally Extirpated from park area. We conducted first ever scientifically planned surveys and confirmed species' rediscovery after almost four decades. In total, eight monitoring call count points were positioned in potential habitat and altitudinal range of the Cheer to confirm its presence/absence and estimate its abundance. Cheer was detected at seven out of eight plots during the survey. In total 34 birds were heard and two birds seen. Five Cheer pheasant nests were detected at four points during the survey. To help protect species and its breeding habitat, a long-term plan for its conservation was initiated though establishing safe breeding zones for Cheer within the park area. Four safe breeding zones were established for Cheer through communities-based conservation to ensure zero disturbance within the safe zone to provide undisturbed breeding grounds to the birds. Watchers were appointed for four months to monitor these safe zones whereas communities' representatives also took active part in the protection of safe zones. Safe breeding zones played an important role breeding success and population expansion of Cheer in the project area. Our monitoring surveys results showed very clear difference in population increase of Cheer in park area. During the most recent surveys, on average, a minimum of 7.3 birds were present per occupied survey plot whereas during previous survey Awan et al. (2019) recorded with an average, 4.9 birds per occupied survey plot. Cheer population is estimated to be about 375 individuals whereas these numbers were reported as 250 individuals (Awan et al.2019). This shows that conservation efforts resulted in population increase (50%) which is about addition of 125 individuals. New sites have been identified with Cheer presence further providing evidence of species expansion in other parts of the park area. So, success of conservation efforts through establishing and protecting safe breeding zones could be used in other parts of Cheer habitat for conservation purpose.

ABSTRACT:

TITLE	**Decline of Cheer Pheasant in Nepal: The Need for Conservation through Community Engagement**
Names	Hari Basnet[1], Laxman Prasad Paudyal[2], and Hem Sagar Baral[3]
Addresses	1 Nepalese Ornithological Union, Chabahil Kathmandu Nepal; 2 Shivapuri Nagarjun National Park, Panimuhan 44600, Kathmandu, Nepal; 3 Zoological Society of London, Nepal Office Nepal
Abstract	Cheer Pheasant *Catreus wallichii* is the only threatened pheasant species in Nepal that is globally and nationally important for conservation. Despite its significance, the species is a popular target for hunters, resulting in its population decline across Nepal. Records show that Cheer Pheasant has been found in four protected areas and 18 districts outside protected areas; however, it's status is unknown in 15 districts as these records are based on opportunistic sightings. Although there have been 18 small-scale Cheer Pheasant focused projects implemented in Nepal, 67% of these projects focussed only on three protected areas and primarily on population counts. A recent survey in the Dhorpatan Valley in Dhorpatan Hunting Reserve (largest known stronghold of Cheer Pheasant in Nepal) revealed 61% decline in the Cheer Pheasant population over the past decade, with an annual decline rate of 3.94% between 2003 and 2022. Informal interviews with locals outside protected areas also suggest that the species has disappeared from known locations where it was frequently observed. The main reasons for the decline are a lack of public awareness, and weak law enforcement, that have led to hunting, trapping, egg collection, and habitat destruction. To ensure long-term conservation of the Cheer Pheasant in Nepal, changing the behaviour of locals is critical. This can be achieved through a bottom-up approach, focusing on projects built from past success, evidence-based decision-making, and three-way partnership among top-down, bottom-up, and outside-in stakeholders.

ABSTRACT:

TITLE	**Population status and habitat assessment of Cheer Pheasant (*Catreus wallichii*) in Western Nepal**
Names	Chokhal Keshab
Addresses	Tribhuvan Multiple Campus, M7JM+798, TU Rd, Kirtipur 44618, Nepal keshabchokhal@gmail.com
Abstract	The Cheer Pheasant (*Catreus wallichii*) is a protected species found abundantly to the west of Kaligandaki River. This study was conducted in the Myagdi district located in the western part of Kaligandaki River from October 2016 to June 2017. Our aim was to assess the habitat and population status of Cheer Pheasant, using acoustic survey and quadrate methods. A total of 38 breeding individuals were estimated in 7 bird/km^2 density. The study also revealed that Cheer Pheasants showed a preference for exposure components of the habitat. They preferred moderately steep eastern slopes (10–35°) and steep southern slopes (35–67°) between 1800–2400 m elevations. Additionally low tree density and high herbs density showed a significant effect on the habitat choice of the species. Poaching and habitat destruction are the major threats in the study site, calling upon a strategic management plan for the long-term conservation of the Cheer Pheasant.

ABSTRACT:

TITLE	**POPULATION STATUS OF WHITE CRESTED KALIJ PHEASANT (*Lophura leucomelanos*) IN MARGALLAH HILLS NATIONAL PARK ISLAMABAD, PAKISTAN.**
Names	Sakhawat Ali[1]; Muhammad Saeed[1]; Abdul Hadi[1]; Mohibullah Naveed[1]; Ali Akhtar[2]; Muhammad Sajid Nadeem[2]; Tariq Mahmood[1]
Addresses	[1]Islamabad Wildlife Management Board, Ministry of Climate Change, Islamabad. [2] Department of Zoology Wildlife and Fisheries, PMAS-Arid Agriculture University, Rawalpindi.
Abstract	An understanding of population status is essential for the conservation and management of wildlife species. The objectives of the presents study are to estimate population of Kalij Pheasant in the Margallah Hills National Park. We conducted this study in Margallah Hills National Park from 2017 to 2021. Margallah Hills National Park is located in Islamabad (33°48' N and 73°10' E) capital city of Pakistan. We selected 15 sites for data collection based on habitats types (sub-tropical chir pine forest, Scrub forest, degraded land, and grass land). We used line transect methods for the surveys of Kalij Pheasants. Each transect was 2 km in length and variable width according topography of habitat and will be replicated by walking 5 times in the morning hours (6.00 am-9.00 am) by two observers. All transects were marked with GPS Coordinates and bearing of the transect using the compass. For each detection the time, species, group size, group composition and sex of the individuals were recorded. To determine the activity pattern camera traps, photographic record and occasional encounter data were used. We recorded 936 individuals of Kalij Pheasant including 443 male, 376 female and 117 Juvenile from MHNP during four years. We estimated a total of individuals (187.2+40.7) including male (88.6 +16.88), female (75.2+18.4) and Juvenile (23.4+5.6) from the area. Kalij pheasant has not been extensively studied in their natural habitat and their population is decreasing. This study will provide baseline information on population status of Kalij Pheasant that will help for long-term conservation of the species.

ABSTRACT:

TITLE	**Population status and distribution of swamp francolin (Francolinus gularis) in Nepal**
Names	Paras Bikram Singh[1,2], Laxman Poudyal[3], Pawan Rai[1]
Addresses	[1]Biodiversity Conservation Society (BioCoS) Nepal, Bagdol, Lalitpur, Nepal [2]Guangdong Key Laboratory of Animal Conservation and Resource Utilization, Institute of Zoology, Guangdong Academy of Science, Guangzhou 510260, China [3]Department of National Park and Wildlife Conservation, Babarmahal, Kathmandu, Nepal
Abstract	Swamp Francolin (*Francolinus gularis*), endemic to the Indian Subcontinent, is 'Vulnerable' due to rapid decline in population caused by habitat degradation and loss. In Nepal, potential swamp francolin habitats (wet grasslands) are found in the lowland Terai where there are six protected areas. The francolin population was monitored every 3 – 5 years from 1998, but not for over a decade. We aimed to monitor the population in Suklaphanta National Park (SNP) and Koshi Tappu Wildlife Reserve (KTWR) using point counts, and presence / absence surveys in other low-lying protected areas through group discussion with nature guides and researchers. A biophysical survey was carried out to collect vegetation data to determine its habitat utilization. In KTWR, an average of 104 birds were counted at 27 points, while 52 birds were counted in SNP at 21 points. The density was 21 pairs km^{-2} in KTWR and 14 pairs km^{-2} in SNP. Swamp francolin is absent from other protected areas, such as Chitwan, Parsa, Banke and Bardia National Parks. Swamp Francolin mostly used wet grassland and associated habitat dominated by grass species such as S*accharum spontaneum* and *Phragmites karka*. The population tends to be higher in the areas with abundent amount of dungs. Nevertheless overgrazing in grasslands deteriorating their habitat along with drying of water bodies would be a major threat. Therefore, it is recommended to regularly monitor the species, prepare a Grassland Management Action Plan, conduct research on various aspects of Swamp Francolin ecology and its limiting factors, raise conservation awareness among local people, develop and implement Swamp Francolin Conservation Action Plan, include Swamp Francolin on protected bird list of Nepal.

ABSTRACT:

TITLE	**SPRING SURVEY OF GALLIFORMES IN PIPAR AND SANTEL IN 2022, ANNAPURNA CONSERVATION AREA, CENTRAL NEPAL**
Names	Laxman Prasad Poudyal[1], Hari Basnet[2], Suraj Baral[3]
Addresses	1 Department of National Parks and Wildlife Conservation, Babarmahal, Kathmandu, Nepal; 2,3 Nepalese Ornithological Union, Ganesh Marg, 44600, Chabahil Kathmandu, Nepal.
Abstract	Pipar, occurring within the boundary of Annapurna Conservation Area, holds five of eight pheasant species of Nepal. With the continuous monitoring record since early seventies, it is now probably one of the longest wildlife monitoring sites across Nepal suggesting a stable population of pheasants found within the area. The Galliformes of Pipar have been surveyed 13 times between 1979 and 2019. The nearby area of Santel was surveyed five times between 2001 and 2017 using comparable methods. In continuance of the long-term monitoring at Pipar and to provide a sixth count at Santel, dawn call counts were conducted in both areas, using the same survey points as previous surveys, between 17th and 28th May 2022. The aim of the surveys was to obtain information on the pheasants and partridges that could be used to infer the status of these populations and especially whether or not they had changed since the last surveys. 17 Satyr Tragopan, 5 Koklass Pheasant and 7 Common Hill Partridge were recorded by dawn call count at six listening stations at Pipar. Likewise, 17 Satyr Tragopan, three Koklass Pheasant and 17 Hill Partridge were recorded by the same method at seven listening stations at Santel. Buffalo and sheep grazing, Caterpillar fungus Ophiocordyceps sinensis, medicinal plants and bamboo shoots collections, firewood and timber materials collections, and very newly introduced tourist trekking route through the Pipar forests were the human pressure in the areas. Illegal killing by using snares and traps were the major threats to the Galliformes species.

TITLE	**Distribution of pheasants in Guangdong and their population estimation in Nanling National Park (China)**
Names	Fasheng Zou[1], Min Zhang[1], Zhengzhen Wang[1], Daojian Chen[1]
Addresses	1. Institute of Zoology, Guangdong Academy of Sciences, 105 Xingang West Road, Haizhu District, Guangzhou, Guangdong Province, China.
Abstract	Guangdong Province is the southernmost province of China, encompassing an area of 179,800 square kilometers. In the hope of contributing to the conservation of bird resources in Guangdong, this paper analyzed the distribution and data status of Phasianidae birds in Guangdong and estimated the population numbers of 5 species of pheasants in Nanling National Park, based on a bird survey in 10 forest nature reserves (including 7 national and 3 provincial) within Guangdong Province. There are 11 Phasianidae species in Guangdong, among which Koklass Pheasant (*Pucrasia macrolopha*) and Elliot's Pheasant (*Syrmaticus ellioti*) have not been recorded in recent decades, especially not with infrared camera traps, leaving only historical records. In our study, 5 of the rest 9 pheasant species were photographed using infrared camera traps, 3 were observed and only Blue-breasted Quail (*Synoicus chinensis*) was not detected. Ring-necked Pheasant (*Phasianus colchicus*), Chinese Bamboo-Partridge (*Bambusicola thoracicus*), Japanese Quail (*Coturnix* japonica), and Chinese Francolin (*Francolinus pintadeanus*) are widely distributed in Guangdong. Cabot's Tragopan (*Tragopan caboti*), Silver Pheasant (*Lophura nycthemera*) and White-necklaced Partridge (*Arborophila gingica*) are mainly distributed in the forests of northern and eastern Guangdong, while Red Junglefowl (*Gallus gallus*) is mainly distributed in the forests of western Guangdong. According to our estimation of pheasant population sizes, there are 5 367 Silver Pheasants, 2 532 Chinese Bamboo-Partridges, 1 566 Ring-necked Pheasants, 776 White-necklaced Partridges and 270 Cabot's Tragopans in the Nanling National Park.

ABSTRACT:

TITLE	**WESTERN HAZEL GROUSE – THE END**
Names	Simon Bruslund and Markus Handschuh
Addresses	
Abstract	The Western Hazel Grouse (*Tetrastes bonasia rhenana*) is a morphologically and genetically distinct taxon. It naturally occurs mainly in deciduous forests without conifers, which is different from other subspecies' ecology. It should be considered a valid taxon or at least regarded as a distinct conservation unit endemic to western Europe. About 100 years ago, its range had already contracted, but it was still widespread and locally common in low mountain ranges across western Central Europe. Today, four range states (France, Germany, Luxembourg, Belgium) carry responsibility for its survival. There have been recent reports in all four range states, but of 200 reports in Germany none could be verified. Only sightings in the Vosges Mountains, France are verifiable. We suggest that the taxon is now globally functionally extinct. We propose that all conservation attempts failed to develop sufficient stakeholder group commitments, and that denial and/or deliberate disinformation still exists on the species population status. We conclude that the range states have failed their responsibility and due diligence for this protected taxon in the European Union. We also propose that a "ghost-bird-effect", i.e., reports of much desired observations of a rare and cryptic bird species in a dense forested environment that can easily be confused with other species, has contributed considerably to the collective failure in recognizing the gravity of the population status which highlights some of the risks of relying on citizen data.

ABSTRACT:

TITLE	**SOME ECOLOGICAL NOTES OF THE ENDANGERED JAVAN GREEN PEAFOWL FROM MT. CIKURAY, GARUT, WEST JAVA, INDONESIA**
Names	Asep Koswara [1,2], Firmann Aldy[1,3], Dewi M. Prawiradilaga[4,5]
Addresses	1. Faculty of Science and Technology, Islamic University of As Syafi'iyah Jakarta; 2.Yayasan Kausa Resiliensi Indonesia (YKRI); 3. Current address: Konservasi Rimba Indonesia; 4. Research Center for Biology LIPI; 5. Current address: Research Center for Biosystematics and Evolution BRIN.
Abstract	There has been a lack of report regarding the presence of the Javan Green Peafowl (*Pavo muticus* Linnaeus, 1766) at Mt. Cikuray, Garut, West Java. A preliminary study on its ecology was conducted at Dayeuhmanggung Tea Plantation and production forest of Mt. Cikuray from June to August 2006. Data collection was conducted by observations and interviews. Direct observations were using binocular; monocular and SLR Nikon camera F55. Interviews were done to 50 local people who lived and had activities in the area. The results showed that the Javan Green Peafowl was recorded between 1250 to 1400 m altitude in 9 localities. In total, there was 16 individuals consisted of 4 adult females; 10 adult males and 2 sub adult males. They used tea plantation for foraging and occupied production forest for roosting and resting. Daily activities usually occurred from 7.30 to 11.00 hours in the morning and between 13.00 and 17.00 hours in the afternoon. The tree species used for roosting and sleeping included 'saninten' (*Castanopsis argentea*), 'puspa' (*Schima wallichi*), 'kisireum' (*Pterocarpus* sp.), 'kuray' (*Nypa fruticans*), 'kayu afrika' (*Maeopsis emini*), 'jarahanak' (*Eusideroxylon* sp.) and 'hurunangka' (*Elmerrillia* sp.). Although the Javan Green Peafowl is protected, it was heavily threatened by illegal poaching and habitat loss. Poaching was mostly done by people who came from outside the area and habitat loss was caused by conversion of tea plantation into agricultural land. So far, the impact of those threats on the Javan Green Peafowl was not known. Therefore, it is urgent to resurvey the area to assess the status of its population. The involvement of local communities as well as as the local government are important to save the population of endangered Javan Green Peafowl at Mt. Cikuray.

ABSTRACT:

TITLE	**ARE PEAFOWLS (*PAVO CRISTATUS* AND *PAVO MUTICUS*) EXTINCT FROM BANGLADESH? Are Peafowls (Pavo cristatus and Pavo muticus) extinct from Bangladesh?**
Names	Mohammod Foysal
Addresses	Ekuria, Paschimpara, Altaf Beparir Bari, South Keraniganj, Dhaka-1311, Bangladesh.
Abstract	The Blue (*Pavo cristatus*) and Green Peafowl (*Pavo muticus*) were formerly resident in Bangladesh. Blue Peafowl occurred in the deciduous forests and dry areas of central, northwest and northern Bangladesh. The Green Peafowl occurred in the Chittagong hill tracts of southeast Bangladesh. The updated National Red List (published in 2015) declared extinction of both species from the wild. Last record of Blue Peafowl from the deciduous forest of central Bangladesh was in early 1980s. Green Peafowl were recorded in the 19th century and early 20th century. Between 2013 and 2022 there was a handful of sightings of Blue Peafowl from northern Bangladesh, but no recent sighting recorded of Green Peafowl. An interview survey conducted in Chittagong hill tracts and two respondents claimed encounter of Green Peafowl in the past. Rediscovery of Green Peafowl in 2007 from the Indian bordering district Mizoram kept the possibility alive for the transboundary population. To my knowledge no dedicated systematic survey never been conducted for Peafowls in Bangladesh. Well-planned dedicated survey is needed in the apparently suitable habitats to determine the latest status of these iconic species.

ABSTRACT:

TITLE	**A study on the micro habitat requirement of Hill Partridge (*Arborophila torqueola*)**
Names	Avantika Thapa[1,2], Pujan Kumar Pradhan[1], Mukesh Thakur[1], Kailash Chandra[1], Lalit Kumar Sharma[1]
Addresses	1. Zoological Survey of India, Kolkata, India 2. University of Calcutta, Kolkata, India
Abstract	Ground-dwelling birds are one of the most vulnerable taxa. These birds are also under-studied and therefore constitute a lesser-known group of birds. Understanding their patterns of resource selection and their relationship with the composites of their habitat is a prerequisite for ensuring the effectiveness of future conservation efforts. Hill partridge (*Arborophila torqueola*) are distributed over a vast range throughout the Himalayas to South-East Asia but knowledge about their micro-habitat is provided by only a single short term study from China. Their skulking behaviour and inconspicuous habitat type make it extremely challenging to study them closely. However, with the advent of camera traps, it was possible to observe them meticulously during this study. We attempted to discern the patterns of their habitat selection, and their relationship with various vegetative and non-vegetative components. This study revealed a complex pattern of habitat selection by hill partridges. They preferred habitat with a greater canopy and bamboo cover. They inhabited forests dominated by oak trees in combination with other trees. They were virtually absent from the sites that showed higher percentages of bare ground.

ABSTRACT:

TITLE	**Ecology and distribution of the palawan peacock-pheasant in a lowland forest of Victoria-Anepa'an mountain range, Palawan, Philippines**
Names	Lemuel Pabico[1], Vicente Abendan Jr. [1], Brian Ong[1], Mark Quinit[1], Nerben Salazar[2], Indira Dayang Lacerna-Widmann[1], and Peter Widmann[1]
Addresses	1 Katala Foundation Incorporated, Puerto Princesa City, Palawan, Philippines; 2 Palawan Council for Sustainable Development Staff, Puerto Princesa City, Palawan, Philippines
Abstract	The Palawan Peacock-Pheasant *Polyplectron napoleonis* Lesson 1831, is an endemic and threatened galliform restricted to the Palawan faunal region. It is a lowland forest species whose population is declining due to habitat loss and hunting. In this study, we conducted a camera-trapping survey to assess the ecology and distribution of *P. napoleonis* in a lowland tropical rainforest in Victoria-Anepa'an Mountain Range (VAMR), a biodiversity hotspot of Palawan Island. Thirty camera traps were set in the lowland forest of Barangay Montible and Inagawan, Puerto Princesa City from November 2020 to February 2021. After 2,265 camera days, we recorded a total of 204 capture events of the species from 20 camera traps with elevations ranging from 128 to 525 m asl. The relative abundance index, naïve occupancy, and single-species occupancy estimates were 9.01, 0.74, and 0.88±0.09 respectively. Daytime activity was recorded from 6:00 to 17:00 in which one to three individuals (usually one male and two females) were observed. We also documented for the first time in the wild its mating display, as well as its interaction with other wildlife species like the Palawan Bearded Pig and Red Junglefowl. The results of the study highlight the importance of VAMR in the protection and conservation of the species, as it currently is an unprotected, open-access area for illegal activities. The study can aid in assessing the conservation status of the Palawan Peacock Pheasant and provide additional information that can be used for its protection.

ABSTRACT:

TITLE	**NESTING SUCCESS AND POTENTIAL NEST PREDATORS OF THE RED JUNGLEFOWL (*Gallus gallus jabouillei*) BASED ON CAMERA TRAPS AND ARTIFICIAL NEST EXPERIMENTS**
Names	Xiaodong Rao[1,2 *], Jialing Li[3,4], Binbin He[5], Hesheng Wang[6], Guanmian Wu[1], Tiantian Teng[1] and Qingping Ling[1]
Addresses	1 College of Forestry, Hainan University, Haikou, China; 2 Intelligent Forestry Key Laboratory of Haikou City, College of Forestry, Hainan University, Haikou, China; 3 College of Ecology and Environment, Hainan University, Haikou, China; 4 Hainan Tropical Rain Forest National Park Service Wuzhishan Branch, Wuzhishan, China; 5 Hainan Datian National Nature Reserve Administration, Dongfang, China; 6 Hainan Bangxi Provincial Nature Reserve Management Station, Bangxi, China
Abstract	Breeding success is an important factor determining fecundity with nest predation being the main factor limiting avian breeding success. Understanding of nest predation and its influencing factors are highly significant to explore the dynamics of bird populations and developing appropriate conservation strategies. In two breeding seasons of the year 2020 and 2021, natural nests of the red junglefowl (*Gallus gallus jabouillei*) were systematically searched and monitored using infrared camera, in two nature reserves (Datian and Bangxi) of tropical Hainan Island, China. Results showed that breeding season of the red junglefowl is mainly from March to July, with April being the breeding peak. The clutch size was 5.15 ± 1.28 (n=13), and nesting success of natural nests was 31.2%, with nest predation accounting for 45.4% of nest failure. Artificial nest experiments showed that predation rates of artificial nests were 25% (Datian, 2020), 6.67% (Datian, 2021), and 0% (Bangxi, 2020). Rodents, reptiles, and coucals are the main nest predators of red junglefowls, while activities of Hainan Eld's deers (*Panolia siamensis*) may interfere with the reproduction of red junglefowls. We suggest that the conservation management policies should consider the impacts on junglefowls' breeding success when reconstructing the suitable habitat of the Hainan Eld's deer.

ABSTRACT:

TITLE	**Habitat Suitability Modelling of Western Himalayan Pheasants in Pakistan: An Implication for Monitoring and Conservation**
Names	Muhammad Azhar Jameel[1], Muhammad Sajid Nadeem[1], Muhammad Naeem Awan[2]
Addresses	1 Department of Zoology, PMAS-Arid Agriculture University, Rawalpindi 46300, Pakistan; 2 World Pheasant Association, Pakistan 216, Upper Mall, Lahore Pakistan.
Abstract	Quantification of geographical range and suitable habitat can help in better management and conservation of wildlife species. This study aims to investigate the habitat suitability of Western Tragopan (*Tragopan melanocephalus*), Himalayan Monal (*Lophophorus impejanus*), and Koklass (*Pucrasia macrolopha*) in western Himalayas and Hindukush, Pakistan. The habitat suitability is quantified by using the MaxEnt model displayed excellent predictive performance showing a solid prediction of the probability distribution. The Area Under Cover values quantified for the replicate runs were > 0.9 (±0.001) for the concerned species, which falls among the highest in the published models. The climatic parameters including temperature and precipitation of the warmest quarter (bio_18) contributed the maximum 30.9%, 21.3%, and 23.5%, followed by annual rainfall (bio_12) for habitat prediction of Tragopan, Monal, and Koklass respectively. The topographical variables, distance to settlements, slope and altitude contributed significantly, while the biophysical (NDVI) and mosaic land cover also contributed to predicting the suitable habitat of the pheasants. Demarcated the suitable habitat were 314.4, 844.4, and 611.5 sq. km, moderately suitable habitat was 1919.42, 2819.42, and 2551.3 sq. km for Tragopan, Monal, and Koklass respectively, and the remaining habitat from the total (7656.91 sq. km) is not suitable. The predicted suitable habitat is degraded by human interference rapidly face, the study proposed that the predicted habitat declared as a protected area needs effective management for law enforcement agencies to reduce further human impacts and address the conservation directives to provide opportunities for major studies at a molecular level.

ABSTRACT:

TITLE	**Parent raising of Galliformes at Chester Zoo**
Names	Jonathan Beilby[1], Andrew Owen[1]
Addresses	[1]The North of England Zoological Society, Caughall Road, Chester, Cheshire, United Kingdom CH2 1LH
Abstract	Chester Zoo has a range of experiences in parent-raising a variety of Galliformes, from Tragopans and Peacock-pheasants to Great Argus, Partridges and Red-billed curassows. A mix of artificial and parent incubation is used, with males, females or even siblings rearing the chicks.

ABSTRACT:

TITLE	**Angkor Centre for Conservation of Biodiversity: Green Peafowl Conservation Challenges and Successes**
Names	Christel Griffioen[1], Jason Miller[1], Maria Blümm Rexach[1], Philipp Wagner[1,2]
Addresses	[1] Angkor Centre for Conservation of Biodiversity, Phnom Kulen National Park, PO Box 93054, Siem Reap Province, Kingdom of Cambodia [2] Allwetterzoo Münster, Sentruper Straße 315, D-48161 Münster, Germany [cgriffioen@accb-cambodia.org]
Abstract	The Green Peafowl (*Pavo muticus*) has a large historical range, but the species is rapidly declining and remaining populations are severely fragmented. Cambodia is thought to be a stronghold for the Indochinese subspecies (*P. m. imperator*) with key populations in protected areas in the north and east of the country. The Angkor Centre for Conservation of Biodiversity (ACCB) is the only conservation centre in Cambodia with an *ex situ* management program for Green Peafowl. This program is established with individuals obtained through wildlife rescue and rehabilitation efforts. We will review what has and has not worked regarding captive husbandry with subsequent captive breeding for rewilding projects.

TITLE	**CONSERVATION AND RESEARCH STATUS OF GALLIFORMES IN NEPAL: AN OVERVIEW**
Names	Hem Sagar Baral[1], Neelam Tripathi[2], Hari Basnet[3], Paras Bikram Singh[4] Chiranjeevi Khanal[5]and Laxman Prasad Poudyal[6]
Addresses	1 Himalayan Nature, PO Box 10918, Kathmandu, Nepal; 2 Asia Network for Sustainable Agriculture and Bioresources, Kathmandu, Nepal 3 Nepalese Ornithological Union, Lazimpat, Kathmandu, Nepal; 4 Biodiversity Conservation Society of Nepal; 5 Ministry of Forest and Environment, Lumbini Province, Nepal and 6 Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.
Abstract	Nepal is home to 22 species of galliforms, two of which are globally threatened. The national bird of Nepal, Danphe, along with Cheer Pheasant and Satyr Tragopan, are protected species under Nepal's wildlife act. These species hold cultural significance and are often featured in poems, songs, and Nepali literature. Most studies have focused on globally threatened species such as Cheer Pheasant and Swamp Francolin. While these have contributed to the understanding and conservation significantly, research efforts that have primarily concentrated on globally threatened species undermine the threats to nationally threatened species. There is a need for increased research and conservation efforts for nationally threatened species, such as Jungle Bush Quail, and other understudied species like Asian Blue Quail and Grey Francolin. Raising public awareness about the hunting and conservation of pheasants and interventions such as media coverage are essential. Conservation threats to galliforms include illegal hunting, trapping, deforestation, and forest fires. To address these multitude of threats, a Pheasant Conservation Action Plan for Nepal 2019-2023 has been developed with four key objectives: advancing understanding of pheasant ecology and threats, implementing conservation measures, improving local people's livelihoods, and strengthening partnerships and capacity-building efforts. The importance of protected areas seem to be greater for galliforms compared to other bird groups. Three protected areas are cited here for the density mapping of galliforms in Nepal proving their importance. We also discuss the inputs and achievements in bird conservation in Nepal, highlighting the need for balanced funding across different bird species.

ABSTRACT:

TITLE	**STENGTHENING PROTECTED AREAS FOR BIODIVERSITY OF THREATENED GALLIFORMES IN CHINA**
Names	Hongyan Yao[1,3], Pengcheng Wang[2], Nan Wang[3], Jiliang Xu[3*] and Zhengwang Zhang[1*]
Addresses	1 Ministry of Education Key Laboratory for Biodiversity Science and Ecological Engineering, College of Life Sciences, Beijing Normal University, Beijing 100875, China; 2 Jiangsu Key Laboratory for Biodiversity and Biotechnology, College of Life Sciences, Nanjing Normal
Abstract	Protecting threatened species and their habitats are important components of global biodiversity conservation. Comprehensive biodiversity conservation necessitates consideration of multiple indexes of diversity and how to maximize the value of limited resources. In this research, we aim to reveal multi-biodiversity patterns and identified priority areas for conserving threatened Galliformes in China. We chose 18 threatened and 21 endemic species of Galliformes in China and analyzed taxonomic, functional and phylogenetic diversity by integrating species distribution maps, functional traits and phylogenies based on 50 km □ 50 km grid cells. We overlaid the three dimensions biodiversity onto the National Nature Reserves (NNRs) to assess conservation gaps and effectiveness. The results indicate ranges of the northern Hengduan Mountains, the Nanling Mountains, Taiwan island, and the region from Qinling Mountains to Wushan are the hotspots of Chinese Gallifomes. Only about 5% of the total areas of respectively taxonomic, functional and phylogenetic diversity of threatened and endemic Galliformes in China are located in NNRs, while a large proportion of these hotpots are not protected effectively. Therefore, we suggest strengthening conservation and management of these priority areas for saving threatened species of Galliformes in China.

ABSTRACT:

TITLE	**The conservation status and outlook for endangered pheasant species in China**
Names	Zhang Jing[1]
Addresses	1 Beijing Zoological Garden, Beijing, 100044 China zhangjing0468@126.com
Abstract	Captive breeding programmes can sometimes be an important part of rare species conservation, so zoos and breeding centers can play an important role in the ex situ conservation of rare pheasants. China has 27 pheasant species (Phasianidae), the largest number of any country in the world. There are more than 50 species of Galliformes kept in Chinese zoos and breeding centers, 38 of which have been bred successfully, including 11 endemic Chinese pheasant species. Since its opening to the public in 1955, Beijing Zoo has kept more than 40 species of Galliformes, which includes 30 species of pheasants. 28 pheasant species have been bred successfully, which includes 9 Chinese endemics. Relevant studies have been carried out on rare pheasants such as Cabot's Tragopan, Blood Pheasant, Chinese Monal, Brown Eared-Pheasant and Tibetan Eared-Pheasant. This paper evaluates the in-situ and ex-situ status of pheasant in China and also collates the experience of breeding endangered pheasant species historically in Beijing Zoo over the past 30 years. It then uses these data to recommend captive breeding programmes which might be considered for possible future conservation breeding projects for pheasants in China. These projects could have the potential to reinforce wild populations where such a need has been identified.

ABSTRACT:

TITLE	**Integrating Ex-Situ and In-Situ Conservation Strategies: The Success Story of Green Peafowl Conservation through Generational Development at Jagat Satwa Nusantara TMII**
Names	Ady Kristanto[1], Drh. M. Piter Kombo[1]
Addresses	Taman Burung, Jagat Satwa Nusantara - Taman Mini Indonesia Indah, Cipayung, Jakarta Timur, DKI Jakarta, Indonesia 13820
Abstract	Over the past few decades, the Jagat Satwa Nusantara Taman Mini Indonesia Indah (TMII) has played a central role in the conservation of the Green Peafowl, a species nearing extinction, through sustained ex-situ conservation efforts spanning over four decades, enabling the successful development of four generations of Green Peafowls. The key to this success lies in the continuous monitoring strategies and controlled breeding techniques that have been implemented, culminating in the successful release of individuals from the third and fourth generations into their native habitat in Ujung Kulon National Park, marking an effective integration of ex-situ and in-situ conservation strategies. The life of these newest generations of Green Peafowls in their natural habitat demonstrates better adaptation and higher survival rates, proving the effectiveness of TMII's approach to conservation. This strategy, which also involves controlled human interventions such as animal health monitoring and pre-release habitat adaptation training, has overcome various challenges and barriers, creating a path for long-term conservation success. These findings underline that the synergy between ex-situ and in-situ conservation approaches, supporting the regeneration of the Green Peafowl population, can be key to creating a balanced and sustainable ecosystem for this species, paving the way for more innovative and effective future conservation strategies, ensuring the species' survival for generations to come.

ABSTRACT:

TITLE	**Future Habitat Suitability and Climate Change Impacts on Western Tragopan (*Tragopan melanocephalus*) in Pakistan.**
Names	Ghaznain Iqbal[1*], Saleem Ullah[1] and Muhammad Naeem Awan[2]
Addresses	1. Department of Space Sciences, Institute of Space Technology, Islamabad 44000, Pakistan 2. World Pheasant Association, 216 upper Mall, Lahore, Pakistan. *Email. ghaznainiqbal@gmail.com
Abstract	Pakistan is the 5th most vulnerable country regarding impacts of climate change whereas it is home of wide range of biological diversity including many IUCN red-listed species. Climate change could result in the extinction of more than a million terrestrial species in the next 50 Years. Across India, climate change is anticipated to adversely affect Western Tragopan habitats, whereas in Pakistan, impacts of climate change might also be effecting changes in habitat and behavior of the species. The future habitat suitability of the Western Tragopan (*Tragopan melanocephalus*) under climate change was constructed using Maximum Entropy Model (Maxent) with validated occurrence records of Western Tragopan. Different Environmental Variables were used to construct species distribution models under the influence of climate change Coupled Model Intercomparison Project Phase 6 (CMIP6), whereas all Climate scenarios were considered from (2021-2100). The most influential variables that may be linked to habitat suitability of Tragopan are primarily determined by BIO18 which is the Precipitation of the Warmest Quarter and topographic variables (elevation, solar radiation). Western Tragopan's most Suitable Habitat would change in Future by around 35% alongside altitudinal shifts in Pakistan. This study inform policymaker for formulating future strategies and planning for conservation and management of this red listed species under climate change scenario in Pakistan.

ABSTRACT:

TITLE	**The scale of pheasant habitat research in the North American Great Plains**
Names	Megan Baldissara, Daniel Uden and Andrew Little
Addresses	Department of Natural Resources, University of Nebraska – Lincoln, 3310 Holdrege Street, Lincoln NE, 68583–0962 (USA)
Abstract	Comprehending wildlife–habitat relationships at multiple scales is important for ecological restoration because species select their habitat at multiple thematic, spatial, and temporal scales. Often, however, studies do not adopt a multi-scale framework or species-relevant scales to research such a relationship, leading to erroneous conclusions when extrapolating results to different scales. This is the case with ring-necked pheasants (*Phasianus colchicus*) which has led to habitat restoration for this species in North America only being partially successful. Remote sensing landcover products are great at researching pheasant habitat relationships at multiple scales relevant to this avian, however, they have trade-offs in their thematic, spatial, and temporal resolutions. Understanding the current knowledge and gaps on pheasant habitat relationships at multiple scales and the best landcover products to study these relationships will be essential to implementing relevant pheasant habitat management. This review aims to do so by reviewing the literature on pheasant–habitat relationships in Nebraska, U.S.A. and bordering states and identifying the scale of data sources and habitat variables. It is expected that habitat selection will differ across scales, with most studies only having a coarse resolution understanding of this selection. High-resolution data products will be needed for a fuller picture of pheasant habitat requirements, which may require the development of new datasets with remote sensing and field data. This review will be fundamental for improving the understanding of the scale of habitat variables in pheasant studies, which can contribute to continuing pheasant habitat management.

TITLE	**CONSERVATION STATUS OF GERMAIN'S PEACOCK-PHEASANT (*Polyplectron germaini*) ASSESSED USING CAMERA-TRAPPING IN CAT TIEN NATIONAL PARK, VIETNAM**
Names	Nguyễn Trần Vỹ[1]; Nguyễn Bá Hòa[2]
Addresses	1 Institute of Tropical Biology, Vietnam Academy of Science and Technology; 2 Tan Thanh Dong Secondary school, Cu Chi District, Ho Chi Minh City, Vietnam
Abstract	Vietnam is among those countries harbouring the highest diversity in the world. However, biodiversity in Vietnam, including Galliform species is still threatened due to habitat loss and hunting pressure. Lack of scientific understanding of the potential factors influencing occurrence of many species is challenging for conservation. Therefore, it is essential to have practical action plans to maintain the remaining biodiversity in Vietnam. To improve understanding of the ecology of, and threats to, Germain's Peacock-pheasant, and to develop conservation interventions to save the species from local extirpation, a camera-trap survey was implemented in Cat Tien National Park in 2020 (South sector) with elevation range from 80 – 320 m. Occupancy model was used to investigate presence of the species and potential factors influencing the occurrence of the species in the study area. Our results showed that the probability of occurrence of the species at locations within the park was relative high at 0.68 (CI 95% 0.51–0.81) and detection probability was relative low at 0.26 (CI 95% 0.22–0.30). The best models consistently suggested that the abundance of the species was high in the areas closed to water sources (β = - 0.92) and less natural enemies (β = - 0.88). The average relative abundance (RAI) of the species in the study area was low, RAI = 4.96. This research provided the first quantitative information of status and potential factors influencing occurrence, which is particularly important for developing practical actions to protect the species in the future.

ABSTRACT:

TITLE	**A global catalogue of fossil Galliformes**
Name	Geoffrey Davison
Address	National Parks Board, 1 Cluny Road, SINGAPORE 259569
Abstract	The last published catalogue of all fossil Galliformes listed 81 named extinct taxa, and fossils of 52 taxa still living, making a total of 133 (Brodkorb, 1967). Compilation from more recent literature now increases the list to 161 named extinct taxa and 21 unnamed taxa (total 182), and fossils of 97 taxa still living, making a total of 279 (doubled since 1967). Several fossil genera in the period between 70 and 65 million years ago (*Vegavis, Conflicto, Asteriornis*) are thought to be close to the divergence between Galliformes and Anseriformes. Although several extant families (Megapodiidae, Cracidae) might have diverged prior to the K-Pg impact event at 66 Mya (million years ago), the four extinct and five extant families are only known definitively from the post-impact period. Time horizons for all extinct forms show low diversity before the Eocene (ca. 55 Mya) and a large blossoming of diversity from the Miocene onwards.

ABSTRACT:

TITLE	**Inter-glacial isolation caused divergence of cold-adapted species: the case of the snow partridge**
Names	Hongyan YAO[1,#], Yanan ZHANG[1,#], Zhen WANG[2,3], Gaoming LIU[4],Quan RAN[4,5], Zhengwang ZHANG [2], Keji GUO[6], Ailin YANG[7], Nan WANG[1,*],and Pengcheng WANG [2,4,*]
Addresses	[1] School of Ecology and Nature Conservation, Beijing Forestry University, Beijing, 100083, China, [2] Ministry of Education Key Laboratory for Biodiversity Science and Ecological Engineering, College of Life Sciences, Beijing Normal University, Beijing 100875, China, [3] Hangzhou Xi'ao Environmental Science Technique Company Limited, Zhejiang 310011, China, [4] Key Laboratory of Animal Ecology and Conservation Biology, Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, China, [5] Yancheng Wetland and World Natural Heritage Conservation and Management Center, Jiangsu 224000, China, [6] Central South Inventory and Planning Institute of National Forestry and Grassland Administration, Changsha 410014, China, [7] Chinese Institute for Brain Research, Beijing 102206, China
Abstract	Deciphering the role of climatic oscillations in species divergence helps us understand the mechanisms that shape global biodiversity. The cold-adapted species may have expanded their distribution with the development of glaciers during glacial period. With the retreat of glaciers, these species were discontinuously distributed in the high-altitude mountains and isolated by geographical barriers. However, the study that focuses on the speciation process of cold-adapted species is scant. To fill this gap, we combined population genetic data and ecological niche models (ENMs) to explore divergence process of snow partridge (Lerwa lerwa). Lerwa lerwa is a cold-adapted bird that is distributed from 4,000 to 5,500 m. We found 2 genetic populations within L. lerwa, and they diverged from each other at about 0.40–0.44 million years ago (inter-glacial period after Zhongliangan glaciation). The ENMs suggested that L. lerwa expanded to the low elevations of the Himalayas and Hengduan mountains during glacial period, whereas it contracted to the high elevations, southern of Himalayas, and Hengduan mountains during inter-glacial periods. Effective population size trajectory also suggested that L. lerwa expanded its population size during the glacial period. Consistent with our expectation, the results support that inter-glacial isolation contributed to the divergence of cold-adapted L. lerwa on Qinghai-Tibetan Plateau. This study deepens our understanding of how climatic oscillations have driven divergence process of cold-adapted Phasianidae species distributed on mountains.

ABSTRACT:

TITLE	**Breeding ecology of the Snow Partridge in high-altitude regions, Tibet**
Names	**Li Honglei [1] , Philip J K McGowan[2] , Wang Nan[1,#] , Zhou Huaming[3] and Li Zhaxijie[4]**
Addresses	[1] School of Ecology and Nature Conservation, Beijing Forestry University, Beijing, 100083, China [2] School of Natural and Environmental Sciences, Newcastle University, Newcastle upon Tyne NE1 7RU, UK [3] Ganzi Institute of Forestry Research, Sichuan, 626001, China [4] Tibet Museum of Natural Science, Science and Technology Department of Tibet, Tibet Lhasa, 850000, China
Abstract	To explore the environmental adaptation strategies of high-altitude breeding birds to alpine regions, we studied the breeding ecology of the Snow Partridge (*Lerwa lerwa*) in the Qinghai-Tibet Plateau. Incubation behaviour was determined using data loggers in Basu County (2018) and Cuona County (2019), in the Tibet Autonomous Region, China. We monitored seven Snow Partridge nests; clutch sizes ranged from 4–5 eggs per nest (mean=4.71±0.45 eggs, N=7), egg mass ranged from 28.1–37.7 g (mean=31.1±2.5 g, N=28), and the hatching success rate was 87.9% (N=33 eggs, six nests hatched successfully, and one nest suffered a predator attack). Nesting females typically took 1–4 recesses each day (mean=1.8±0.7, N=39 days). In five females, the first daily recess occurred at 0601 to 0709 (mean=0626±16 min, N=39 days) and the duration ranged from 60 min to 615 min (mean=179±102 min, N=39 days). The average nest attendance was 85.6±5.9% (75.9–92.8%, N=6 nests). Compared with other Galliformes, Snow Partridges lay larger eggs and smaller clutches, leave their nests fewer times per day but with a lower nest attendance, and a bimodal pattern of recess timing. Additionally, Snow Partridges build cave nest structures. These characteristics are highly adapted to the alpine region of the Tibetan Plateau and balance the thermal needs of the developing embryos and the self-maintenance needs of the incubating females.

ABSTRACT:

TITLE	**Using non-destructive sampling to evaluate the population genomic status of captive Brown Eared Pheasants**
Names	Pengcheng Wang[1], Ping Hu[1], Jinping Zhang[1], Lixia Zhang[2], Jing Zhang[3], Zhengwang Zhang[4]
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Abstract	Evaluating the genetic status of threatened species is an essential task in conservation genetics. However, the genetic status of threatened species has been mostly evaluated through techniques that fail to estimate genetic diversity at the whole genomic level. Next generation sequencing can meet this demand, but high-quality samples such as blood or muscle tissues are required. However, it is difficult to collect such samples from threatened species because sampling work may impact their health. Therefore, it is essential to design a workflow to evaluate the whole genomic status of threatened species using non-destructive sampling. Even though non-destructive sampling has been used in traditional barcoding technique, the barcoding technique cannot evaluate the whole genomic status. Brown Eared Pheasant (*Crossoptilon mantchuricum*) is an endangered species, with captive populations maintained in Taiyuan Zoo, China, and Europe. However, the genetic diversity, inbreeding pattern, and mutation load of these two populations are unclear. To uncover the genetic status of these two captive populations, we applied 2b-RAD technology to evaluate the genomic status of these populations using feathers as samples. The feathers could be collected by non-destructive sampling. The results indicate that the Taiyuan Zoo population has a lower genetic diversity and higher inbreeding coefficient than the European population. The Taiyuan Zoo population has lethal mutations when homozygous. The current project uses a non-destructive sampling technique to evaluate the whole genomic status of the two captive populations, providing a paradigm for conservation genetics, which will facilitate the development of conservation biology.

ABSTRACT:

TITLE	**The reference genome and resequencing provide insights into the Evolutionary History of the Endangered Sichuan hill-partridge (*Arborophila rufipectus*)**
Names	Chuang Zhou, Yi Liu and Bisong Yue
Addresses	Key Laboratory of Bioresources and Ecoenvironment (Ministry of Education), College of Life Sciences, Sichuan University, Chengdu 610064, Sichuan, China
Abstract	The Sichuan partridge (*Arborophila rufipectus*) is distributed only in Sichuan and Yunnan provinces in southwest China, It was classified as IUCN endangered species and the National first classkey protected wildlife in China due to its largely restricted range, very small population size, and severely fragmented habitat. Here we *de novo* assembled the reference genome and re-sequenced eight individuals of this partridge sampled in Sichuan Laojunshan Natural Reserve. The draft assembly genome size is approximately 1.09 Gb with scaffold N50 of 4.57 Mb. Gene Ontology (GO) enrichment analysis of positively selected genes in this species showed over-represented GO functions related to environmental adaptation, such as energy metabolism and behavior. The relatively higher genetic diversity and lower level of recent inbreeding were observed through the genome resequencing of this partridge individuals. This suggested that it was not too late to implement appropriate conservation measures for long-term survival of this species. The demographic history analysis revealed that the population size fluctuation of the Sichuan partridge was inconsistent with the change of historical climate and the results of demographic modelling suggested that its population decreased dramatically at 14,800 years ago after the Last Glacial Maximum (LGM). Our data and findings could provide valuable genomic resources not only for studying the evolutionary adaptation, but also for facilitating the long-term conservation and genetic diversity study for this endangered species.

TITLE	**Pheasants of Yunnan, China**
Names	Yang Xiaojun
Addresses	State Key Laboratory of Genetic Resources and Evolution & Yunnan key laboratory of biodiversity and ecological conservation of Gaoligong Mountain, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming 650201, China
Abstract	There are 34 pheasants (53% of those in China), including eight endemic to China, and three only found in Yunnan in China. Thereinto, 21 species favor the evergreen broad-leaved forest, the main habitat of pheasants in Yunnan, followed by 14 in sparse shrub grassland and 11 in dark coniferous forest and alpine shrub meadow. These pheasants are concentrated in a C-shape zone from the northwest to west to south of Yunnan, as well as the highland of Ailao Mountain in central Yunnan. Their richness is peaked at 1500-2000 meters a.s.l. (e.g. with 22 species), with 10-20 species distributed in other altitude zones except three above 4500 meters. Overall, 76% of pheasants in Yunnan are under special protection in China, of which 11 pheasants are ranked as National Class I protected birds and 15 as class II. According to IUCN Red List 2022, two pheasants are ranked as Endangered (EN), four as Vulnerable (VU), five as Near Threatened (NT), with the other 23 as Least Concern (LC). In addition, a total of eight pheasants are listed as threatened in China's Red List of Endangered Species version 2021, including one as critically endangered, five as EN and two as VU. In addition to the effects of habitat destruction and human activity disturbance, wild pheasants such as Red Jungle fowl and Common Pheasant have faced the threat of genetic contamination.

ABSTRACT:

TITLE	**Population status and conservation of the globally endangered Sichuan Partridge (*Arborophila rufipectus*)**
Names	Yiqiang Fu[1,2*], Yufeng Wang[1], Bo Dai[2], Benping Chen[3], Zhengwang Zhang[4] and Simon Dowell[5]
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Abstract	The Sichuan Partridge (*Arborophila rufipectus*) is a globally endangered Galliforme species, endemic to the Mountains of Southwest China. In order to understand its population status and consequently develop a suit of targeted protection strategies, a systematic investigation on population and conservation status of Sichuan Partridge was conducted from 2018 to 2019. Several new distribution sites (e.g. Daguan, Yanjin, Shuifu and Zhenxiong) were found. Suitable habitat area was estimated to be 6018.3km^2 using the MaxEnt model, including 1658.27km^2 in Yunnan and 4360.03 km^2 in Sichuan. Most of suitable habitats are located outside the protected areas. The total average density of Sichuan Partridge was 0.3176±0.0538 ♂/km^2 (0–5.0) (Fixed distance transect method) and 0.344♂/km^2 (95% CI: 0.168–0.701; CV: 0.297) (Distance sampling technology), respectively. Poaching and habitat fragmentation were the main threatening factors. Based on the above results, some protection suggestions were put forward.

TITLE	**First technical standard for identification of purebred green peafowl**
Names	Dong Feng, Yang Xiaojun
Addresses	State Key Laboratory of Genetic Resources and Evolution & Yunnan key laboratory of biodiversity and ecological conservation of Gaoligong Mountain, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming 650201, China
Abstract	Captive breeding and translocation are important means to protect endangered species (e.g., the green peafowl, *Pavo muticus*). To identify the provenance, we established the first technical standard for purebred green peafowl based on morphological and genomic characteristics. Morphological identification is mainly used to filter individuals with significant heterozygous characteristics and screen suspected green peacock individuals, so as to narrow the scope of research objects for subsequent molecular identification. Molecular identification is mainly used in cases where morphological identification is not possible, or morphologically identified as suspected green peafowl requiring further confirmation. The genomic data of individuals to be tested are compared to the reference genomes of pure green peafowl and blue peafowl respectively, and the germplasm status can be judged by the quantity and quality of comparison. The standard has now been officially released. The development of this technical procedure can fill the gap in the identification standard of green peacock germplasm resources, and provide a model for the identification of other species pure individuals. Its implementation is expected to accurately identify pure-bred individuals of green peafowl in captivity, isolate and protect them in time, and lay a germplasm foundation for further artificial breeding and wild release. At the same time, in view of the increasing risk of escape of blue peacock, this procedure can be used for routine monitoring of wild green peacock population germplasm status, which is conducive to timely detection and implementation of genetic pollution prevention measures

ABSTRACT:

TITLE	**Nonparallel evolution of putative speciation genes in two phylogenetically related hybrid zones**
Names	Pengcheng Wang[1], Yang Liu[2], C. Jonathan Schmitt[3], Hongyan Yao[4], Depin Li[5], Zhengwang Zhang[4,*] , Nan Wang[6,*]
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Abstract	Characterizing the genetic mechanisms that underlie population divergence is a long-standing goal in olecular ecology because of their importance in understanding the origins of biodiversity. However, it is difficult to identify speciation genes in non-model organisms. Previous studies have uncovered putative speciation genes using hybrid zones, but there is limited research on parallel evolution of speciation genes within these zones. It is still unclear whether speciation genes can evolve in parallel in phylogenetically related hybrid zones. Therefore, we identified and investigated two potential hybrid zones of two sister species, the Tibetan eared pheasant (*Crossoptilon harmani*) and the White eared pheasant (*C. crossoptilon*), to fill this gap. We aimed to document hybrid zones, characterize how they formed, and identify putative speciation genes within them. With 19,960 single-nucleotide polymorphisms (SNPs) from 129 samples, we identified a hybrid zone between the White eared pheasant and the Tibetan eared pheasant. We also found two distinct lineages within the greater White eared pheasant and identified a hybrid zone between them. Demographic history suggests both these hybrid zones formed following secondary contact. What is more, we identified unique putative speciation genes within these two hybrid zones, suggesting nonparallel evolution of speciation genes. The nonparallel evolution of speciation genes suggests that natural selection is not overly constrained by available variation and can often find optimal solutions to environmental pressures. The microevolutionary processes uncovered in this study can help us better understand macroevolutionary patterns of biodiversity, such as rapid radiations after climatic changes.

ABSTRACT:

TITLE	**Population, distribution of Green Peafowl in Xinping county of Yunnan and its interspecies relationships with sympatric wildlife**
Names	Dejun Kong, Fang Wang, Mingyong Chen
Addresses	School of Ecology and Environmental Science, Yunnan University, Kunming 650500 Yunnan Province, China
Abstract	Understanding population and distribution of threatened species are crucial for their conservation and management. Green peafowl is listed as endangered species in the IUCN Red List with its current northern limit expand to Yunnan province in China. Located in central Yunnan province, the Shuangbai and Xinping county maintained over 60% of green peafowl population in China. With yearly population and distribution monitoring, Shuangbai county reported there were more than 260 birds while precise number and distribution area of green peafowl in Xinping is still open. With camera trap, line transect and interview methods, we investigated population and distribution of the bird in Xinping county. Totally, we detected 126 green peafowls with 96 cameras set in 1km×1km squares and 163 birds along the 242.4km line transects, separately. All these birds were scattered in six segregated areas along the Yuanjiang-Red River valley and its branches. Peafowls habituated in sub-humid evergreen broadleaf forest, warm temperate shrubland and coniferous forests, with a density of 1.07 individual per square kilometres. We also detected many other birds and mammals with camera traps, like *Gallus gallus*, *Lophura nycthemera*, *Chrysolophus amherstiae*, *Atherurus macrourus* and *Sus scrofa*. No significant spatial-temporal overlap is detected between green peafowl with other species but *Gallus gallus*. It is interesting that green peafowl seems co-occurrent with domesticated cattle. Moreover, we noticed that the bird showed binomial peak during their daily activity and more photos were taken during pre-breeding season of February to April.

ABSTRACT:

TITLE	**The habitat selection of Chestnut-throated partridge (*Tetraophasis obscurus*) in Wang Lang National nature reserve in Sichuan**
Names	Yazhen Cao[1], Lu Xu[1], Lianjun Zhao[2], Yongjie Wu[1], Jianghong Ran[1,*]
Addresses	1 Key Laboratory of Bioresources and Ecoenvironment (Ministry of Education), College of Life Sciences, Sichuan University, Chengdu, 610064, P.R. China; 2 Administration of Wanglang National Nature Reserve in Sichuan
Abstract	Chestnut-throated partridge（Tetraophasis obscurus）is an endemic alpine pheasant in China. Due to its high altitude and harsh environment, the survival status of this species in the wild remains poorly understood. From 2020 to 2022, by combinedly using the camera-trapping, line transect and point counting methods, the habitat of T. obscurus were investigated in Wanglang National Nature Reserve, Sichuan. The results showed that the Chestnut-throated partridge mainly active in the altitude range of 2773~3777 m, with the highest activity frequency was found in coniferous forest (65.85%), followed by mixed coniferous and broadleaved forest (24.39%), shrub (7.32%), and rocky beach (2.44%), and no traces of activity were found in the meadow habitat. The population density of the Chestnut-throated partridge were estimated to be 7.60 /km2 and 5.42~6.18 /km2 using the fixed-distance transect and the fixed-radius point count methods, respectively. At the macrohabitat scale, the Chestnut-throated partridge preferred habitats with an altitude of about 3300 m, a certain slope (20□), a monthly mean diurnal temperature difference of 9.9℃, a driest monthly precipitation of 4.3 mm, and a certain distance from rivers. At the microhabitat scale, it preferred coniferous forest, coniferous and broad-leaved mixed forest and shrub habitat, where there is high altitude and near a sunny slope with higher trees and shrubs. In this study, we found disturbances of human activities in the habitat, suggesting that the habitat needs to be managed and protected.

Posters

ABSTRACT:

TITLE	**LOW GENETIC DIVERSITY AND NO GENETIC DIFFERENTIATION BETWEEN MALEO HATCHED AT COASTAL AND INLAND NESTING GROUNDS IN NORTH SULAWESI, INDONESIA**
Names	ANDIE WIJAYA SAPUTRA[1], PRAMANA YUDA[1]
Addresses	1 Faculty of Technobiology, Universitas Atma Jaya Yogyakarta, Jalan Babarsari No. 44, Depok, Sleman, Yogyakarta, Indonesia.
Abstract	Maleo Senkawor (*Macrocephalon maleo*), an endemic and endangered bird of Sulawesi (Indonesia), is a burrow-nesting megapode that incubates its eggs in communal nesting sites in soils heated by sun on beaches and by volcanic activity inland. The aims of this study were to assess genetic diversity of the Maleo and examine whether those which have different nesting sites have become genetically differentiated. In total, 24 eggshell membranes of Maleo were collected from Tanjung Binerean (coastal nesting ground) and Tambun (inland nesting ground), and the DNA was extracted using silica spin-column kit. PCR was applied to amplify the hypervariable region 1 (HV1) and partial mtDNA control region of HV2 using a specific primer set designed for Maleo. The PCR products were sequenced, resulted in 612 bp, and showed 9 polymorphic sites and 9 haplotypes (H). Further sequences analysis suggested that there was no genetic differentiation between the coastal nesting population and inland nesting population (Fst = 0.0009; P = 0.431). As expected, the genetic diversity of Maleo was relatively low (coastal nesting population, Hd: 0.727270, π: 0.002377 and inland nesting population Hd: 0.848480, π: 0.002203).

ABSTRACT:

TITLE	**EGGSHELL MEMBRANE SAMPLE FOR GENETIC STUDY OF THE PROTECTED MALEO**
Names	ANDIE WIJAYA SAPUTRA[1], PRAMANA YUDA[1]
Addresses	1 Faculty of Technobiology, Universitas Atma Jaya Yogyakarta, Jalan Babarsari No. 44, Depok, Sleman, Yogyakarta, Indonesia.
Abstract	Maleo is a burrow-nesting bird endemic to the island of Sulawesi. Since they are reclusive, shy, and wary when on the ground, most observations are made at the nesting grounds, so little is known about their behaviour during the time away from the nest. For genetic population study purposes, it is difficult to get an invasive genetic material sample like blood from Maleo. As Maleo are critically endangered and protected by Indonesia law, only certified people are allowed to handle them and collect blood or tissue samples from them. Our study results showed that 169 genetic materials (DNA) were successfully extracted from hatched eggshell membranes of Maleo using silica spin-column kit. The quality and mean quantity of the DNA from the sample were good with 1.869 of A260/A280 ratio and 175 .788 ng/µl. All extracts from eggshell membranes were successful in amplifying mtDNA control region, several loci of microsatellites, and CHD gene that are widely used for bird sexing. Our study shows the usefulness of non-invasive genetic material sample from hatched eggshell membranes for genetic study in a cryptic species like Maleo.

Abstract

TITLE	**Seasonality, African Cherry occurrence, and potential human threats determine the spatial distribution of the endangered restricted range Mount Cameroon Francolin (*Pternistis camerunensis*)**
Names	Francis Guetse[1]*, Simon Awafor Tamungang[1], Taku Awa II[2], Francis Luma Ewome[3], Francis Njie Motombi[4], Jan Riegert[5] and David Hořák[6]*
Addresses	Correspondence author: guetsefrancis@gmail.com; tel.: +237-676755795
Abstract	Understanding habitat preference is an important step in developing effective conservation strategies, particularly for threatened species. The Mount Cameroon Francolin (*Pternistis camerunensis*) is a globally threatened bird restricted to Mount Cameroon, where it faces natural and human pressures that may alter its distribution and negatively affect its population size. However, the effects of potential pressures as well as the ecology of the species are poorly understood and there is a lack of basic knowledge on the ecology and distribution of the species, which hampers conservation efforts. We investigated the effect of environmental variables (vegetation structure, altitude, dry/wet season, tree cover and loss, abundance of key tree species, human threats) on the occurrence and group size of the Mount Cameroon Francolin in the study area. During the period July 2016, July 2021, February 2022 and July 2022, 240 census data collection points were established along the middle elevations of Mount Cameroon (800-2500 m a.s.l.) where Mount Cameroon Francolin is found. At each of these points, we conducted a bird census using playback within a radius of 300 m for species detection, while vegetation structure was visually assessed within a radius of 50 m around each point station. We found that the presence of Mount Cameroon francolins significantly increased with increasing abundance of African Cherry (*Prunus africana*) and decreased with its absence. Secondly, we found that the presence of human threats significantly decreased the percentage of francolin presence. Thirdly, the percentage of francolin presence was higher during the dry season compared to the wet season. Similar results were obtained when we tested the effect of environmental variables on francolin group size. Using only the 2022 dataset, we found that francolin presence and group size were higher at higher elevations. Group size was further negatively affected by the presence of human traps, with francolins absent from sites where human traps were present. Our results support the conclusion that continued forest loss, habitat degradation and the presence of hunting traps pose an ongoing threat to the survival of the Mount Cameroon Francolin. **Key words:** Africa, habitat niche, anthropogenic disturbance, elevation, species distribution, Galliformes

ABSTRACT:

TITLE	**LOUD CALLS OF ARGUS PHEASANTS ENCODE INFORMATION ON SEX, REPRODUCTIVE STATUS, AGE, IDENTITY, QUALITY AND CONDITION**
Names	GEOFFREY DAVISON[1] & PUAN CHONG LEONG[2]
Address	1 National Parks Board, Singapore 259569. 2 Universiti Putra Malaysia, Serdang, Selangor, Malaysia
Abstract	Both sexes of Great Argus *Argusianus argus* and of Crested Argus *Rheinardia ocellata* and *R. nigrescens*, make very loud calls. Calls have not been well described, they have sometimes been wrongly attributed to male versus female, and literature has sometimes confused the calls of different taxa (e.g., *R. ocellata* vs *R. nigrescens*). Captive birds allow close-up sound recording of known individuals, with attendant data on age, sex, reproduction and other associated behaviour. Many quantitative data can be drawn from the sound recordings. Even preliminary analysis shows that some statistical and some absolute differences between individual birds can be used to assess the sex, reproductive status (breeding/non-breeding, calling site owner or not), relative age, and even the identity of individuals. Particular birds maintain calling idiosyncrasies for at least the 4 to 5 years of study so far (2019–2023) and possibly throughout life. Calls most significant for reproduction take at least 2–3 years to mature. Among fully mature males there are statistical but consis differences in call duration (no. of notes per call) that potentially indicate individual quality, and among all individuals there are large day-to-day variations in the amount of calling that could be used as indicators of fluctuating condition. Whether wild birds actually utilise all of the potentially available information is unknown.

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