



G@lInformed

Newsletter of the
IUCN-SSC Galliformes Specialist Group
<http://www.galliformes-sg.org/>

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From the Co-Chairs

To start with, there are two small but significant pieces of news to report about the GSG's reach and function. First, we have a new contact in West Africa, where we have many species but little first-hand or recent knowledge, and just a handful of members. Taku Awa is running a project on the Endangered Mountain Cameroon Francolin *Pternistis camerunensis*: you can read about his efforts to conserve this species on p. [13](#). If you know of anyone working on Galliformes species anywhere in Africa, please put them in touch with us.

Second, it is great to hear that Mike Schroeder (Department of Fish and Wildlife, Washington State, USA), a long-time grouse expert, has offered to go to Sulawesi in Indonesia in September, to advise on a pilot project being overseen by Marcy Summers, to capture and band (ring) Endangered Maleo *Macrocephalon maleo*. You can read about Marcy's AITo Project, on p. [7](#). We would dearly like to see more of this kind of intercontinental technical collaboration: it personifies how the GSG should operate as an expert network.

As we go to press, several members are heading for Manaus in Brazil for the Neotropical Ornithological Congress, at which they are scheduled to participate in a double session of talks and discussions on the ecology and conservation of Cracids and Tinamids (see p. [22](#)). In September, many in our Grouse Group are off to Reykjavik in Iceland for the International Grouse Symposium, which includes a pre-conference workshop on the use of new technologies for studying grouse in the wild, followed by four days of presentations. And in October 2016 the World Pheasant Association and the China Ornithological Society are planning to hold an International Galliformes Symposium in Beijing (see p. [22](#)).

The focus on our Critically Endangered species continues in this issue, with more pieces on Edwards's Pheasant *Lophura edwardsii* in Vietnam (pp. [12](#), [17](#)), and an update on White-winged Guan *Penelope albipennis* in Peru (p. [9](#)). BirdLife International's current list for the Galliformes now runs to 308 species: this is up from 286 a few years ago, following rather more taxonomic splitting than lumping lately! The total number of threatened species (EW, CR, EN & VU) remains at 77 (25%), so we must continue to work on behalf of all these in particular, as they continue to suffer the effects of direct exploitation and habitat removal or degradation in particular.

The cases we highlight in this issue all illustrate the importance of going beyond the science in an effort to achieve conservation action. It is necessary to translate results on the impact of threats and ecological requirements into feasible management prescriptions for implementation in protected areas. It is just as important to engage with local people so that they become willing and active participants in conservation actions that are likely to have an impact on their traditions and livelihoods. Nothing good is likely to happen unless this twin approach is taken to solve problems for species and their habitats.

To discuss such things with many other people facing similar problems, we are going to the 3rd SSC Leaders Meeting in Abu Dhabi in September. This is a gathering of senior IUCN and SSC staff and committee members, with Red List Authority and SG Chairs,

designed to allow for open discussion of how conservation is best achieved on an overcrowded planet which is warming up.

Recently we were invited to suggest topics for discussion at this meeting. We pointed out that, except for SGs responsible for dealing with megafauna and ecological keystone species, taxon SGs like the GSG may be finding it hard to be relevant (and therefore visible) in today's context of ecosystem-focused science and action, with its strong emphasis on ecosystem services (i.e. species utility). This makes it hard for us to raise funds for projects or to influence things like protected area management or law-making for wildlife protection. So how should narrowly-focused taxon SGs, without much knowledge of ecosystem services contributed by their species, position themselves in this competitive environment? We made three other points that follow from this question.

First, species experts need to work together in the same places at the same times, to share field work effort and data, and thereafter to maximise their impact on influencing management decisions. So there is a need for better geographical coordination of research and conservation action amongst SGs with responsibilities for threatened species which share ranges and especially protected areas. The onus seems to be on SG Chairs to communicate more in order to find common ground, to seek economies of effort and promote action with more consensus.

Second, where exactly is the appropriate balance between publicising scientific findings, translating them into specific recommendations for managers, and advocating action? If the science remains locked up in journals, it will have little if any effect, other than to promote the careers of the authors! But who should do the advocacy work, and how do we ensure that it does not compromise our scientific integrity or become biased beyond the science as we know it?

Third, if we know enough science to be able to suggest effective action, then we need to move beyond science. Planning and implementing any actions are likely to require input from social scientists, socio-economists and environmental lawyers (at least). Locally, protected area managers and local people need to be convinced that proposed actions are likely to be beneficial for both the biota and local communities. To enable adaptive decisions to be made locally, government at a higher level needs to be convinced that established policy needs to be flexible or even subject to change, to allow optimal actions to be implemented. How can SGs best interact with this wider world?

If you have any comments on these issues, for us to take to the meeting, please do contact us soon.

Finally, we thank Matt Grainger for editing *G@llinformed* once again for us, and all the contributors for taking the time to tell us what they are doing for some of our most needy species.

Peter Garson & Ilse Storch

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<http://www.galliformes-sg.org/gsgindex.html>

Co-chairs Advisory Board Members



Peter Garson (UK)

Role: Co-Chair; Pheasants; liaison with SSC and BirdLife International; project proposal screening

In August 2013, Peter Garson retired as Director of Teaching in the School of Biology at Newcastle University in UK. He has been concerned with research relating to the conservation of pheasants in Asia since 1980. He has supervised PhD students and advised on numerous projects in India, Pakistan, Nepal, China and Indonesia. He was founding Chair of the Pheasant SG in 1993. He co-authored the 1995 and 2000 IUCN Action Plans for Pheasants and helped to organise several of the World Pheasant Association's symposia on Galliformes in Asia.

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Ilse Storch (Germany)

Role: Co-Chair; European Grouse; Grouse Group

Ilse Storch is a wildlife and conservation biologist at the University of Freiburg, Germany, where she heads the Department of Wildlife Ecology and Management. As a researcher and a consultant, she has worked in Europe, North and South America, and Asia. Her research interests include wildlife-habitat relationships at various scales. The effects of human activities, such as habitat fragmentation, on individuals, populations and metapopulations are a major focus of her work. Since her PhD work on capercaillie in the Alps, grouse have been her major study species. From 1996-2008, Ilse has chaired the IUCN Grouse Specialist Group, a voluntary network of grouse experts worldwide, that collected information, identified conservation priorities, and promoted grouse research and conservation. In 2000 and 2008, Ilse Storch has published the first and second IUCN Status Survey and Conservation Action Plan for the Grouse. In 2008, Ilse became Co-Chair of the new Galliformes Specialist Group (GSG) together with Peter Garson. She continues to lead the Grouse Group within the GSG.

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Brett Sandercock (USA)

Role: Nearctic Grouse, behavioural ecology

Brett is an Associate Professor of Wildlife Ecology at Kansas State University. Dr. Sandercock has over 20 years of field experience working with the population biology of terrestrial vertebrates, and has published 60 peer-reviewed research articles. He is currently Series Editor for Studies in Avian Biology, and an Associate Editor for the Journal of Animal Ecology. Current projects include studies of the effects of wind power development on prairie grouse, and the effects of experimental harvest on survival of ptarmigan.

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Jeff Thompson (Paraguay)

Role: Tinamous, South America, population ecology

Jeffrey J. Thompson is originally from the state of New York, USA. He received a B.Sc. in environmental and forest biology from the State University of New York College of Environmental Science and Forestry at Syracuse, an M.Sc. in biology from the University of Puerto Rico – Río Piedras and a Ph.D. in forestry and natural resources from the University of Georgia. In 2004, he was a Fulbright student grantee to Argentina where he conducted his doctoral research on the spotted tinamou (*Nothura maculosa*). He is presently a research scientist in the Grupo Ecología y Gestión Ambiental de la Agro-Biodiversidad, Centro Nacional de Investigación Agropecuaria, Instituto Nacional de Tecnología Agropecuaria (INTA) in Argentina. His research interests are diverse but center around the relationship between wildlife and land use, particularly exploited species, more specifically Neotropical fauna and especially gamebirds. He is particularly dedicated to teaching quantitative ecology to Spanish speaking biologists, having taught classes in Costa Rica and Argentina, and is the co-author of the soon to be released Spanish language book *Conservación Cuantitativa de los Vertebrados*.

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Alain Hennache (France)

Role: Ex situ conservation

1973 to 2009: "Maître de Conférences" at the National Museum of Paris Department of Botanical and Zoological Parks. 1979 to 1997: assistant Director in Zoological Park of Clères. Keeping, rearing and exhibit of many birds species. 1997 to 2009: scientific advisor in Zoological Park of Clères.

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|  | <p>René Dekker (Netherlands) <i>Role: Megapodes</i> Director of Collections, Naturalis Biodiversity Centre, Leiden. Rene is one of the founder members of the Megapode Specialist Group and Co-author of <i>The Megapodes</i>. rene.dekker@naturalis.nl</p> |
|  | <p>Michèle Loneux (Belgium) <i>Role: Webmaster</i> Michele is a wildlife biologist and ornithologist from the University of Liège, where she has studied passerine migration (1985). Belgium has only two grouse species both threatened and close to extinction in the country. Since 1995, she has been involved with the study and follow-up of the last black grouse population in Belgium for the University's Behaviour Biology Unit. Her PhD work (2000) analysed the influence of climate fluctuations and climate change on European black grouse population dynamics. In 2000, she organized the first of the European black grouse conferences in Liège and joined the Grouse Specialist Group. In 2003 she created the website for the group. Michele constructed the layout of the second Grouse Action Plan and now manages the Galliformes Specialist Group website. loneuxmichele@skynet.be</p> |
|  | <p>John Carroll (USA) <i>Role: Partridges, Quails & Francolins; North America; in situ technical training</i> John is a Professor of Applied Ecology and Director of the School of Natural Resources at the University of Nebraska. Previously he was a professor at the University of Georgia and California University of Pennsylvania, as well as serving as a research scientist at the Game and Wildlife Conservation Trust in UK. For 10 years, he served as Chair of the former Partridge, Quail, and Francolin Specialist Group. He has focused on conservation of endangered and threatened species, gamebird and agriculture issues, and especially conservation in a variety Galliformes for much of his career. He has more than 150 scientific publications and recently published a book on quantitative conservation of vertebrates with Mike Conroy. He has advised more than 50 MSc and PhD students. galliformesguy@gmail.com</p> |
|  | <p>Zhengwang Zhang (PRC) <i>Role: China</i> Zhengwang Zhang is Professor of Zoology at Beijing Normal University, China. His research interests include the ecology and conservation of Chinese pheasants, diversity and distribution patterns of birds along the Bohai Bay and the effects of urbanisation on birds in Beijing. His recent studies involve several species of Galliformes, including Brown eared-pheasant, Reeves's pheasant and Ring-necked pheasant. zzw@bnu.edu.cn</p> |
|  | <p>Rahul Kaul (India) <i>Role: South Asia</i> Rahul Kaul's PhD study of the ecology of the Cheer pheasant was the first on a Himalayan galliform species in India. Since then he has accumulated over 25 years of experience in research, training and conservation of wildlife, predominantly in South Asia, much of it on galliform distributions, ecology and threats. He is presently working as Senior Director at the Wildlife Trust of India in New Delhi, India. rahul@wti.org.in</p> |
|  | <p>Luís Fabio Silveira (Brazil) <i>Role: Cracids, South America</i> Luís is the Curator of the Bird Collection of the Museu de Zoologia da Universidade de São Paulo (MZUSP). His research is focused in systematics, taxonomy, natural history and conservation of Brazilian birds. He has published 90 articles, 12 books and 74 book chapters. He is currently researching Cracids, particularly those threatened with extinction such as the Alagoas Curassow (<i>Pauxi mitu</i>), and Pará Bare-faced Curassow (<i>Crax pinima</i>). fsilveira@uol.com.br</p> |

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|  | <p>Eric Sande (Uganda) Role: Africa Eric is a Senior Lecturer in the Department of Biological Sciences at Makerere University in Kampala, Uganda. His PhD research focused on the ecology of the endangered Nahan's Francolin <i>Ptilopachus nahani</i> in Budongo Forest Reserve, Uganda. He is also a researcher and biodiversity consultant involved in Environmental and Social Impact Assessments. He has a wealth of experience in species action planning from his time as BirdLife Africa Species Coordinator (2000-2004) where he was the lead facilitator in the development of 7 International and 15 National species action plans for priority globally threatened bird species in Africa.</p> <p>ericssande@cns.mak.ac.ug, ericssandephd@yahoo.co.uk</p> |
|  | <p>Philip McGowan Role: Strategic conservation planning and policy development Philip is a Senior Lecturer in Biodiversity and Conservation in the School of Biology at Newcastle University. His PhD research on the social organisation of the Malaysian peacock-pheasant was conducted in the Krau Wildlife Reserve in Peninsular Malaysia. He has worked on a range of research and conservation projects since then, with a significant focus on Galliformes, especially in Asia. A priority has been developing projects for the most threatened species and working to develop skills and expertise in countries where there is a significant need for research and conservation programmes. He works with the Species Survival Commission (SSC), as Co-chair of its Policy Subcommittee and a member of its Species Conservation Subcommittee. He led the production of Guidelines for the Re-introduction of Galliformes for Conservation Purposes and co-led the development of Strategic Planning for Species Conservation: A Handbook, and the IUCN- SSC Guidelines on the Use of Ex situ Management for Species Conservation.</p> <p>Philip.McGowan@newcastle.ac.uk</p> |
|  | <p>Tommaso Savini Role: Southeast Asia Tommaso is an Associate Professor in the Conservation Ecology Program, King Mongkut's University of Technology Thonburi (Thailand). He received his PhD from Liege University (Belgium) for research on ecological impact affecting flexibility of social structure of white handed gibbons. Since 2006 he has been working with his MSc and PhD students on the ranging behaviour, habitat selection and reproductive patterns of pheasant, partridges, peacock-pheasant and green peafowl in Thailand and Vietnam. Recently he has started advising students from Cambodia and Myanmar in order to cover most of mainland Southeast Asia and establish the status of focal species over their entire range.</p> <p>tommasosavini@gmail.com</p> |

G@llinformed letters & reports**Community-based conservation in Tompotika:
What's working to recover the Maleo?**

Marcy Summers, Director, Alliance for Tompotika Conservation, 21416 - 86th Ave SW, Vashon, WA 98070 USA, marcy@tompotika.org, www.tompotika.org

The Endangered Maleo: recovering in Tompotika

The maleo, *Macrocephalon maleo*, is a megapode endemic to Indonesia's island of Sulawesi, where it carries great cultural importance and is often seen as a mascot or brand name on products or places. Despite its popularity and officially protected status, however, the maleo has been in decline for decades, is classified as IUCN Endangered, and has disappeared from much of its former range, due primarily to overharvest of its huge eggs and loss and fragmentation of its native forest habitat.

In the Tompotika peninsula at the tip of Sulawesi's central arm, however, the maleo is actually increasing, thanks to a partnership between local villagers and a small NGO called the Alliance for Tompotika Conservation/Aliansi Konservasi Tompotika, or "Al-To." Since 2006, this community-based effort has facilitated a halt to the poaching of eggs at one of the maleo's best remaining communal nesting grounds, which are generally located on sunny beaches or near hot springs. Adult maleos lay a single, enormous egg in a hole dug up to a meter deep, and chicks hatch underground, emerge, and disperse with no parental care at all. Prior to the conservation partnership between AlTo and locals, virtually every egg at the beachside nesting ground near Taima village was being systematically dug up and sold as a luxury item; there was no enforcement of laws protecting maleos and little awareness of the bird's imperiled status amongst local community members and leaders. Now, however, visits of adult maleos to the nesting ground have increased by over 50%, and recently 56 maleos were seen at one time at the nesting ground--the highest number ever recorded here and more than have been recorded recently anywhere else in the bird's current range.



A maleo pair at the Taima nesting ground. Photo: Kevin Schafer/AlTo

So, in nine years, what has worked, and what hasn't? A new research program expected to begin soon should help shed more light on overall population size, maleo breeding ecology, habitat use, and the like, but meanwhile we have some preliminary hunches about what has (and hasn't) contributed to the increases we've seen to date.

What has worked?***Protecting eggs in situ where they're laid***

Unlike almost every other current maleo conservation effort, in which eggs are generally dug up and placed in a secure hatchery, in the AlTo partnership the entire nesting ground is protected against poaching and eggs are left undisturbed until hatching. Vigilant guarding of the nesting ground is therefore necessary, but we have found that

with the brief exception noted below, when guards are present attempts to steal eggs fall to virtually zero. The payoff for being able to leave eggs undisturbed, however, appears to be well worth the extra labour involved.



AITo Conservation Officer Ipan (center) trains villagers in how to record maleo data. Photo: Marcv Summers/AITo

Engaging local villagers

Throughout the past nine years, active consultation and collaboration with local and regional government has been an essential prerequisite to all conservation action. However, beyond meeting this requirement, the more we have gone directly to local villagers to engage them directly in spreading information and decision-making, the more smoothly the maleo protection effort has gone. For one five-month period during this time (late 2013-early 2014), the collaboration agreement between AITo and villagers expired, and a small faction of villagers began poaching eggs. Faced with the poaching, those responsible for law

enforcement took disappointingly little action, and the crisis was only overcome by going back widely and directly to ordinary community members, a majority of whom supported the conservation effort and ultimately put pressure on the poachers to stop.

Keeping engagement broad

Local participation in the project is fundamental, but this can take various forms. In the case of Taima village, locals have preferred to have larger numbers of villagers engaged in less depth, rather than a few locals participating more deeply. In this project, one local villager chosen on a rotating basis is paired each day with one of AITo's permanent Indonesian staff to guard the nesting ground and record data; AITo offered the chance to train up a small number of villagers in additional tasks with greater responsibility. This way, AITo felt, local experts could be developed and under their leadership villagers could take more and more overall responsibility for the running of the project over time. Villagers, however, rejected this plan, feeling that it "unfairly" singled out certain individual villagers to receive the benefits of such employment; they preferred to have literally scores of villagers benefitting a little bit, occasionally, rather than a few becoming regularly employed, skilled, and responsible project collaborators.

Outreach, outreach, outreach

The Indonesian term is *sosialisasi*: it means to take an issue to the people and spread the word. AITo began sponsoring systematic outreach efforts about the maleo and its plight soon after the field conservation program began in 2006, and these efforts have been crucial for



As part of the Festival, Tompotika high school students presented an original drama featuring abundant maleos in an earlier era. Photo: Keith Brofsky/AITo

obtaining both government permission and public support for the field activities. Such outreach efforts have taken the form of: a) a school-based awareness program aimed primarily at children; b) public "advertising" through posters, calendars, billboards, and the like; and c) a variety of Art for Conservation projects aimed at raising conservation awareness for all ages through visual arts, performances, and most recently, a half-day country-fair-like Festival entirely themed around maleo birds and sea turtles (focus of a sister AITo program). In this region, where mass media or even electricity are not widely available, we have found the positive, participatory, and energizing spirit of spreading conservation messages through the Arts to be very powerful.

Next steps: scaling it up

Of course, lasting maleo conservation cannot be achieved through protection of a single site. Recently, AITo has applied the same basic community-based model to begin protection of a second nesting ground, roughly 18 km from the Taima site and connected through relatively intact forests. Here, although far fewer maleos are currently nesting, hopes for long-term conservation are high, due to a promising landscape context, unusually strong village leadership and a citizenry already very supportive of conservation through AITo's sea turtle program. Through recent surveys, AITo has identified at least 4-5 sites in the Tompotika region where maleos continue to nest. In the long run, we hope to build relationships with villages neighboring these sites as well, in order to facilitate protection of additional nesting grounds, while continuing to work for protection of the native forests that link them together. Saving this habitat is, of course, crucial for the survival of a myriad of additional Sulawesi endemics.

What is going on with the white-winged guan in Peru?

Fernando Angulo and Fabiola Riva, Asociacion Cracidae Peru / CORBIDI (chamaepetes@gmail.com)

It is said in Peru, that the story of the white-winged guan *Penelope albipennis* is complete: the species was discovered, then thought to be extinct, then rediscovered a hundred years after its description. Later, a captive breeding program was built up, and the circle was closed with the reintroduction of the species into the wild.

The amazing story of this Peruvian endemic and emblematic species is a symbol of conservation in Peru. But 30 years after its rediscovery and after much effort on its conservation, the species is still categorized as Critically Endangered both at global and national level. So, what went wrong?



Penelope albipennis © Fernando Angulo

First, we need to know that the white-winged guan is endemic to the Tumbesian dry forest in northwestern Peru, occupying a thin strip of forests about 150 km long and 10 km wide on the western side of the Andes between 400 and 1400 masl. Its distribution consists of two patches, divided by a highway that crosses the Andes. The remaining population is

currently estimated at around 300 birds, with

hunting, habitat destruction and deterioration as the most important threats to its existence in the wild.

Second, we must acknowledge that there has been constant conservation work with the species, including a captive breeding programme from 1980 to 2008, the reintroduction of 52 individuals over seven years in two protected areas, the creation of four protected areas designed to conserve the species and covering approximately 1/3 of its distribution area, several awareness campaigns, and a series of laws specifically created to ensure its conservation.

But why, if all those things have been done, is the situation of this species still so bad? Are we doing something wrong or just not doing enough? Is there really any future for this species? So, let's examine another area designed to change the species' situation, the effect of which might have been underestimated due a perceived lack of success indicators or their proper measurement: specifically, we mean conservation education.

And here a story comes to my mind. It was 2004 when I was doing a survey in a new reported site for the species in Lambayeque, northern Peru. After several hours of walking among the mountains, I and my assistant came across a recent fire, where we found remains of a freshly killed white-winged guan. It was evident that someone just hunted and ate one right there. A few hours later, we met face to face with the "killer". My first reaction was to question his behavior, to ask how it was possible for him to kill this endemic species, critically endangered and protected by law!!! His honest and simple answer was: I did not know that was the situation of the species, I just thought it was as common as a cattle egret.

At that moment, I realized that much of the awareness and education effort over years had been directed towards people other than those in direct contact (and therefore, somehow responsible for the species): these individuals never got the message. So, this is when Asociacion Cracidae Peru started work to determine the socioeconomic situation of the human population around the white-winged guan distribution area. The result of this study was a determined education and awareness campaign aimed at the local people. Radio broadcasts, posters and door-to-door conversations were the main instruments to educate local people on the specie's importance and conservation needs. The campaign started in 2009 and is still running now. According to the surveys made before and after these efforts, people's knowledge of the species conservation status increased some 30% and we hope that in the next years this will increase even more.





What else has happened meanwhile? The captive breeding programme is no longer releasing birds into the wild. At one of the reintroduction sites, the Chaparri Reserve, artificial feeding of released birds for a tourist lodge has inhibited their natural dispersal and full adjustment to their natural habitat. In other places there is still hunting, so how are we working effectively to save this species?

One positive move has been the creation of protected areas, managed at both national and regional level. The national level reserve at Laquipampa has a management plan and is working towards effective species management. Regional protected areas are still only "paper parks", but it is hoped that in future they will also be instrumental in securing a future in the wild for the white-winged guan.

A large human population lives in and near to the species distribution area, so preventing hunting remains a problem. To attack this issue, education campaigns are effective. We aim to educate people, make them understand the species situation, make them know it and love it. A good thing from our side is the fact that no family bases its income entirely from hunting, depending also on agriculture and cattle ranching, so asking people not to hunt is not fatal any family economy. Of course it is possible that no one really changes their behavior, or that what they say in our survey about not hunting is not true. We hope not, but also think that the human dimension has to be considered in any effort to conserve iconic species like this one. So, wish us luck for the future!

Further reading

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http://neotropical.birds.cornell.edu/portal/species/overview?p_p_spp=78631

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Saving the Edwards's pheasant: genetic assessment of the global captive population

Ludo Pinceel, Chairman WPA-Benelux, Chairman WPA Scientific Advisory Committee and Vice-Chair EAZA Galliformes TAG lpgalliformes@gmail.com

It is very possible that the survival of the beautiful Edwards's pheasant (*Lophura edwardsi*) in the wild will depend on re-enforcement or re-introduction using suitable birds from the captive population, currently estimated at over 1500 individuals worldwide.

In 1994 an EAZA studbook was created for this species which was coordinated within a European Endangered Species Programme (EEP) by Alain Hennache (Clères Zoological Park) until 2009. Some genetic research was also conducted at the end of the 1990s aiming to check the genetic diversity and detect hybrids (Hennache, A., Randi, E. and Lucchini, V. 1998). Eighty-five hybrids were found using mtDNA (mitochondrial) sequences (i.e. maternal lineage only). In the same study genetic diversity was found to be low. So the question remains: "Can we produce a viable population of Edwards's pheasant that can serve as a safety-net and a potential source for future reintroductions?"

The long cooperation between the World Pheasant Association (WPA) and the EAZA Galliformes TAG resulted in a meeting in Walsrode during an EAZA workshop on conservation breeding of birds in 2012. Present were representatives of EAZA, AZA, WPA, ZGAP (Zoological Society for the Conservation of Species and Populations) and BirdLife International. It was agreed that Tomas Kapic (Prague Zoo) should run the EEP, whilst Chris Holmes (Houston Zoo, USA) would become the new International Studbook (ISB) keeper. WPA's ECBG (European Conservation Breeding Group) also holds a studbook which covers the Edwards's pheasants kept by private breeders. It was agreed that ex situ efforts should initially focus on a genetic assessment of captive populations. This should enable us to purge this population of proven hybrids, estimate the remaining genetic variability, and also assess the value of the Vietnamese pheasant (*Lophura hatinhensis*) population that is maintained separately.

The total cost of the project was estimated at around €20,000. For the first and most expensive phase, the development of at least 12 polymorphic microsatellite loci for the Edwards' pheasant, the necessary money was donated by ZGAP, WPA and its European chapters. Samples were taken from 23 individuals, selected from both zoos and private breeders: 11 *edwardsi* from the European captive population, 6 *edwardsi* from the American population, 2 *edwardsi* from Hanoi (a 1996 wild caught male and a daughter with a UK female), 2 *hatinhensis* and 2 Swinhoe's pheasant.

From the mtDNA sequences obtained, only two almost identical haplotypes were found among the Edwards's and Vietnamese pheasants, along with a quite different haplotype for Swinhoe's pheasant. Using nDNA (nuclear), 15 polymorphic microsatellite markers were found, enabling us to make a good estimate of the genetic variation among *edwardsi*, and to again make a clear distinction between *edwardsi* and *swinhoii*. European and USA *edwardsi* samples clustered in the same group with a moderate average heterozygosity of 0.65; the two Hanoi *edwardsi* and the two *hatinhensis* clustered in a different group.

These initial results encouraged the *ex situ* community to collect more samples for testing. In this second phase, 60 more samples were investigated: 20 *edwardsi*, 20 *hatinhensis* and 20 *swinhoii*. Some old samples were re-tested, so we had a total of 22 Swinhoe's, 22 *hatinhensis*, 39 *edwardsi*. This time the necessary funds were donated by the SEAC (South East Asian Conservation Programme of the EAZA IUCN Conservation Fund) and some individual European zoos.

The separate groupings already detected were confirmed. Within the group of 39 *edwardsi* only one Edwards's x Swinhoe's hybridization event was detected, some 3 - 4 generations back. Action is therefore needed to expel all its descendants from the studbook. Within the 22 Swinhoe's, two hybrids with Edwards's were unmasked. Within the 22 *hatinhensis* no hybrids were found.

The most important new result was the calculation of relatedness between all the tested birds. Surprisingly there are still a lot of alleles represented within the whole captive population. This is testimony to the very good job Alain Hennache did during the 16 years he was running the studbook and advising on pairings. These data now provide us with the information necessary for the selection of individual birds and optimal pairings within a revised studbook.

A third phase of this DNA research now seems inevitable. There are still 12 samples from the Japanese captive population of *edwardsi* to be sent to Europe, and there could be more variation within the Vietnamese population of *hatinhensis*. The offspring arising from the ongoing experimental pairings between *edwardsi* and *hatinhensis* in Europe need to be assessed. And any additional Edwards's candidates for the new studbook population must obviously be passed as fit to participate.

Let's hope that *in situ* conservation efforts proceed alongside our *ex situ* work, so that together we can safeguard the survival of this beautiful species for posterity.

Preliminaries on population status and distribution of the endangered Mount Cameroon Francolin, *Pterinistis camerunensis*

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The Mount Cameroon Francolin is a terrestrial game bird which inhabits dense undergrowth in primary forest and clearings at 850 – 2,100m on Mount Cameroon. This species has a very small range, being endemic to this one mountain, where it faces increasing threats from hunting and deliberate burning of its habitat, causing the retreat of the forest/savannah boundary in some places. It is classified as 'endangered' in the IUCN Red List (BirdLife International, 2015).

Mount Cameroon is situated on the coast of south-west Cameroon, where its slopes rise up from the Gulf of Guinea. The mountain is approximately 45km long and 30km wide and is 4095m at its highest point with an area of about 1750km². Most of the forest on the mountain is representative of two biomes: lowland forest and afro-montane forest. Much of the lowland forest has been cleared and remaining patches are now only found on the steepest slopes near the base of the mountain. The vegetation at the very lowest altitudes comprises a coastal area of mangroves and dense humid evergreen Guinean –

Congolian forest of the Atlantic Biafran type. At higher altitudes there are sub-montane and montane forest zones (Cable and Cheek, 1998; Cheek et al, 2000).

This francolin was described as 'common' during fieldwork in 1984, and was estimated to have numbered to 600-1,700 mature individuals at that time. There is no knowledge on current population trends as no study on population status has been carried out since. Before the creation of the Mount Cameroon National Park in 2009, the forest was being severely degraded by fires and agricultural encroachment, uncontrolled hunting and the lethal over-exploitation of *Prunus Africana*, harvested for its bark. The regular burning of grassland by hunters is also probably a threat to the species, through the destruction of both eggs and young birds.

Our study site is within the Mount Cameroon National Park, associated with a multilateral project under the Cameroon Government, represented by the Ministry of Forestry and Wildlife (MINFOF), and World Wide Fund for Nature (WWF). The area adjoins the Mokoko-Onge Important Bird Area.

Our project was designed to provide up to date information on the population status of the endangered Mount Cameroon Francolin such that it can be compared with past figures to determine its population trend. Prior to commencing field work we opted for a participatory approach by informing and engaging all relevant stakeholders: the administrative, traditional and park authorities as well as the Site Support Groups adjacent to forest patches harbouring the francolin. Four workshops were organized and project objectives and outputs explained to all. A more technical presentation was also given to the entire staff at the Mount Cameroon Project head office in Buea, South West Region, to ensure that all our objectives were congruent with those of the National Park Project.

Besides determining the present population status and distribution of Mount Cameroon Francolin, this project aimed to compare abundance along an altitudinal gradient, at different sites/habitats and seasons. It would also assess habitat characteristics and current threats to the species and its habitat, as well as evaluate local attitudes towards the francolin and its habitat, raise local community awareness of its conservation needs, and build local capacity to monitor the population trend in future.

To achieve our objectives, we started with a dry season survey for two months from mid January to mid March. Six transects were established, such that they cut across the different habitat types and covered an altitudinal gradient within the National Park. Transects were established at least one km apart within the northeastern and southeastern areas of the mountain, where the bird was reported to occur recently.

As the francolin is a very shy and cryptic species, the playback technique was most suitable for surveying it, given that the birds are territorial and thus respond to calls. The playback technique was employed every 200 m along each transect and responses noted and the GPS location recorded. Estimated distance of each response call from the transect line was also noted. Transects were covered at a moderate speed of 2 – 3km/h in morning (5.30-11.00) and evening (4.00-5.30) sessions. We are currently doing another two months of the surveys in the rainy season that should be concluded by the end of July. Field work has been logistically very challenging, and we have had to camp under difficult conditions in the forest without good camping gear (Figure 1).



Figure 1: Researcher and field guide at a camping site in the forest

Habitat data was collected within a 50 m radius at each census station. These data included information on vegetation structure (herb layer cover, shrub cover, canopy cover, vegetation density, dominant layer), and other habitat features (water regime, water seasonality, presence or absence of bare soil, wood removal, burning period, strata burnt and fire severity). A few dominant trees were identified to characterize vegetation composition.

adjacent to the forest patches where the francolin is present. Four focus group discussions were organized which brought together all stakeholders in the villages: the chief, men, women, hunters and youths (Figure 2) to give them ownership of the outcomes so they can abide by them. We endeavored to make the process really participatory.

A total of 31 encounters from both direct sightings and play back technique were recorded during the dry season survey from mid-January to mid-March. We are still in the process of gathering more information to be able to translate this into an estimate of population size. It is not yet certain if the birds are in groups or pairs.

Most of the birds were encountered within the montane forest close to the savannah edge, but nests were only found in the savanna (Figures 3 & 4). Several of the threats already identified in literature were observed during this field study. Bush fires



Figure 2: Workshop to introduce the project and its objectives to the villagers



Figure 3: Eggs of Mount Cameroon Francolin found in the grassland next to the forest edge

are a common phenomenon, especially in the savanna where hunters use it as a means of flushing animals out of the densest grasses and make them more visible whilst feeding on the regrowth. While controlled burning could be advantageous for maintaining the savanna habitat, the burning here is not controlled and infringes onto the grassland next to the forest edge (Figure 5) where francolins tend to nest during the dry season, which corresponds to the burning period. Another major threat is the setting of traps and snares that are indiscriminate in catching wildlife (Figure 6). We counted over a hundred the survey period. Next to one of the snares were



Figure 4: Mount Cameroon Francolin incubating eggs in the grassland next to the forest edge

francolin. Most hunters were farmers, who resort to hunting during non-farming periods. Thus the Mount Cameroon Project should promote alternative activities to sustain farming families during the non-farming season. Our focus group discussions revealed that some villagers were very disgruntled with the Mount Cameroon Project because it had not delivered on community development projects as promised.

Results from this project will be made available to the management of the Mount Cameroon National Park to help them to make informed decisions that should benefit the francolin. Locals and hunters will be made aware of the threats the bird faces, and sensitized on the need for its conservation. The awareness programme will also target children in schools to draw their attention to the plight of the species and



Figure 6: Indiscriminate trapping of wildlife through the use of snares

(CAMCAER) provided some basic field equipment. We hope to be able to raise some more funds to discover more about the ecology of the Mount Cameroon Francolin and

feathers, probably of a francolin, the largest terrestrial bird in the area (Figure 7). So the Mount Cameroon Project needs to engage eco-guards in daily patrols to get rid of these traps and snares.

Results from our interviews revealed that hunting and trapping of francolin is still a major and lucrative activity for villagers, especially as the flesh is considered more palatable than that

of domestic chicken. In over 60 questionnaire sessions, 38% said that they still carry out hunting of francolin, 44% did not respond, and just 18% confirmed that they did not hunt the



Figure 5: Bushfire effect at the edge of the forest

inculcate the notions of sustainable use and conservation of all natural resources. Adaptive management of the park in favour of this species should be possible once better information is available on its current status and distribution.

So far, this has been a very exciting project, collecting data on such a threatened and emblematic species that appeared to have been neglected for so long. This work has been made possible thanks to a grant from the African Bird Club to whom we are extremely grateful. Cameroon Centre for Agric-Environmental Research

ensure that appropriate conservation measures are then put in place to protect it for the long term.



Figure 7: Feathers of a bird next to the snare (green loop), probably a francolin

Edwards's pheasant Conservation Action Plan 2015-2020 with vision to 2030 - one more step forwards in the species recovery

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One year has passed since the Edwards's pheasant Conservation Workshop in Quang Tri province in July 2014, when the Vietnam Edwards's pheasant Working Group (VN-EPWG) was established. This year, its first annual meeting was held on 16 April 2015 and hosted by Quang Binh Provincial Forest Protection Department, with a key outcome being the review and endorsement of the first ever Action Plan for the species: *Edwards's pheasant Action Plan for the period 2015-2020 with vision to 2030*.

Viet Nature Conservation Centre was proud to take the responsibility to draft this first Action Plan for this endemic species on behalf of VN-EPWG with lots of inputs from national and international stakeholders. In this important document, for the first time the species status review merged Edwards's pheasant *Lophura edwardsi* and the Vietnamese pheasant *Lophura hatinhensis* information as of one species, based on the fact that the latter was proposed to be an inbred morph of the former and was not recognized as a valid species in the IUCN Red List from 2012. The review reconfirms that indiscriminate hunting/trapping is likely the most important factor that drives any remaining wild population of Edwards's pheasant to the verge of extinction, like the situation with many other rare and endemic species of the Annamites, such as Saola, Giant Muntjac, etc. Continued habitat loss, degradation and disturbance further reduced the chance for the species survival in the wild.

The occurrence of birds showing inbred characteristics since the 1960s and the lack of any records of Edwards's pheasant in the last 15 years indicates that its remaining wild populations, if any, are extremely small, fragmented and declining, highest priority should be given to securing its remaining habitat (including hunting control at those sites), improving the management of its existing gene pool (in the captive population)

and preparing for a conservation breeding programme, while continued efforts should be made to clarify its status in the wild.

Therefore, the Action Plan for the period 2015-2020 includes four priority programmes to work towards the goal of recovering Edwards's pheasant in the wild in 2-3 sub-populations by 2030:

A. Site protection and management

While it's unknown when we can get evidence of Edwards's pheasant's persistence in the wild, and while hunting is likely the biggest threat to the survival of this species, it is prudent to encourage the protection and management of the known key sites for Edwards's pheasant which are, listed from North to South, Ke Go – Khe Net; Khe Nuoc Trong – Bac Huong Hoa (or Truong Son IBA); and Dakrong – Phong Dien forest blocks, aiming at complete cessation of hunting at these sites. By doing this, we are actively restoring/creating strongholds for Edwards's pheasant's persistence. During the coming five years, more priority sites, where Edwards's pheasant might be found to exist, can be added to the above list. The next step, in the medium term, would be to explore the feasibility and effects of using forest corridors to connect habitat fragments.

B. Conservation Breeding

Given the critical situation of Edwards's pheasant and our extremely limited knowledge of its basic ecology, a conservation breeding programme would serve two purposes: scientific research and preparing most suitable birds for reinforcement or reintroduction when necessary. As it takes time, at least 5-7 years (Alain Hennache *in litt.* 2015), to select and 'produce' suitable birds for release in the wild, this programme should take place as soon as possible when resource permits if we want to see a sustainable wild population of Edwards's pheasant in the wild by 2030.

C. Research

This programme includes three main parts: improvement of management of captive population; field surveys to search for any Edwards's pheasant populations remaining in the wild, as well as studies of its ecology in connection with the above conservation breeding programme; and feasibility studies (to be carried out by 2020) on the need, site preparedness and availability of suitable birds for reinforcement or reintroduction.

D. Coordination and resource mobilization

This programme would aim at supporting the timely and effective implementation of the above programmes.

Funding for the implementation of this Action Plan would be a challenge, but will be actively mobilized by each interested institution and, when opportunities arise, by VN-EPWG as a team; and would be updated periodically within VN-EPWG.

Participants in the meeting unanimously agreed with the draft Action Plan, considering it very clear and concise, and were eager to go ahead to bring Edwards's pheasant back to the wild in its homeland. The Plan would be officially endorsed by members of the VN-EPWG after the meeting. It would also be sent to relevant international NGOs and expert

Figure 1: Quang Binh provincial TV correspondents attended and reported on the meeting



networks for their information, endorsement and collaboration; and to relevant ministries and provincial departments for their information and support.

The full Action Plan can be found at http://thiennhienviet.org.vn/ep/wp-content/uploads/2015/01/EP-ACTION-PLAN-FINAL-Ver_05-2015-.pdf and more information on Edwards's pheasant conservation can be found at: <http://galoilam.org.vn>.

New publications

Grouse Group

Download the latest Grouse Newsletter here: <http://www.galliformes-sg.org/grousg/gnpdf/gnews49.pdf>

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In Brief



Edwards's pheasant goes from Europe to Vietnam

With permission, based on <http://thiennhienviet.org.vn/ep/tag/viet-nature-en/>

On 27 May 2015, a group of three female and one male Edwards's pheasants *Lophura edwardsi* were delivered from Prague Zoo, Czech Republic, to Hanoi Zoo, as a result of the collaboration between *ex situ* conservation groups in Europe and Hanoi Zoo. In order for these Edwards's pheasant (EP) to come home, World Pheasant Association (WPA) enthusiastically supported the proposal of Hanoi Zoo to strengthen and diversify the captive EP gene pool there.

The import of these birds went through various CITES procedures as well as strict veterinary quarantine for several months. During the first annual meeting of Vietnam Edwards's pheasant Working Group (VN EPWG) in Quang Binh in April 2015, Mr. Dang Gia Tung (President, Hanoi Zoological Gardens Co. Ltd.) said: "We are obliged that WPA actively assisted us throughout the process, and that Prague Zoo has selected fertile individuals whose genes are unrelated to our existing birds in Hanoi Zoo."

According to the Action Plan for the Conservation of Edwards's pheasant 2015-2020 vision to 2030, highest priorities have been given to the selection and protection of pure genetic sources of EP, aiming to prevent inbreeding whilst studying its exact relationship to Vietnamese pheasant *Lophura hatinhensis*). The objective is to create the best possible *ex situ* gene pool, ready for its reintroduction into the wild if this is deemed necessary. Mr. Le Trong Trai, Director of Viet Nature Conservation Centre and Coordinator of VN EPWG stated: "Coping with the critical status of the species in the wild, greatest efforts should be spent on protecting and preserving natural habitats within its historical range, and promoting the conservation breeding programme. The group [that] has arrived in Hanoi Zoo is descendant of the original ancestors relocated to Europe nearly one century ago. They represent precious seeds for the conservation breeding programme and reintroduction in their natural homeland – the Annamese Lowlands."

Since receiving a wild male from Quang Tri Forest Protection Department in 1997, no other reinforcement has been provided for the Hanoi Zoo population until now. At this time, the newly arrived EPs are being cared for by experienced staff in Hanoi, in readiness for the 2016 breeding season.



Mr. Dang Gia Tung, President of Hanoi Zoo, and the newly arrived Edwards's pheasant on 27th May 2015. Copyright © Dang Gia Tung



Mr. Dang Gia Tung, representative of ex situ conservation group, and Mr. Le Trong Trai, representative of in situ conservation group, at Edwards's pheasant's aviary in Hanoi Zoo. Copyright © Viet Nature Conservation Centre

The ecology and conservation of Tinamiformes and Neotropical Galliformes: contributions at Neotropical Ornithological Congress, Manaus, Brazil: 19-24 July 2015

Jeffrey Thompson (Paraguay), Luis Fábio Silveira and Carolina Bertsch (Brazil) have convened the programme for two symposia (i.e. sessions of talks and discussions) at Neotropical Ornithological Congress X. The Congress is a collaboration between the Brazilian Ornithological Society (SBO), Neotropical Ornithological Society (NOS) and the host organizations, the National Research Institute of the Amazon (INPA), Amazonas Federal University (UFAM).

Day 1:

Introduction: *Jeffrey Thompson, Luis Fábio Silveira & Carolina Bertsch*

Challenges in conserving Cracids in the Neotropics: *Luis Fábio Silveira*

Conservation status of the Wattled Curassow (*Crax globulosa*) in *varzea* in lower Purus river, Central Amazona, Brazil: *Carolina Bertsch*

Monitoring two endemic and threatened species in Colombia - *Penelope perspicax* and *Crax alberti*:

Lina Caro

Occurrence, abundance and use of Tinamiformes and Galliformes in Amazonia: *João Valsecchi & Carolina Bertsch*

Discussion

Day 2:

Multi-scale effects of agricultural land use on the occurrence of Rufous-winged Tinamou *Rynchotus rufescens* and Spotted Nothura *Nothura maculosa* in east-central Argentina: *Jeffrey Thompson*

Captive breeding and reintroduction of Red-billed Curassow and Black-fronted Piping Guan in Brazilian Atlantic Forest: *Edson Valgas*

Genetic management and challenges in *ex situ* conservation of threatened Cracids: *Francisco Mercival*

25 years of reintroduction - an analysis of results of Red-billed Curassow reintroduction project:

Joana Carvalhaes

Final discussion

Forthcoming events

International Symposium on Galliformes, Beijing, China (21-23 October 2016)

Conservation of threatened pheasants and partridges in Asia, needs international cooperation. Following the 5th International Symposium on Galliformes in Thailand in 2010, the 6th International Symposium on Galliformes will be held in Beijing during 21-23 October 2016. The symposium will be organized by the World Pheasant Association and the China Ornithological Society, and hosted by Beijing Forestry University. After the 3 day conference, a field trip to Pangquangou National Nature Reserve in Shanxi Province will be organized to see the endemic Brown Eared pheasant and the wild Ring-necked pheasant. All Galliformes researchers, biologists, ecologists, conservationists, nature reserve managers, and pheasant breeders are cordially invited to attend this symposium.

To register your interest and receive more details as they become available, please contact Prof Xu Jiliang at xujiliang@bjfu.edu.cn.

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