Winter 2018

WPA News 107 (2018)

World Pheasant Association

WPA news

The International Newsletter of the World Pheasant Association Number 107 Winter 2018

World Pheasant Association Middle, Ninebanks, Hexham, Northumberland, NE47 8DL, UK

Tel: 01434 345526 **Email:** office@pheasant.org.uk **www.pheasant.org.uk**

Registered Charity No 271203

FRONT COVER:
The front cover depicts a male albino Lady Amherst pheasant. This is caused by a fairly rare genetic mutation or phenotype where the body cannot make the colour. An article on this unique bird and more photos are featured on pages 12-13.

REAR COVER:
The two top rear cover photos depict birds at Harewood Bird Garden, an article is featured on pages 11-12. The two centre rear cover photos were taken at the Scottish Open Day in November, an article is featured on page 21. The two bottom rear cover photos are of green peafowl in Thailand, an article is featured on pages 19-20.

WPA Chapters

Austria	Manfred Prasch
Benelux	Ludo Pinceel
China	Prof Zheng Guangmei
Czech Republic and Slovakia	George Mrnka
France	Christophe Auzou
Germany	Simon Bruslund
Hungary	Naszáli Dezső
India	Shri Shekar Singh
Pakistan	Rab Nawaz
Poland	Karol Sepielak
Portugal	Paula Grilo
UK	Stuart Wilson

Wanted/Surplus Stock

WPA members can add wanted and surplus birds to a list available on the website www.pheasant.org.uk/wantedsurplusstock.aspx. To add birds to the list please email WPA HQ (office@pheasant.org.uk). If you are contacted by a potential customer and would like advice about their birds please contact WPA HQ for advice.

Studbook Holders

Cabot's tragopan	(ESB) Veronika Zahradníčková
Edward's pheasant	(EEP) Tomas Kapic
	(ISB) Dr Tobias Rahde
Malayan crestless fireback	(ESB) Marcin Chrapowicki
Palawan peacock pheasant	(EEB) David Jeggo
Mountain peacock pheasant	(ESB) Gavin Harrison
Malaysian peacock pheasant	(ESB) Gavin Harrison
Great argus pheasant	(ESB) Chaz Barr
Congo peafowl	(EEP) Steven Vansteenkiste
Siamese fireback	(Mon-P) Ryzard Topola
Salvadori's pheasant	(Mon-P) Frédéric Verstappen
Satyr tragopan	(Mon-P) Trevor Franks
Temminck's tragopan	(Mon-P) Davide Frigo

Contact details can be found on the WPA website.

ESB = European studbook

EEP = European endangered species programme

Mon-P = Monitored by person

ISB = International studbook

MEMBERSHIP RATES

	UK	Non-UK
Individual	£ 30	£ 35
Junior	£ 15	£ 17.50
Family	£ 60	£ 70
Corporate	£ 120	£ 120
Supported	£ 30	£ 30
Life Membership, single payment	£ 600	£ 700

DIARY DATES

CBAG Avicultural Weekend, Sudeley Castle	9 February 2019
ECBG Spring Meeting, venue TBC on website	Date TBC on website
Compton Manor Charity Clay Shoot	10 May 2019
Dunkeld Charity Clay Shoot	18 May 2019
Scottish Game Fair	5-7 July
Golden Pheasant Club meeting	12 July 2019
WPA AGM, Rotterdam	7 September 2019
WPA International Symposium, Vietnam	23-24 September 2019
ECBG Meeting by WPA France to celebrate 100 years if Clères Park	19-20 October 2019
Pipar/Nepal Photographic and Musical Evening	23 November 2019

More details on events can be found on the WPA website www.pheasant.org/news.asp or contact the office on office@pheasant.org

Copy Dates

The next issue of WPA News will be produced in April 2019. Articles, stories, letters and adverts for consideration for publication should be with the Office by the end of January 2019.

Articles printed in WPA News may not necessarily represent the views of the World Pheasant Association

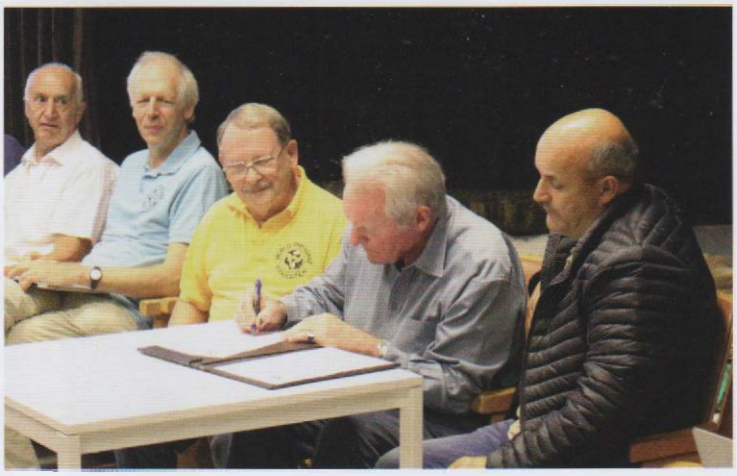
NOTES FROM THE CHAIRMAN

WPA Hungary is up and running! Following our ECBG meeting on the 12th October in the Czech Republic and attended by members from at least 12 countries, WPA Hungary is now operating effectively. Some of their Cabot's tragopan samples had already been DNA tested for purity and more have now been taken for DNA analysis; other tested tragopans have also been sent to breeders in that country. At this ECBG meeting, Frédéric Verstappen from WPA Benelux was installed as the new Chairman of ECBG. The weekend was impeccably organised by Jiri Mrnka and his Czech & Slovakia colleagues.

I can also record with great pleasure that a meeting was held in Walsrode to celebrate WPA Germany's 40 years Anniversary. Over 200 members and friends attended, and the event was judged a huge success.

On the 8th September we held our AGM and convention at Chester Zoo where among the speakers was my old friend Dr Cliff Nixey who gave us a presentation on the development of the turkey industry in relation to our conservation breeding of pheasants. An excellent paper was given which provided an array of interesting questions, most of which were relevant to our present breeding operations. Many thanks also go to Simon Dowell, who helped organise a very enjoyable meeting and gave us a very interesting résumé of his role as Co-Chair of the IUCN Galliformes Specialist Group.

In October, Barbara Ingman and Alan Greaves joined John Corder on an exploratory visit to Vietnam to make preliminary arrangements for our symposium in Dong Hoi, Vietnam on the 23-24 September 2019. Geoffrey Davison has a sub-committee which is putting together the scientific programme and several post symposium tours have been arranged. They also visited the breeding aviaries which have been completed in the grounds at Vietnature's Field Headquarters and these should provide breeding accommodation for Edwards's pheasants from Hanoi Zoo in 2019.



The signing of the Affiliation Agreement with WPA Hungary took place at Brno in the Czech Republic on Friday 12th October 2018

John was able to negotiate an MoU with Hanoi Zoo on behalf of WPA before going onto China to work at the Chinese Monal Breeding Centre at Fengtongzhai. Five young were bred there this year from three different pairs, which is a very significant result following the previous teaching programme on incubation via egg weight loss. Two new incubators have been added to the one donated by WPA France, so it was possible to move eggs between incubators with different humidity levels to maintain the expected weight loss. Fengtongzhai is located at around 500ft and does not normally experience mosquitoes, but this summer was hotter and wetter than previously experienced, and all the young birds contracted Hen Pox from mosquito bites. Thanks to Prof John Cooper, a WPA member, who gave a lot of advice on dealing with this outbreak, all the birds seem to be surviving. John then went to the Chengdu Panda base and gave a presentation there on behalf of WPA. The Panda Base has been given oversight of the Monal Programme by the Chinese Government and it is bringing much expertise and funding to the programme.

Ian Clark has headed up the Syrmaticus Focus Group which is anxiously appealing for further samples for DNA analysis particularly from Hume's and Elliot's and, if possible, the three sub-species of copper pheasants.

A date for your 'new' diary is Friday September 6th 2019, when WPA Benelux will celebrate its 40th Anniversary in Rotterdam, at which time WPA will hold its AGM at the same location. The next main event in the UK is the Conservation Breeding Advisory Group's Avicultural Weekend on Saturday 9th February at Sudeley Castle, Winchcombe, Gloucestershire. More details can be found elsewhere in this Newsletter and on our website.

Footnote – how many breeders over the years have peeked inside a closed box through an airhole to see if a bird is alive and well after transportation. I have done this many hundreds of times in my life but never until last weekend had an experience whilst peering through a one-inch hole in the side of the box when the beak of a Vietnamese male pheasant nearly removed my eye. I'm sure this is a one off but as a cautionary tale; please be careful when carrying out a similar examination.

May I wish all our members and friends a very happy Christmas and joyful New Year as we all face many challenges which 2019 will bring to us.

Keith Chalmers-Watson

21 November 2018

WPA AGM AND CONVENTION - CHESTER ZOO

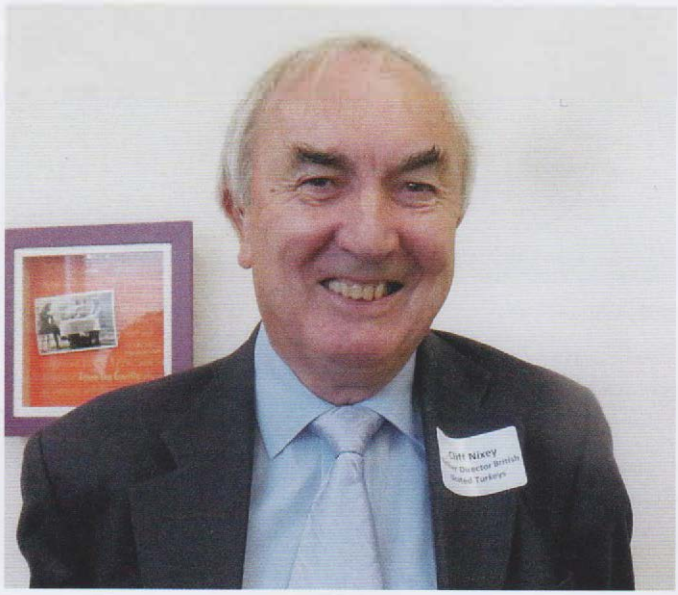
Paul North

The convention and AGM were held over the weekend of the 8th and 9th of September in the lecture theatre at Chester Zoo. It was preceeded on Friday by a Council meeting held in Cedar House, the administration centre for Chester Zoo.

Members began to arrive in Chester on Friday and a good gathering enjoyed a meal together at The Old Harkers Arms restaurant in the evening. Saturday morning saw members gathering at the lecture theatre at the zoo for coffee and registration.

The first item on the menu was the 43rd Annual General Meeting conducted by Chairman Keith Chalmers-Watson. Keith began by giving the report from Council for the year and continued briskly through the remaining obligatory requirements.

The first convention speaker was Dr Simon Dowell who is the Science Director at Chester Zoo and also co-Chair with John Carroll of the IUCN Galliformes Specialist Group. Simon gave us a background to the zoo, established in the 1930s by George Mottershead and his family who bought and occupied the house, now known as The Oakfield pub and restaurant at the centre of the Zoo. The zoo occupies 125 acres of land within a holding of some 400 acres and is in a period of redevelopment, beginning with the newly opened Islands area. The zoo is operated by The North of England Zoological Society and welcomes 1.8 million visitors a year. The zoo supports 70 conservation projects worldwide and works with 75 schools in the North West.



Dr Cliff Nixey
Photo: Jean Howman

The next speaker was Dr Cliff Nixey, former technical director of British United Turkeys Ltd. and his fascinating talk was entitled Can the Pheasant Learn from the Turkey? This talk is the subject of a separate article by Ian Clark included on pages 7-8.

Next we heard from John Corder on the planned WPA International Symposium that will take place in Vietnam over the two days of 23rd and 24th September 2019. The pre-symposium tour is a plan to visit Halong Bay and Hanoi and the post-symposium tour will offer an opportunity to visit the proposed breeding pens and possible release site for Edwards's pheasants, with a possible chance to see green peafowl in Thailand.

Dr Tom Clements, Senior Director-Europe of the Wildlife Conservation Society
Photo: Jean Howman

Dr Tom Clements, Senior Director-Europe of the Wildlife Conservation Society, was the next speaker and his talk covered the WCS Maleo project in Sulawesi, Indonesia. WPA have helped with some funding for this project over the last two years. WPA treasurer Jon Riley has recently visited the project and his article is included on pages 9-10.

To round off before lunch, Ludo Pinceel spoke about the WPA projects that are current: Edwards's pheasant, Blyth's tragopan survey in China and Myanmar and Chinese monal breeding programme in China.

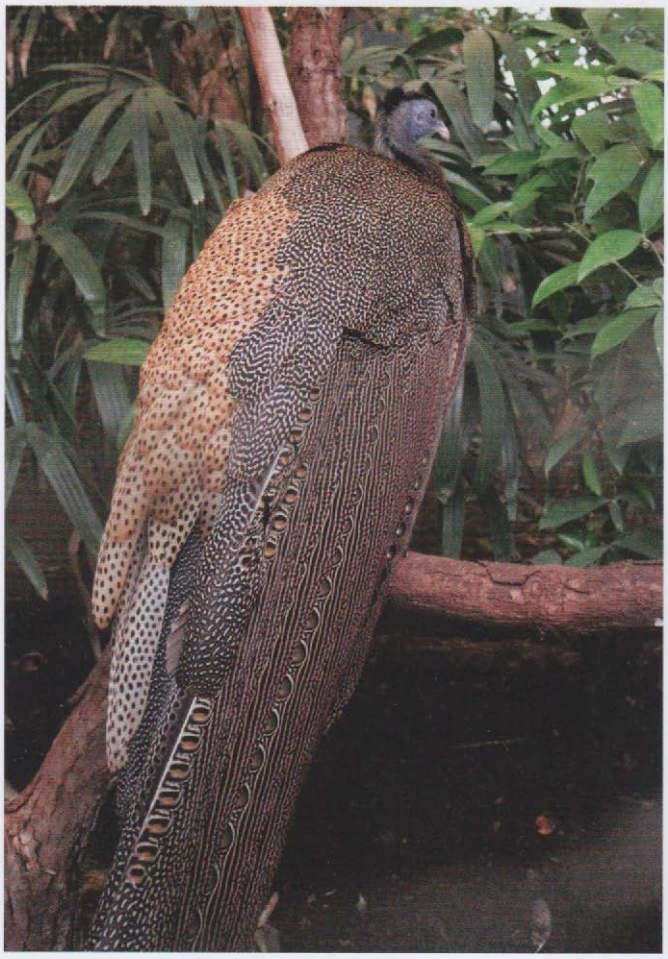
Tour of Chester Zoo
Photo: Jean Howman

After a good lunch we assembled at the Zoo entrance for a guided tour of the birds at Chester Zoo. Our guide was Andrew Owen, Curator of Birds at the zoo. The tour was outstanding, starting at

Palawan peacock pheasant at Chester Zoo
Photo: Paul North

the pheasant aviaries and continuing through the semi-tropical house with its Congo peafowl, to the Argus pheasants in the Dragons exhibit. Then on to the new Islands exhibit to see Salvadoris pheasants and the Cassowary. As well as the galliformes, Andrew also showed us the other birds that the zoo keeps and is involved with abroad, such as the Indonesian songbirds that are threatened with extinction. Not even a heavy shower of rain could dampen the enjoyment and interest gained on this exceptional tour.

The evening saw members meeting in the Queen Hotel in Chester for the Convention Dinner to round off the day.



Argus pheasant at Chester Zoo
Photo: Paul North

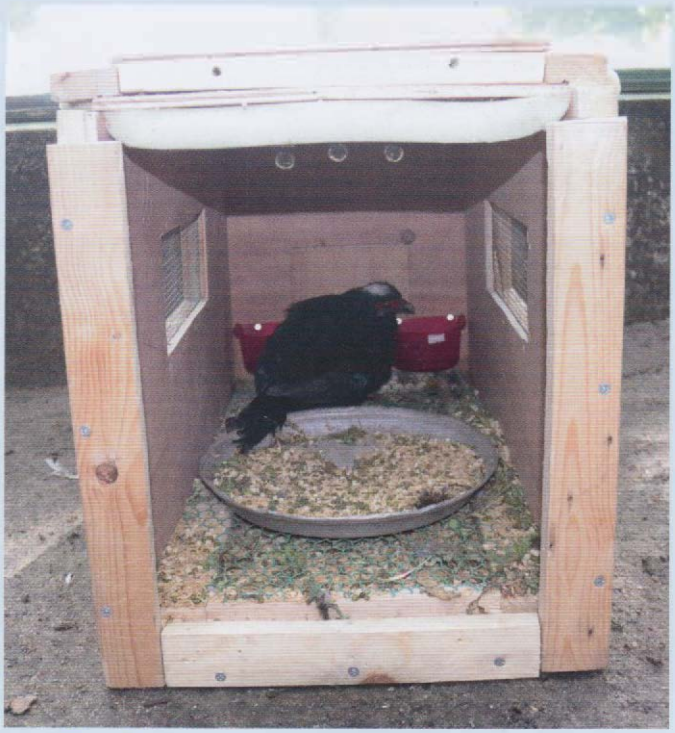
EDWARDS'S PHEASANT

John Corder

Three Edwards's pheasants were confiscated in Cambodia and placed in a rescue centre there. By the time it came to our attention, only one male survived and we were able to test its DNA and identify that its ancestry was probably from within Benelux. Its genetic make-up was sufficiently different to the birds already in Hanoi Zoo, that it was decided to try and re-locate it there.

After a year and a mountain of paperwork to allow the transfer, the bird was finally allowed across the border during the summer and, after completing quarantine Saigon Zoo, is now in Hanoi Zoo.

We hope the bird will continue to thrive and enter the breeding programme.



Above- Male Edwards's pheasant in a travelling crate on the way from Cambodia to Vietnam

Below- Male Edwards's pheasant

Photos: Le Trong Trai, Director of Viet Nature

FRANCE FOR THE WEEKEND

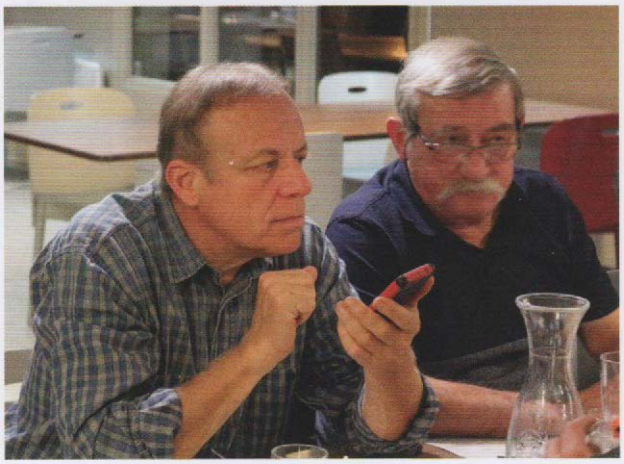
Paul North

When I was offered the opportunity to travel by car and ferry to northern France for a weekend visit to attend our French Chapter's annual meeting I naturally jumped at the chance. This mode of transport also offered the chance to take spare stock and I was quickly put in touch with a breeder wanting one of my surplus birds.

Topiary and Chateau in the Zoo de La Bourbansais
Photo: Paul North

Arrangements made, bird boxed and paperwork taken care off, I travelled south to meet up with Nigel Hester who had made all the arrangements (ferry booking, accommodation, etc) and in whose vehicle we were to travel.

The overnight ferry from Plymouth to Roscoff saw us on French soil first thing Friday morning and a short journey to deliver birds and then on to Zoo de la Bourbansais, situated between St. Malo and Rennes, to meet with French members for lunch. The Zoo is contained within the grounds of the Chateau de la Bourbansais, owned by the same family since 1583 and with its formal gardens, made a fitting backdrop to the zoo. The warm and sunny afternoon was taken up with a conducted tour of the zoo and then on to the hotel just south of St. Malo to meet other members and enjoy dinner and drinks.



Michel Ottaviani and Alain Hennache
Photo: Paul North

Saturday dawned with a threat of rain which held off until we were enjoying our lunch, having already visited an amazing private collection of birds. There were turacos, including a grey go-away-bird, argus, helmeted curassow, ibis and spoonbills. About a dozen red-breasted geese together with emperor and brent. Vulturine guineafowl, trumpeters and waders of all descriptions. A surprise around every corner and all perfectly at ease, even with a large number of people wandering amongst them. After an enjoyable three course lunch we went on to visit another large private collection. This was a mix of pheasants and other galliformes, with a good selection of domestic and wild waterfowl. There were eider ducks on the pond at the side of the house and in the large paddocks behind there were shelduck, cereopsis, Toulouse, NeNe and sebastopol geese, a large flock of muscovy duck and many more. We then paid a quick visit to Cap Frehel, a sea birdwatching site with a large and imposing lighthouse, leaving just as the rain set in.

One more quick visit to another private breeder and then time to say au revoir to our hosts and head off into the heavy rain to catch our return ferry from Caen, docking in Portsmouth in the early morning of Sunday, returning with a better understanding of some of the bureaucratic difficulties faced by our friends and the expectation that we will meet again in the near future.

I have attended several meetings of our other European Chapters but this is the first time in France and I was not disappointed, finding the same friendship as shown by those other Chapters and a knowledge and understanding shared by all bird breeders and conservationists.

Right: Geese at a private collection
Photo: Paul North

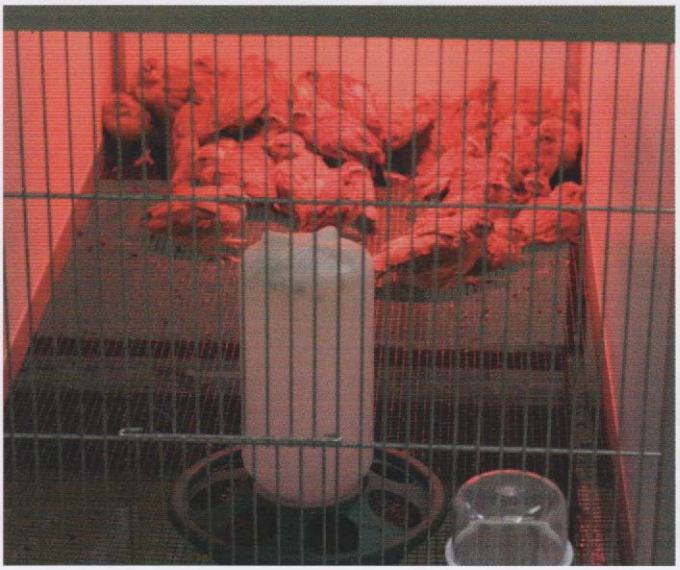
CAN THE PHEASANT LEARN FROM THE TURKEY?

Ian Clark

An unusual question, but at the WPA Conference in Chester this year, Dr. Cliff Nixey, who has a lifetime of experience in the turkey breeding industry, used it as the thought-provoking title for his presentation as guest speaker.It is said that if you learn one completely new fact at a conference, it has been worthwhile attending. Dr. Nixey's presentation had the audience on the edge of their chairs, frantically taking notes! He has kindly allowed me to summarise his presentation for WPA members who were unable to attend that day.

Turkeys are of course *Phasianids*, so they have much in common with the other pheasant species we keep in captivity. Both wild turkeys and pheasants live on the ground during the day, roost in trees at night and generally nest on the ground. Both prefer running to flying and have similar flight patterns – an explosive takeoff then a glide. Perhaps most importantly from our viewpoint, both are photorefractory breeders. This just means that the length of daylight and darkness affects their breeding cycle. When pheasants hatch, they are photorefractory, they cannot and will not respond sexually to the stimulating effect of long daylight hours. This prevents the birds from becoming sexually mature even if they are physically mature, and is nature's way of preventing young being produced during the long winter months with little daylight and low temperatures. This chick photoretractiveness is only ended by around two months of short daylight, in nature this is provided by winter. It has been shown that turkeys hatched and kept on 12 hour daylength never come into lay.

Turkeys have only been domesticated relatively recently and they retain many of the wild turkey characteristics. For example, if a bird of prey flies overhead young turkeys instinctively squat or hide, just as pheasants do. The basis of Dr. Nixey's presentation was that the large amount of research carried out on commercial turkeys may be of use in pheasant breeding and management, and he began with factors affecting egg production.



The use of infra-red heat lamps is NOT good for our chicks. The lack of the necessary dark periods and using infra-red spectrum light can both lead to twisted toes and other deformities.
Photo: Paul North

There is a wide variation in egg production between the various breeds of pheasants, but egg production has low heritability and would be difficult to improve genetically without a large sophisticated selective breeding programme. So, our best option is to maximise egg production as much as possible by good management.

Ceramic heaters which do not produce light are much better. These chicks are being reared with only natural daylight and the natural dark periods allow them to rest and the bones to grow properly
Photo: Paul North

Length and intensity of light both have a huge influence on egg production in both turkeys and pheasants. A turkey measures the day length from the first light it sees in the morning until the last light it sees in a 24 hour period, even if there is darkness in between, and it is believed that pheasants also do this. Photorefractiveness also occurs in hens again when they are in lay, as the birds interpret a reduction in daylight hours as a sign that winter is approaching and it is time to stop producing young. Pheasants are much more sensitive to this than turkeys and lay for a shorter period. Once again, it needs a period of several months of short daylight to 'reset' their biological clock, which is provided by winter.

As mentioned above, a bird measures the daylength from the first light it sees until the last light it sees in a 24 hour period. This means that if natural daylength in winter is eight hours, getting dark at 5pm, and someone turns on a light at 10pm, the birds will interpret that as a 13 hour day, upsetting their natural rythm and causing problems. Doing this just once can cause reproductive problems for the birds. The safest bet is to have no artificial light and let nature take its course. If artificial light must be used have it on a time clock to give a consistent daylength. Never turn lights on during what should be a dark period for the birds.

Dr. Nixey then talked about broodiness. If you wish to discourage this, minimise the length of time that a hen can sit on an egg. Unless you intend to parent rear, remove eggs as soon as possible after they have been laid and never leave eggs in a nest overnight. Hens which are going broody tend to spend a lot of time on the nest and may show signs of aggression when you are collecting the eggs.

Usually, hens identify strongly with their chosen nest and if you prevent access to that it can delay broodiness. Turkey breeders

might move a whole flock to new housing to achieve this – with our species this is not usually possible but it might be worth trying quietly to block access to the original chosen nest site, forcing the hen to begin a new cycle in a second site.

Electric hens or contact brooders are also good when used with natural light only. The chicks go under and press themselves up against the heated pad just as they would do with a natural parent.
Photo: Ian Clark

Next he dealt with egg storage, with the best storage temperature being 15-16 °C. This was followed by a flurry of information that had us all scrabbling for our pads and pens!

Did you know that every day over six days of storage adds one hour to the incubation time? That very fresh eggs (laid less than 48 hours ago) do not hatch as well as those set at between two and six days old?

When storing eggs before hatching it is vital to minimise evaporation, 70-80% relative humidity is best, and keeping them covered with plastic to reduce evaporation can help. Regular turning during storage is helpful and storing them upside down (with the broad end down) can also help. This upside-down storage is important if the eggs are to be stored for longer than normal, more than ten days.

We learned that the most common incubation error is opening the hatcher door during the hatch –the essential humidity immediately plummets, drying out the egg membranes and making it very difficult for the chick to get out. Try to avoid this at all costs. Remember that chicks when they hatch absorb the last of the yolk sac just before hatching, that is enough to keep them alive and well for up to 48 hours without any food or water.

Finally, we returned to the vital light issue and one of the most fascinating parts of Dr. Nixey's presentation – rearing the chicks. Nature controls daylight and darkness and chicks have evolved to suit this. The vital calcium which goes to make strong healthy bones is mainly deposited during the hours of darkness (remember that the chicks are light-sensitive), so never give them 24 hour light. They need the periods of darkness to grow properly as nature intended and 24 hour light can lead to leg and feet problems such as twisted toes and malformed joints.

He concluded by saying that feeding is especially vital in the early stages. If for some reason pheasant starter crumbs are not available, use turkey crumbs, not poultry crumbs, as the protein content in them will not be high enough, and never use out of date food – the essential vitamins and other compounds the chicks need to develop will have become useless. This was followed by a lively discussion, particularly on heating and lighting for rearing chicks, focussing on the use of infra-red heaters which also give light.

Dr Nixey was adamant appropriate periods of darkness are vital for the proper growth and development of the chicks, so for our precious birds infra-red heat lamps are not good – we should be using ceramic heaters which do not produce any light or contact brooders (electric hens). If the chicks are being reared indoors using only artificial light, the light source should be on a timer, carefully set to imitate the correct natural light periods for rearing, with a dimmer facility to give the chicks time to settle down before the light goes entirely.

WPA SURVEY OF CAPTIVE BIRDS 2018

Nigel Hester

The information you sent us last year was extremely helpful as it continues to add to records about the status of captive Galliformes in the UK, consequently allowing us to determine what necessary action might be needed and provide recommendations to breeders about stock levels. We would really like your help again this year to record the birds that were in your collection on 31 August 2018.

This information will then be anonymously combined with results from other breeders and we will be able to determine the trends of different species in collections in the UK and across Europe. Without this information the European Conservation Breeding Group cannot properly measure the status of captive birds and provide advice for their conservation.

The European census data are published on a specially created website. You can access it through a link on our website at www.pheasant.org.uk/census.aspx so that all those interested can access the summary results. Several examples in WPA Annual Reviews show that this information is essential for managing captive populations across Europe.

Please download the census forms from our website www.pheasant.org.uk/census.aspx or alternatively contact Barbara Ingman in the office (office@pheasant.org.uk or 01434 345526) if you require a printed form.

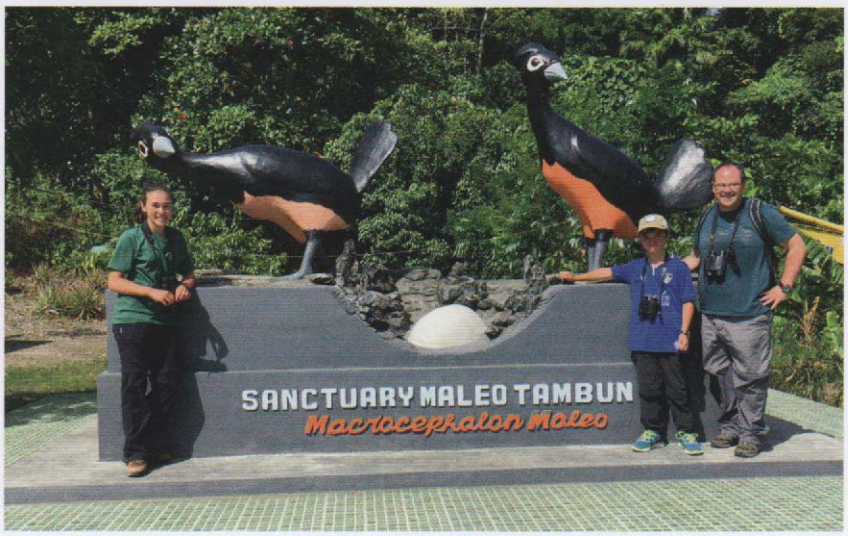
It is also very helpful to let us know if you do not or no longer keep any birds and we stress that all census returns are handled confidentially. Please do get in touch with the WPA office if you have any questions or problems completing the form.

To assist with the conservation of captive galliformes please fill out the forms and return them to the WPA office or to Nigel Hester (details on the forms) as soon as possible.

THE MALEO

Victoria Riley and Jon Riley

The island of Sulawesi has hit the news headlines recently because of the large earthquake and tsunami that hit the city of Palu in September. But the island is already well known to World Pheasant Association as the home of a unique species of Galliform, the maleo *Macrocephalon maleo*; WPA has been providing funding to the Wildlife Conservation Society - Indonesia Program (WCS) for the last three years to help support efforts to conserve this unique bird.



At the Tambun Sanctuary
Photo: Jon Riley

Maleo are endemic to Sulawesi and are restricted mainly to areas of tropical forest that have access to their special nesting grounds. This is because maleo are megapodes (= big foot) a group of birds that nest by excavating burrows in which to lay their eggs. The burrows are excavated either on beaches (to be warmed by the sun) or inland (heated by the numerous geothermal springs dotted across this volcanic island). Once the parents have excavated a burrow and laid an egg there is no further parental involvement. The chicks hatch underground and then burrow to the surface before dispersing independently into the surrounding landscape. This makes the birds extremely vulnerable. The large eggs (the biggest relative to body size of any bird) and very obvious burrows attract a range of predators to the nesting grounds, including monitor lizards, rats, dogs and inevitably humans. Destruction of forest and habitats around nesting grounds, disturbance on beaches or conversion of sites to agriculture have seen many known nesting grounds abandoned over the last 30 years. The maleo is now globally threatened with extinction and increasingly reliant on active protection of the few key nesting grounds in north and central Sulawesi.

Hungayono is surrounded by primary forest and is about 30 minutes walk from the edge of the forest
Photo: Jon Riley

In August 2018 Jon Riley, WPA's treasurer, and his family visited the Bogani Nani Wartabone National Park in northern Sulawesi. They were reviewing progress with the project, which Jon had helped to establish when he worked on Sulawesi 15 years ago. His daughter, Victoria picks up the story....

We hit the road after meeting Iwan Hunowu, Sulawesi Program Manager and overseer of the project. Iwan has worked for WCS for almost 20 years and was incredibly knowledgeable. We set out on a long six-hour journey from Manado, capital of north Sulawesi, to where we would be staying the night, so our first stop at Muara Pusian was a welcome one. Muara Pusian was the first of three nesting grounds we'd be visiting, all of which are being protected 24/7, 365 days a year by WCS. It was my goal to see as many maleo as possible and I could not wait to get started. Much to our luck it was here that we had our first encounter with the maleo. Amongst the sand near the hot springs we were shown the nesting grounds and as we crept through the bamboo scrub in the mid-afternoon heat we were surprised to catch a fleeting glimpse of an adult as we approached. Things were looking up, especially after I had the honour of releasing a maleo chick that had hatched only the night before.

It was another lengthy stretch by car to Tambun, the base of the project and the second nesting ground. Unlikely to see anything at our late time of arrival, we trekked out to the bird hides at 5:30am the next day in the hope of spotting some maleo. Splitting into two groups, I clambered up into a wooden watch tower and waited. Hours passed. Mosquitos buzzed. Ants nibbled. I saw nothing. To make matters worse at 9am Iwan contacted us by radio from the second watch tower across the clearing to say that he had seen a pair, but from where we knelt there was nothing. We took to the ground to scout the area near to where Iwan described, but it was too late. Then there was a rustle of leaves, two black tails, and nothing more. That was all we would see. Was the hunt for maleo floundering?

The nest sites are managed to keep an open ground cover but with a thick understorey. This management is based on research over the last 15 years. Photo: Jon Riley

Burrows are then excavated carefully, by hand, to see if eggs have been laid. The eggs are measured and burrow information recorded. Up to 15 eggs can be collected in one day Photo: Jon Riley

After a late breakfast and much-needed mandi (the Indonesian bath that involves throwing icy water over yourself with a bucket whilst screaming) it was into the cars again, for an eight-hour journey to Gorontalo. We arrived there after dark and would only reach our third destination, Hungyono, the next day after a pre-dawn car journey followed by a two-hour walk through the forest to the WCS-built research station. Here, in the middle of the national park and surrounded by rainforest, is the largest and best protected nesting ground used by at least 300 maleo pairs each year. I spent two days at the station. I learnt so much from Iwan during that time. He could identify every bird sound and call that we heard. It was striking how dedicated and skilled the rangers were that worked for the project. It was them that helped me finally see maleo in the wild. Iwan and I were trekking slowly through the forest bordering the nesting ground. We came around a large tree and there walking across the path in front of us I saw two maleo. At last! It was fantastic to be able to see such rare and brilliant birds in their natural habitat. Not to be outdone the next morning my dad broke our record with a sighting of seven individuals. Maybe I will beat him next time...

The search for maleo was an epic one. It might have taken a couple of tries but the third time proved lucky and I came back having learned so much from everyone involved. I have an understanding of the forest that few people my age have experienced, and I am eager to see what the next stage for this project will be.

WPA Council has recently approved the continuation of funding for the project for a further three years. This is to support WCS to start to investigate some of the mysteries surrounding the dispersal of maleo around the nesting grounds and how birds use an increasingly heterogeneous habitat landscape around these sites.

Above- The hatchery at Tambun has recently been rebuilt and is the largest and most robust structure. Eggs take approximately 60 days to hatch.

Left- After hatching the chicks are totally independent, can fly and have fully developed feathers and very powerful feet. Chicks can take two days to burrow out of the soil. The hatcheries are checked every day, but chicks can survive inside for at least a week. Newly hatched chicks are released by hand . Maleo chick being released by Victoria.

Photos: Jon Riley

HAREWOOD BIRD GARDENS

Hannah Frances Ahern

Harewood bird garden first opened in 1970 in the grounds and gardens of Harewood Estate, by the 7th Earl of Harewood, George Lascelles, and his wife Patricia Lascelles. The aim was to be a centre for bird conservation and was one of the UK's most comprehensive and diverse collection of birds, housing 140 different species of around 500 specimens. Over the years this included a well planted tropical house and numerous exhibits of mammals, reptiles, and invertebrate species.

Cheer pheasant
Photo: Hannah Frances Ahern

Sadly, over the years, the bird garden has been reduced which started with the removal of the old tropical house. This is yet to be replaced, though there are hopes for a new one in the future. Over the past several years new management has aimed to restore the bird garden, including opening it up to its full former site and gaining several new species. Of course, the focus is still on galliformes, and right now I believe we house the largest collection of galliformes on public display in the UK.

There were four aviaries funded by the WPA, built to house Himalayan species due to the link Harewood has with the region. These are still in use, housing four species of pheasant from the region, arranged in order of altitude. Planting mimics the region in which they are found. The first aviary houses a pair of Himalayan monal (Lophophorus impejanus) who breed yearly. Sadly, the hen has shown little inclination to sit, and so these eggs are always taken for artificial incubation. She is also a notorious egg pecker, although this may be due to the loss of an eye and subsequent lack of perception. She arrived here without the eye, but I believe it was caused by a veterinary accident.

Himalayan monal
Photo: Peter Stubbs

Inhabitants of the next aviary are a pair of non-breeding Indian ring-necked parakeets with a pair of satyr tragopan (Tragopan satyra). The cock of this pair is just a year old, but the hen always sits beautifully on anything she lays, so hopes are that come 2018 a clutch will be raised.

Next along are a pair of white rumped shama (Kittacincla malabarica) above a pair of cheer pheasant (Catreus wallichii). These cheer are two of only eight individuals found in UK zoos, sadly the species seems to not be of as much interest anymore. They are often heard calling together, which echoes far across the lake. During 2017, the hen was found limping badly and unable to put weight on her right leg – nothing obvious was seen under veterinary attention, although she has undergone several sessions of K laser therapy designed to improve the body's ability to heal. This has reduced the limping somewhat, though no eggs were laid this year and I wonder if this is due to the apparent leg injury.

The bottom aviary consists of a flock of pekin robins (Leiothirx lutea) along with a pair of Nepal kalij (Lophura leucomelanos leucomelanos), hatched this year and the first time the bird garden has housed this species. This pair is related, so the hope is to swap one for an unrelated pair.

The bird garden has focused a lot on the birds of the Himalayan region, other species include redbilled magpie (Urocissa erythroryncha) and black francolin (Francolinus francolinus) along with a host of species currently in the collection plans for future development. Other galliforme species housed include a single cock yellow-necked francolin (Pternistis leucoscepus) which we are currently looking to pair up, two cracid species, Edwards' pheasant (Lophura edwardsi), and more.

One of my favourites is the collared hill-partridge (Arborophila gingica), a beautiful near threatened species endemic to China. Our breeding pair are very successful and would gladly raise at least two clutches per year if given the chance to. A lot of our pheasant stock is currently very young

Collared hill-partridge
Photo: Hannah Frances Ahern

and will only be coming into their second-year next spring, so we are hopeful for next year's breeding season.

Our future plans include increasing the number of galliformes in the collection, and currently confirmed is the return of the great argus pheasant (Argusianus argus) to Harewood. This wonderful species will be mixed with cockatoos in the largest aviary we own. During their previous tenure at Harewood, their calls could be heard echoing across the lake quite frequently, so much so as to disturb the filming of Emmerdale which happens close by.

The bird gardens fiftieth anniversary is in 2020, and along with this we hope to release the future plans for the bird garden, including new aviaries and developments across the wider site. The year will be met with a focus on birds and the history of the bird garden, including visits from guest artists.

Left: Guineafowl
Photo: Hannah Frances Ahern

ALBINO LADY AMHERST

Ricky Wharry

My love for pheasants began around six years ago after a visit to a local breeder. I came away stunned by the colours and curious personality of many of the birds.

Soon after, I began constructing and adapting existing aviaries that at that time housed various pigeon and dove species. After researching, via borrowed books and the Internet, I decided that the Lady Amherst was the most suitable species for me to begin with. I purchased a young and healthy unrelated pair, which were believed pure and not containing golden blood. I brought them home and kept them in adjoining flights for two weeks, allowing them to become accustomed with each other. They were then released into their permanent aviary that would be shared with a pair of emerald doves.

The birds bred the following year, hatching and rearing four chicks, and continued to produce healthy young for the next two seasons. During this time I had built my collection up to 15 species including peacock pheasants, tragopan and eared pheasants. In their fourth year, a clutch of eggs from the original pair hatched a bird completely white in colour and with red eyes...an albino

Albino chick
Photo: Ricky Wharry

Albino with normal coloured sibling
Photo: Ricky Wharry

Amherst chick. The first of its kind from the upwards of 30 normal coloured birds the pair had previously produced.

Sadly the chick did not survive and died within 12 hours of hatching. A second albino chick hatched from a later setting of eggs but shared the same fate and died before it could be taken from the hatcher. No other albino chicks were produced that year.

The following May a third albino chick was hatched along with seven normal siblings. The bird was weak but after 24 hours was still alive and removed from the hatcher. Not making an attempt to eat or drink, it was hand fed live mealworms and given water at three-hourly intervals for around six days. Surprisingly, the chick began to feed and drink independently. Whilst accepting starter crumbs, I continued offering mealworms for the next few weeks. During this time, 23 days after the first chick had hatched, the albino had a companion.

I treated the second bird as I did with the first, and both chicks thrived. Having both shared their brooders with grey peacock pheasant chicks, both birds were placed into a rearing pen on their own and remained there until approximately 20 and 24 weeks old.

At this point, both birds were placed in an aviary with access to a grassed outdoor section that they shared with a lone pied imperial pigeon. They were kept on a basic diet of maintenance pellets and pigeon conditioning seed. Due to their impaired eyesight, both were reluctant to venture from their shelter and spent most of their time indoors. Eventually, both birds began to enjoy time outside under the shade of a favoured rhododendron.

When both birds moulted into adult feather it became apparent that they were male and female. Although being full siblings, they remained together and on May 19 of this year, the female laid her first egg and continued to lay a further seven. All eggs were infertile and a second clutch was not produced.

Albino chicks
Photo: Ricky Wharry

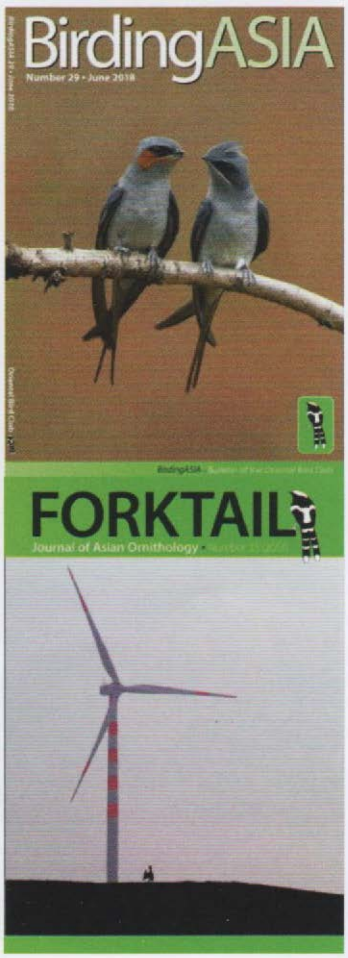
Albino male
Photo: Ricky Wharry

ORIENTAL BIRD CLUB

John Gregory

With the increasing ease of travel to the more remote corners of the world attracting birdwatchers to countries such as India, Thailand and Malaysia in the 1970s and 1980s, the Oriental Bird Club—or OBC, as it is mostly commonly known—was established in the UK in 1985 by a group of British birdwatchers with an interest in and concern for the birds of Asia.

The Club continues today to provide a platform through which birdwatchers can learn more about the birds of the Orient whilst also contributing to ornithology. OBC has three principal aims: to promote an interest in the birds of the Oriental region and their conservation; to liaise with and promote the work of existing regional organisations; and to collate and publish material on Oriental birds. OBC now has a membership of just under 2,000, with roughly a third of them in each of the UK, Asia and the rest of the world.



The Club publishes a twice-yearly bulletin, BirdingASIA, and the more scientific peer-reviewed Forktail both to keep its own members updated on ornithological events and developments across the region and to encourage and provide means for ornithologists to publish their own observations on Asian birds. Another of the Club's most significant activities is to support ornithologists and conservationists, particularly those native to the Oriental region, through its Conservation Fund. To date we have distributed more than £500,000 to projects which we have considered worthy of support. And, being rooted deep within the Oriental region, the Galliformes appear regularly within the pages of OBC's publications—for example, a paper on the status of Edwards's pheasant *Lophura edwardsi* in the latest issue of Forktail—and in projects supported through the Conservation Fund, most recently an education project in Nepal for the cheer pheasant *Catreus wallichii* and a study of the status and ecology of western tragopan *Tragopan melanocephalus* in Pakistan.

For more information on the OBC, including details of membership and how to join, visit our website at www.orientalbirdclub.org. A sister website, Oriental Bird Images, now contains more than 150,000 photographs covering almost every species which occurs in the Oriental region. This valuable resource can be found at www.orientalbirdimages.org.

20 YEARS OF SILVER PHEASANT IN OUR AVIARIES

Reinhard Mehrkens and Heinrich Marx

Originally published in WPA Germany Newsletter 2/2018 (Nr.135)

This is a retrospective of the becoming of a silver pheasant subspecies. We do not address how these birds should be bred since they can be kept and augmented like any other silver pheasants. The distribution area of the Jones's silver pheasants (*Lophura nycthemera jonesi*) stretches from the mountains of North and Central Thailand to the Korat region in south and from southwest Yunnan and the southern states of Shan to the east from the river , and to the west from the river Mekong.

Head portrait of a Jones's silver pheasant
Photo: Friedrich Esser

In 1995 a large batch of imported pheasants from Thailand arrived at Vogelpark Walsrode, among the different species were Jones's and Lewis's silver pheasants. The Vogelpark had no interest in some of the species and they were handed to a WPA member, Wolfgang Weise, in Celle. The birds were still young so Wolfgang had to first raise the birds to adults and then he could start identifying the birds into species and subspecies. He found two Jones's silver pheasants among them. Reinhard Merkens and Heinrich Marx started immediately towards Celle to have a look at the birds and decided to buy offspring from these birds. But they had to wait until 1998 for the birds to become fertile in their second year. Then they brought all three chicks from one pair (2,1) from a natural incubation and a female chick from another pair.

Merkens and Marx heard later that the father of the three chicks had unfortunately flown away. They were lucky to have offspring from two pairs so that they had a little bit more space to play with genetics. In the coming two years they successfully raised young birds and gave them to interested breeders. Merkens and Marx also made study trips to neighbouring countries to find out if more Jones's birds had come to Europe. They visited Wouters family in 2003. Wouters family in Belgium had imported eggs, but they had been able to raise only one cock. This individual had unfortunately been so aggressive that it took the life of every silver pheasant female it encountered, so they gave him away to an enthusiast.

A pair of Jones's silver pheasants eating scattered seed
Photo: J. Pfleiderer

On a journey to England with other WPA members in 2003, Merkens and Marx found several Jones's pheasants in the aviaries of Michael Klat. Nowadays there are apparently no Jones's left in the Klat aviaries and it is not clear if there are any left of this bloodline in England.

Since the offspring that Merkens and Marx bred looked identical year after year, they suspected that their birds were of pure breed. During their England visit they also visited the Walter-Rothschild Museum in Tring. There they were able to see and take photos of silver and black pheasant skins. Two drawers contained skins that were identified as Rippon's silver pheasants. At a closer look, it showed that the other drawer content was marked to originate from Myanmar and the other from Thailand. The cocks from Myanmar were altogether much darker in color. Pictures of the Jones's pheasant were shown to the museum curator, they admitted that they looked exactly like the cocks from Thailand. He promised to change the identification from Rippon's to Jones's silver pheasant. Reinhard Merkens had to verify with his signature

that this was done because of their suggestion. Until today no one has come with counter evidence, and this happened 15 years ago.

Unfortunately, it seemed that pure breeding was not paid much attention to among silver pheasant breeders. This is why in 2005 a focus group for silver pheasants was formed, Reinhard Mehrkens as the spokesman. Lately this group has not been as active as before. In the last 20 years of breeding and keeping Jones's silver pheasants, there have been no signs of inbreeding, despite the fact that the whole stock derives from only four individuals. It would be delightful to get some new blood into the line, but it is difficult to obtain new animals. Some Austrian breeders were able to hatch imported eggs, but the only male was infertile. Tomas Pes from the Pilsen Zoo could not help either since their birds came from Christian Möller whose birds also originated from the same four birds.

Subadult Jones's silver pheasants in Thailand
Photo: Friedrich Esser

The birds are best described through photos. Details can be discussed, but otherwise literature is the best place to find informative descriptions. Marx and Mehrkens hope that through this story they can gain more interest among the breeders that are interested to stay loyal to silver pheasants, so that the coming generations also can enjoy these beautiful animals. Who knows, maybe one day the birds will be transported back to their home countries.

The focus group for silver pheasant was founded in 2005. The last few years have been rather quiet regarding action, but in the near future this should change. A young, enthusiastic breeder, Marc Ovelgönne, will help to build a homepage for the group. He is very interested in silver and black pheasants. The focus of this group is the pure breeding of the subspecies Jones's and Lewis's silver pheasants. More of this will be addressed in the next WPA Germany letter and on the homepage.

A stud cock at Heinrich Marx showing his wings as a part of the courtship behaviour
Photo: H. Marx

PROGRESS REPORT

CAN GENETIC TECHNIQUES IMPROVE OUR UNDERSTANDING OF CAPERCAILLIE POPULATION SIZE AND SURVIVAL RATES?

Dr Kathy Fletcher and Dr Gill Murray-Dickson

Introduction

Capercaillie *Tetrao urogallus* numbers have declined in Scotland since at least the mid-1970s, (Moss, 1994; Catt et al., 1998). The national survey, conducted over-winter 2009-2010, estimated the current capercaillie population in Scotland to be 1285 individuals (95% CL 822-1822; Ewing et al., 2012). The current distance sampling method being used for Scottish national surveys is labour intensive and produces population estimates with large confidence intervals, so it is difficult to detect significant differences in population size and trends at a local scale.

Genetic techniques have been widely used to examine historical and contemporary distribution of genetic diversity across capercaillie populations in Europe. The feasibility of using genetic techniques to estimate the population size largely depends upon underlying population genetic structure and diversity. Whilst the Scottish population has previously been included in both population genetic and phylogeographic analysis of European populations, (Segelbacher et al., 2003, Segelbacher & Piertney, 2007), the use of genetic profiling to estimate population size and survival rates have not been previously considered.

During a pilot study in in August 2014, capercaillie feathers were collected whilst undertaking other surveys in Kinveachy and Rothiemurchus Forests (Strathspey, Inverness-shire). A total of 113 feathers were collected across both forests in 2014 (74 from Kinveachy and 39 from Rothiemurchus). Using nine microsatellites previously used for capercaillie elsewhere in Europe (Piertney & Höglund, 2001, Segelbacher et al., 2000), we identified 33 males and 11 females in Kinveachy and 14 males and 8 females in Rothiemurchus. There were also 4 and 14 individuals of unknown sex from Kinveachy and Rothiemurchus respectively (full details included in Fletcher et al. 2017). Due to the larger number of identified individuals in Kinveachy, this forest was the focus of work in 2016.

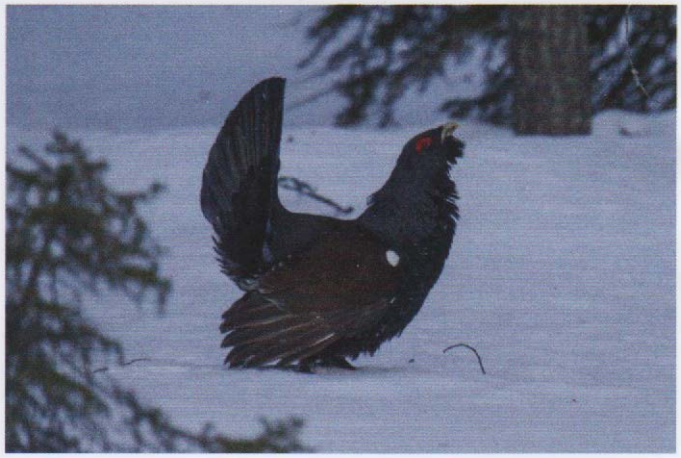
Project objectives

We hope to build on a previous pilot study to assess the intensity of sampling required to repeat sample the same individuals over time and hence derive an estimate of annual survival using genetic techniques. The numbers of individuals (population estimate) and survival rates estimated from genetic analysis will be compared to estimates from field techniques (numbers recorded at leks in April, during surveys in August and from radio-tracking).

Results

The number of individuals identified from DNA analysis

DNA was successfully extracted from 67 of the feathers collected in 2016 (85%), the remaining feathers, being of poor quality, did not produce viable DNA. Amongst the samples collected in 2016 and classified as male in the field, 65% were sexed using molecular methods. Within the 2016 feather samples that were identified as male in the field, 32 individuals were identified from DNA analyses (31 males and one female).



'Western Capercaillie (Tetrao urogallus)' by Ron Knight on 6 April 2014 taken from Flickr (CC BY 2.0)

The number of individuals resampled within and across years

In 2014 the 88 samples led to 55 unique individuals being identified, which equates to a resampling rate of 1.6. In 2016 there were 14 matched pairs within the 45 male samples leading to 31 unique individuals being identified (resampling rate of 1.5). Four individuals are thought to have been identified in both years. This equates to 12% of the 2014 males from Kinveachy being found in 2016.

Comparison between genetic analysis and traditional field methods

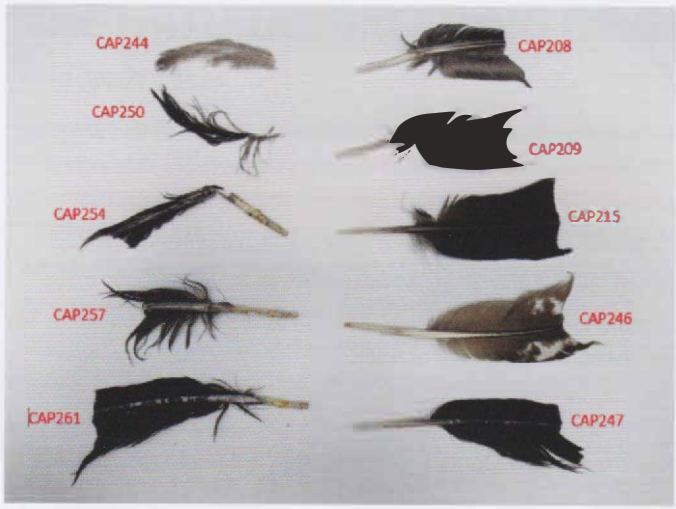
Numbers of individuals: Within the area used for feather collection the count of males attending spring leks was lower than the number of individual males identified from genetic analyses. The number of individual males identified from genetic analyses were 7 – 18% greater than the number recorded at leks (but not all individuals genetically identified were sexed in 2014). The number of males recorded in August was 45% lower in 2014 and 25% higher in 2016 than the number identified using genetic analyses.

Estimated survival rates: Within Kinveachy forest 33 males were identified from genetic analyses in 2014. Four individuals were resampled in 2016, which, if the sample set is assumed to be representative of the actual population, equates to annual survival rate of 35% in each of the two years.

Survival rates from telemetry studies estimate annual survival rates of 81% (95% CI: 63% – 92%) in Scotland. Using these field survival rates over the two years between feather collections (e.g. 33 individuals x 81% x 81%) we would expect to resample 22 (95% CI: 14 – 28) or 16 (95% CI: 9 – 18) individuals assuming a closed population.

Discussion

There are two avenues of potential error that may account for the differences between values calculated from field methods and genetic analyses. These are laboratory artefacts/error or insufficient sampling/study design (not enough feathers collected).



Difference between 'good' feathers (on the right) which produced viable DNA and 'bad' feathers (on the left), which did not.

The performance of the genetic marker panel has been quality controlled to ensure that the markers have performed as expected. Samples have been genotyped up to three times in the laboratory to ensure consistency of results and all microsatellite profiles have been scored by a single operator to minimise inter-operator errors and inconsistencies in the results. Given that repeated genotypes were detected within each individual year's sample set (1.5 – 1.7 resampling rate, where 1.0 equates to all individuals only being recorded once), there is evidence that the marker panel is sufficient for the task in hand. A subsample of the feathers from both years was also rerun within the same batch to check for consistent genotype calling at the sequencing facility and exclude the chance of a batch effect between sampling years. The Genotype match analysis was also performed across the 2014 and 2016 sample sets using two different types of software to confirm results.

An alternative, field-based explanation for the lack of repeat genotype profiles seen between years is related to the sampling effort involved and the proportion of the population being sampled. If the current study has inadequately sampled the population, and the number of identified individuals from 2014 are actually only a small proportion of the population, then the chances of re-sampling these individuals in subsequent sampling periods is reduced and a larger sample size is required. The number of individual males identified from genetic analyses was seven – 18% greater than the number recorded at leks. Watson & Moss (2008) suggest that only half the males within the population attend leks, so if feathers had been collected from all individuals (and successfully analysed) we may expect number of individuals identified from genetic analysis to be 50% higher than numbers recorded from leks.

If all males in the population are assumed to have been sampled in both years for genetic analysis, and survival rates are assumed to be equal to those extrapolated using telemetry studies (Moss et al., 2000), then survival of 2014 individuals was 5.4 times lower in 2016 (95% CI: 3.3 – 7.0) than might be otherwise be expected for a closed population (i.e. 4 individuals compared to 22 expected using a mean survival rate of 0.81 from Moss et al., 2000). The discrepancy is most likely attributed to a variation in the proportion of the population sampled using the different study techniques.

Another contributing factor to low resampling rate may be that we are not dealing with a closed population. As male capercaillie are considered sedentary (Watson & Moss, 2008) we would expect immigration/emigration to be negligible. Population change may also occur due to recruitment into the population. Productivity was higher in 2014 than in 2015 with 37 and 7 young recorded in each of these years within the study area (The Game & Wildlife Conservation Trust 2014, 2015). Assuming 50:50 sex ratio (not all young were sexed during surveys) this equates to 19 and 4 juvenile males. Juvenile survival from field methods is estimated to be 52% (95% CI: 9 – 85%, Moss et al., 2000) and the 2014 cohort would also have a further year of adult survival before feathers were collected in 2016. Therefore 8 new males (95% CI: 1 – 14) may be recruited into the population between 2014 and 2016 feathers collections.

This current project collected 78 male feathers within a study area of 11 km2 (7.2 samples km-2). This is a relatively small sample size when compared to previous sampling efforts in the Bohemian forest employing a team of volunteers to collect samples, which achieved a far larger sample collection (n=7500 faecal samples; 550 genotyped with samples collected over 120 km2, Rösner et al., 2014). Larger numbers of samples are expected to ensure a more thorough coverage of the intended population and thus their improved resampling rate (estimated at approximately two samples with each unique genotype profile). The resampling rate achieved by Rösner et al. (2014) was greater than achieved within the current study however the number of faecal samples per unit area was lower (4.6 samples km-2).

Male capercaillie
Photo: 'Capercaillie' by Terje Asphaug on 3 May 2008 taken from Flickr (CC BY 2.0)

The project was undertaken by Game and Wildlife Conservation Trust and Royal Zoological Society of Scotland, and was funded by WPA.

VIETNAM SYMPOSIUM

John Corder

The 7th WPA International Symposium will take place on Monday 23 September and Tuesday 24 September 2019 at the Saigon Quang Binh Hotel in Dong Hoi City, Vietnam. Dong Hoi is in Quang Binh Province and is one of the provinces where Edwards's pheasant was originally found. The Symposium will be organised jointly by WPA and our partners in Vietnam, Viet Nature.

We have begun to compile a programme of tours which delegates may wish to join, both before and after the actual symposium. We hope to have finalised plans within the next couple of months, but here is an outline of what we hope to offer.

If delegates wish to explore Hanoi and surrounding areas before the symposium, we suggest that you plan to arrive in Hanoi on either 16 or 17 September. This would allow time to explore the famous Old Quarter of Hanoi, visit some of Hanoi's well-known sites and see the Edwards's pheasants at the Zoo. A visit to the traditional water puppet theatre is also an option. Then on Thursday 19, we hope to hire a WPA boat to visit and explore the World Heritage Site, Ha Long Bay for 3 days and 2 nights. We are currently exploring the costings for this but are very hopeful that we can make this a very relaxing but stimulating trip. We can recommend three hotels in the Old Quarter with differing prices, but all very reasonable.

Delegates can then choose to fly south from Hanoi to Dong Hoi on the afternoon of Saturday 21 or on Sunday 22 September. The flight takes just over an hour from the domestic terminal. There is also a train service which takes around 12 hours but is not as comfortable or as speedy as the one we used in China. Delegates who do not participate in the pre-symposium activities should probably try to reach either Hanoi or Ho Chi Ming City (Saigon) in time to fly to Dong Hoi on that Sunday.

The actual symposium will start with dinner and a welcome lecture on the evening of Sunday 22 September, and the lectures and poster sessions will take place during the next two days, concluding with a final dinner on the Tuesday evening.

We have then planned three post-symposium tours.

Post-Symposium Tour 1 will still use the Saigon Quang Binh Hotel as a base. On Wednesday 25 there will be a field trip by coach to the breeding centre for Edwards's pheasant and to view Khe Nuoc Trong Reserve. This Reserve is one of the few in Vietnam where hunting has not been too severe, and many very rare species have been located in Viet Nature's camera traps. It is where the first Edwards's pheasants will be released. On Thursday 26 & Friday 27 there will be a choice of a 2-day trek into Khe Nuoc Trong Nature Reserve with Viet Nature staff (strenuous), or a coach tour to view Khe Nuoc Trong Reserve wildlife from the roadside, and visits to other Wildlife centres (not strenuous). It is hoped that both tours may offer glimpses of the extremely rare red-shanked langur.

Post-Symposium Tour 2 will start from Dong Hoi on Saturday 28 September. Tourists will travel to Huế taking in a tour to the Vinh Moc Tunnels, Hien Luong Bridge, and the Vietnamese demilitarized zone (DMZ) in Quang Tri Province. During the following 4 days, there will be visits to the Imperial Citadel in Huế, Thien Mu pagoda, Dong Ba market, Hội An (World Heritage Site) and a very leisurely cycle tour through the scenic countryside. It is hoped also to include visits to Wildlife Centres in the locality.

After the Tour finishes – flights are available from Da Nang to Hanoi and Hoi Chi Minh. Saigon Zoo in Ho Chi Minh City has the only breeding facility for crested argus, so you may consider finishing your tour with a visit to see these birds, and then travel home from HCMC. There is also the option to stay longer, book a hotel and explore HCNC.

Post-Symposium Tour 3 - Saturday 28 September leave Dong Hoi and fly to Northern Thailand for a tour with Friedrich Esser to view green peafowl in the wild. Details are still to be worked out for this tour, but Friedrich has lived near Chiang Mai for many years and knows green peafowl very well. Many WPA members may have seen his wonderful photos of Thai wildlife.

Further details will appear on the WPA website as soon as they are available. Please also let Barbara Ingman know if you are interested so that she can provide you with information as it becomes available.

THE NATURAL BREEDING OF GREEN PEAFOWL IN CAPTIVITY

Friedrich Esser

Breeding green peafowl is no easy matter, many peahens seem to have lost the natural instinct to breed, or perhaps conditions locally are just unsuitable for them. Here in Thailand we have enjoyed some success and the following article explains our methods for their breeding and care.

One of our breeding aviaries
Photo: Friedrich Esser

Our green peacocks belong to the subspecies *Pavo muticus imperator*. We keep them in large natural aviaries twelve by nine metres and three metres high, which are generously planted with bamboo, hibiscus and small palm trees. In the aviary's corners we place triangular mats made of bamboo, these double as nesting sites and hiding places should the cock bird become too amorous for the hen, and they remain in place all year. We feed our peacocks as we do our other pheasant species; pheasant pellets (20 percent protein), mixed seeds, a little puppy food (approx 32 percent protein), peanuts (two each per bird) and fruit (bananas, mangos, papaya). The grass in their aviaries also provides wild food such as frogs, geckos and termites.

Breeding place
Photo: Friedrich Esser

In Thailand our peafowl begin to nest towards the end of March. Three weeks after the first copulation and two days before the first oviposition the hens will carefully examine their nesting spot and dig a shallow scrape there. Every two to three days the hen will lay an egg until the clutch is complete (normally five eggs). The day before the fifth egg is due the hen will begin incubation, crouching patiently, watching in all directions, she will the leave nest only briefly in the early morning and evening to feed.

During incubation and the rearing of the chicks, the cock bird remains within the pen. None of our cock birds have ever attacked the hen on the nest or the juvenile birds. Most of the time they remain passive throughout the nesting season, some males do not seem to care where the hen nests, others often sit in front of the nest for days waiting for the hen and are often startled when the hen and her chicks leave their nest for the first time! The cock tolerates the chicks as they appear to realize that they belong to the hen but it is extremely rare for the cock to help the hen feed the chicks.

The chicks hatch after about 28 days of incubation and the first thing the hen will offer to the chicks are small fragments of their own eggshells. After 30 hours the hen leads the chicks away from the nest in search of food and water. The first real foods are small insects which the hen finds in the aviary's grass and offers directly to the chicks. We also provide a commercial chick crumb (20 percent protein) and seeds such as small millet seeds, the latter of which are taken from about four days.

After hatching the chicks sleep on the ground, sheltering beneath the hen until around ten days when they will be able to fly to about two metres and roost with the hen on a perch. Parent-rearing also seems to produce fewer issues such as crooked toes, squabbling and feather pecking within the chicks. The growing poults will remain with the hen for nine to ten months (just as they would in the wild) and once they are self-sufficient the hen will have just a short time to recover from her rearing before she is courted again by the male. Green peahens spend almost their entire life caring for broods of chicks.

Green peacocks can be aggressive, especially the cocks. Strangely we have found that the cocks seem to accept a woman as a keeper more readily than a man, so in our aviaries my wife cares for the peacocks. One of our peahens however

Hen with five chicks
Photo: Friedrich Esser

would sometimes attack my wife during her daily feeding. This hen was rebuffed by her mate who, with a couple of strong spur strokes, learned her better manners so that my wife and the hen are now good friends!

Hen with chicks on perch
Photo: Friedrich Esser

Peahens make excellent natural mothers but are also quick to become protective with their chicks, care should be taken if you offer treats directly to the chicks as the peahen can become very aggressive to the keeper. Aggression in peahens was also noted in other situations. For instance, we have found that a second or third peahen within the aviary can lead to trouble. The hens always seek a pecking order within their ranks and fighting can become so incessant that the male bird has actually intervened and fought one of the hens to bring some peace within the aviary. We also advise that the male bird be older than the hens as one year we put together a trio that had grown up together and which were all the same age. When these birds were about two years old both hens attacked the male, so much so that we had to remove one of the hens and the remaining peahen fitted temporarily with poultry goggles. After the next moult, the situation reversed completely, the cock, now in his third year, returned to the hen what he had endured the last few months and took the status of the dominant bird.

In another instance a trio of five-year old hens were introduced to a year old cock. He also went through the hell and when the breeding season approached was fought by all three hens and (we later discovered) only one hen allowed him to mate. All three hens brooded in separate corners of their aviary and one of the hens regularly pursued the cock every time she got up from the nest to eat (this can be a natural wild behaviour, as a cock lingering by the nest can attract predators). After a few days I candled the eggs and my suspicion proved correct that just one clutch was fertile. We swapped the unfertilized eggs from the two hens and replaced them with fertile eggs from the incubator. The first chick hatched came from one of the unmated hens. A day later two more chicks hatched out under the second unmated hen and we soon found ourselves facing a problem when the chicks ran from one hen to the other and did not know who their mother was, the two hens then became jealous of one other! We removed one of the last two hatched chicks and placed it in a rearing box with other young peacock chicks. Because we had no free aviary to move the remaining hen with eggs, three days later her three chicks hatched. Now the confusion was of course even worse among the chicks and three hens! Once again we removed two chicks and with one chick each our hens finally got along. One week was all it needed until the chick knew to which mother it belonged and we also observed that the hen's social ranking in the group was also echoed by her chick. The young cock bird, appropriately called Valentino, is now mature and recognised by his three hens as the dominant bird and we hope that it remains this way.

Problems with pairing can be worked out with careful thought to the ages of birds and workable ratios and this year all of our six peahens hatched chicks for us, which as breeders eases our workload.

At some point comes the day of separation. Many birds never forget this day, so when the time comes for catching and moving the young birds we take great care not to lose their trust by wearing unfamiliar dark clothing and even a matching dark motorcycle helmet to disguise ourselves so that the remaining birds will not associate us with threat of being caught and handled. The new owners, ready to collect and transport their birds, are also advised to remain hidden while the stressful process of catching and boxing the young birds takes place. Happily the birds are quick to accept their new environment and become tame for their owner especially when treats are offered.

Keeping green peacocks is a real pleasure, watching the family group with all the different characters and interactions will delight the breeder over many months and years. Should anyone have any further questions on this topic please feel free to email meparameshwara@web.de

Rare to see- male giving a chick food
Photo: Friedrich Esser

SCOTTISH OPEN DAY 2018

Ian Clark

Every year, WPA members in Scotland arrange an 'Open Day' where members and their friends can visit a bird collection, exchange birds and have a good old natter. This year, the event was held at the home of WPA Chairman Keith Chalmers-Watson at Fenton Barns, and turned out to be much larger than usual. In fact, 'Scottish' wasn't accurate – it was like a League of Nations (or maybe a parcel of rogues!). We had members from England, Northern Ireland and Eire, and even two visitors from Europe, who had timed a visit to the UK specially to attend the Open Day.

Sietze de Boer, who specialises in Cabot's tragopan, and Raf Roelants, who has many of the remaining pure subspecies of true pheasants (the colchicus sub-species), had a great day meeting our UK breeders, making many new friends in the process, and passing on their specialised advice to UK members.

The collection at Fenton Barns is extensive and contains a wide range of phaesanid species, from the large cracids down to exotic partridges, laid out in beautiful rolling Borders countryside. It has examples of all the common species, of course, but also contains numbers of species which are rarely found in captivity.

WPA Chairman Keith Chalmers-Watson in deep discussion with visiting European members
Photo: Paul North

We enjoyed the rare opportunity to see all of the species of peacock pheasants, Sumatran green junglefowl, Bulwer's pheasants, rare firebacks and, unusually, many phasianid species from Scotland. With capercaillie, black and red grouse, even the elusive ptarmagin, only found on the tops of our high mountains.

Java green junglefowl - very rare in captivity
Photo: Paul North

The group was so big that we had to split it into two, one being shown round by Keith, and the second group led by Stewart Henderson, Keith's right-hand man at the collection. The collection is so large that it takes around three hours to walk round (slowed down, of course, by the many technical and often highly amusing discussions that always take place on such days), and we were lucky – in a week where howling winds and heavy rain were the norm, the sun remained out for the whole duration of our visit.

After the tour, we gathered in Keith's house, where his wife and family had laid on a beautiful lunch for us all, and we were able to relax and spend several hours discussing the fascinating birds and breeding methods we had been shown.

The day was, as always, a great chance for old friends to meet, new friendships to be formed, and a huge amount of information exchanged and considered. We are so lucky in WPA to be able to do this, and sincere thanks are due to Keith and his family for arranging the event and making the day such a pleasure in every way.

NEWCASTLE DISEASE

Poultry and game bird keepers across the United Kingdom have been urged to be vigilant of Newcastle Disease following reported cases in flocks across Europe. Recent cases in Belgium, Netherlands and Luxembourg have led to Animal and Plant Health Agency (APHA) experts to advise that the risk of the disease in UK flocks has risen from 'low' to 'medium'.

Newcastle Disease is caused by a virulent strain of paramyxovirus and can be spread through direct contact with the bodily fluids of infected birds. It can cause severe losses in certain poultry species, including: commercial and specialist breeds, pet chickens, game birds, and other captive birds, including racing pigeons.

Public Health England advises the risk of Newcastle Disease affecting people is very low.

Christine Middlemiss, UK Chief Veterinary Officer, said:

The Animal and Plant Health Agency experts have advised that the risk of disease has risen to 'medium' following reports of Newcastle Disease in mainland Europe.

I urge all poultry and game bird keepers - whether of commercial,

smallholder flocks or specialist breeds, or pet chickens - to remain vigilant to the clinical signs of this disease, and urge them to put in place strong biosecurity measures to ensure the health and welfare of their birds.

Poultry species that are affected by Newcastle Disease may show the following clinical signs:

- Respiratory distress, such as gaping beak, coughing, sneezing, gurgling and rattling
- Nervous behaviour, such as tremors, paralysis and twisting of the neck
- Unusually watery faeces that are yellowish-green in colour
- Depression and a lack of appetite
- Produce fewer eggs which could be misshapen and soft-shelled

Defra's Advice to Gamebird Keepers and Vets:

Keep an eye on your birds for the signs of Newcastle Disease (above)

- Maintain best practice biosecurity on your premises
- Talk to your vet if you have any concerns and to discuss vaccination strategy.
- Make use of disinfectant footbaths on entering and leaving bird areas
- Ensure you use a vet who is familiar with commercial poultry/gamebirds who can give you advice on disease control
- This strain of Newcastle Disease is particularly virulent and has not recently been seen in North Western Europe
- This strain appears to be transmissible even in vaccinated birds – though with supressed clinical signs
- Mortality rates in Belgium were 10-20% of birds in affected flocks (even in vaccinated flocks)
- Vets and gamebird keepers should ensure that breeding game birds are effectively vaccinated
- Any vaccination boosters should be administered as per manufacturers recommendation
- Vaccination protocols must be suited to the type and age of bird (injectable/oral/spray)
- Ensure correct storage and administration of vaccines is carried out.
- Gamebird rearers should consider vaccinating birds during the rearing cycle

If a bird keeper suspects that their birds may be infected with Newcastle Disease, they should contact their private vet and the APHA immediately.

CBAG MEETING 2019

Nigel Hester

The Conservation Breeding Advisory Group (CBAG) invites you to join us for the annual Avicultural Weekend to be held at Sudeley Castle (www.sudeleycastle.co.uk), in Winchcombe on Saturday 9th February 2018.

This year the evening meal will be at the Abbot's Table, restaurant in Tewkesbury on Saturday evening. As per last year we will have a free choice from the full menu which can be viewed on their website: www.theabbotstable.co.uk.

Full details of the weekend and the application form in Word and PDF format are available on the website: https://www.pheasant.org.uk/aviculturalweekend.aspx. If you do not have internet access then please contact Barbara at the office and she will post an application form and menu.

Billy Wilson and Stuart Wilson have put together an interesting and varied agenda for this year's meeting and due to it's success last year there will be a repeat of the "Question and Answer" session. Please send questions to the office either by post or email and they will be forwarded to the panel. The questions don't have to be limited to aviculture topics but can be scientific or about the governance and future of WPA.

Provisional Programme:

10:15	Registration tea/coffee
10:45	Welcome by CBAG chairman Billy Wilson
11:15	Hein van Grouw, Senior Curator, The Natural History Museum, Tring, Herts - Aberrations in birds
11:45	Delacour interview with Tim Lovel
12.15	Katrina van Grouw – illustrator and author of The Unfeathered Bird and Unnatural Selection
12:45	Lunch buffet
13:30	Tour of the Pheasantry at Sudeley Castle
14.30	AGM and Election of CBAG officers
15:00	Update on Symposium in Vietnam & Chinese Monal Breeding Programme - John Corder
15.30	Refreshment break
16.00	Question & Answer session with our panel of Galliformes Aviculturalists
17:00	A new video of pheasants in the wild Stuart Wilson
17:30	Finish
19.00	Dinner (venue to follow)

SCIENCE DIGEST

An introduction to some of the recently published papers on various aspects of galliforme biology gleaned from a range of international journals.

Longest sage grouse migratory behavior sustained by intact pathways.

Newton, R.E., Tack, J.D., Carlson, J.C., Matchett, M.R., Fargey, P.J. and Naugle, D.E., 2017. The Journal of Wildlife Management, 81(6), pp.962-972.

Population size assessment of the Endangered red-billed curassow *Crax blumenbachii*: accounting for variation in detectability and sex-biased estimates.

Alves, F., López-Iborra, G.M. and Silveira, L.F., 2017. Oryx, 51(1), pp.137-145.

Taxonomy, phylogeny and biogeography of African spurfowls (Galliformes, Phasianidae, Coturnicinae, Pternistis spp.).

Crowe, T.M., Mandiwana-Neudani, T.G., Little, R.M. and Bowie, R.C., 2018. bioRxiv, p.329243.

Complete mitochondrial genome of ring-necked pheasant *Phasianus colchicus* alaschanicus from China's Helan Mountains and description of its phylogenetic relationships in Galliformes.

Zhao, C., Gao, H., Sun, Y., Liu, Z. and Teng, L., 2017. Biochemical Systematics and Ecology, 70, pp.43-49.

Crumble analysis of the historic sympatric distribution between *Dendrortyx macroura* and *D. barbatus* (Aves: Galliformes).

Mota-Vargas, C., Galindo-González, J. and Rojas-Soto, O.R., 2017. PloS one, 12(9), p.e0183996.

CHINESE MONAL

John Corder

Fengtongzhai Chinese Monal Breeding Programme in Sichuan Province is the only place in the world to have a breeding programme for this species. With help and advice on the latest incubation techniques, this year five young were hatched and raised from three different pairs. This is the best breeding result ever at this centre.

Chinese monal chicks
Photo: Ma Hong

Haemoproteus paraortalidum n. sp. in captive Black-fronted Piping-guans *Aburria jacutinga* (Galliformes, Cracidae): high prevalence in a population reintroduced into the wild.

Ferreira-Junior, F.C., Dutra, D.A., da Silva Martins, N.R., Valkiunas, G. and Braga, E.M., 2018.bioRxiv, p.280990.

Does Beginning of Spring Represent a Critical Period in Annual Cycle of Capercaillie (*Tetrao urogallus*, Tetronidae, Galliformes)?.

Borchtchevski, V.G., 2017. Biology Bulletin, 44(7), pp.751-760.

On Temminck's tailless Ceylon Junglefowl, and how Darwin denied their existence.

Grouw, H.V., Dekkers, W. and Rookmaaker, K., 2017. Bulletin of the British Ornithologists' Club, 137(4), pp.261-271.

Intensive agriculture and high predation pressure that negatively affects the Galliformes population in Poland.

Kosiński, K., 2017. World Scientific News, 76, pp.118-122.

A first test of unattended, acoustic recorders for monitoring Capercaillie *Tetrao urogallus* lekking activity.

Abrahams, C. and Denny, M.J., 2018. Bird Study, pp.1-11.

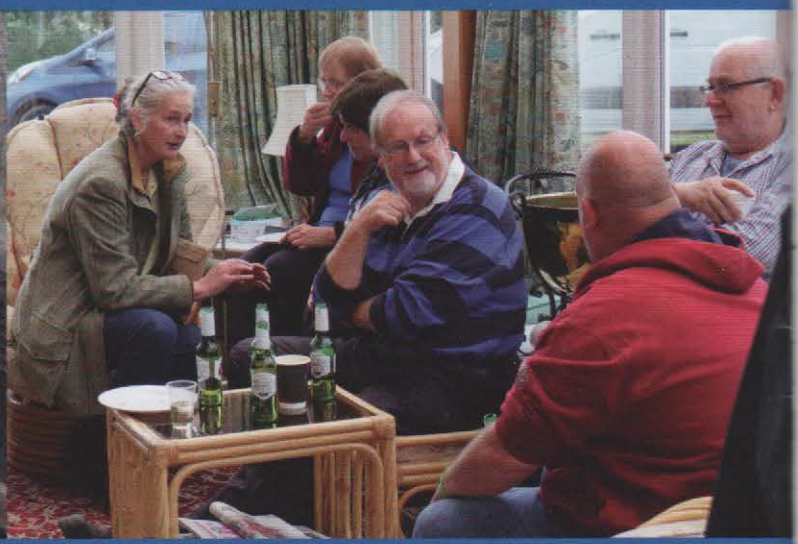
Outdoor recreation causes effective habitat reduction in capercaillie *Tetrao urogallus*: a major threat for geographically restricted populations.

Coppes, J., Ehrlacher, J., Thiel, D., Suchant, R. and Braunisch, V., 2017. Journal of Avian Biology, 48(12), pp.1583-1594.

Yellow-necked francolin at Harewood Bird Gardens
Photo: Peter Stubbs

Elliot's pheasant at Harewood Bird Gardens
Photo: Peter Stubbs

Barbary partridge at Fenton Barns
Photo: Paul North



Members at the Scottist Open Day
Photo: Paul North

Green peafowl hen with chicks
Photo: Friedrich Esser

Green peafowl family
Photo: Friedrich Esser

World Pheasant Association

Registered Charity No 271203