



Annual Report

January 2022 – December 2022

Cikananga Conservation Breeding Center



CCBC

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1. Introduction

The following report reviews the year 2022 (January 2022 – December 2022) at Cikananga Conservation Breeding Center (CCBC). As with most of the world, Indonesia in 2022 entered a post-pandemic period with restrictions and regulations eased and society having evolved. Whilst this was good news for CCBC as we once again gathered momentum and as a team had renewed energy, the competitive nature and lack of opportunity to gain funding was unfortunately limiting to our progress. Whilst major projects that required funding may not have progressed at the speed we desired, our current *ex-situ* conservation breeding programmes had, and are having, an exceptionally successful period. Alongside this our main *in-situ* programme for the Javan Green Magpie has gained some impressive results and is an exciting prospect for 2023.



Photo 1. Surrounding area of Cikananga. PPSC – YCKT.

We are grateful to all our sponsors, past and present, who have been able to contribute their time, funds and knowledge to progress CCBC. Within this Annual Report is a brief summary of each species housed at CCBC, a project review from 2022 and goals for 2023 are described before closing with a financial review. Firstly, objectives that were made in December 2021 are presented, and their status assessed.

Table 1. Objectives set in the 2021 Annual Report for 2022 and their status

Objectives	Status
<i>Ex-situ</i>	
Recommence conservation breeding of Black-winged Myna	Conservation breeding of the Black-winged Myna recommenced in 2022, initially focusing upon breeding individuals as per international studbook recommendations (details in section 2b). Unfortunately, due to delays in funding, we were unable to test our population for interrelatedness over this period, this is something we will aim to do in 2023.
Improve genetic diversity of local population of Javan Green Magpie	In 2022, conservation breeding of the Javan Green Magpie returned to high levels of breeding success (details in section 2a). We are no clearer as to why in 2021 the breeding season was poor but this has thankfully now been proven to have been an anomaly.
Progress conservation breeding knowledge of Rufous-fronted Laughingthrush	2022 was a breakthrough year for CCBC and the conservation breeding of the nominate species and Mount Slamet subspecies of the Rufous-fronted Laughingthrush. CCBC had a world first breeding success of the subspecies from two different pairs and had multiple successful breeding efforts with the nominate species (details in section 2c and 2d).
Dismantling old aviary blocks	Due to delays of, and difficulties in finding, funding, CCBC was unable to progress with dismantling aviaries that are no longer in functional condition. These plans will now be carried over to 2023.
Expand conservation breeding programmes	In 2022, CCBC began a conservation breeding programme for a new species to CCBC, the Critically Endangered Javan Pied Starling (<i>Gracupica jalla</i>). Initially we start with gaining founders and will aim to genetically test before commencing breeding (more details in section 2f).
Insect Breeding	A bespoke insect building was built within CCBC in 2022, the beginning of some insect breeding is still yet to be started however as we try to create the ideal environmental conditions for our target species (details in section 3).

Pig Facility Renovations

Thanks to generous funding, in 2022 we were able to achieve another step in our long term goal of refurbishing and renovating our pig facilities. In 2022 we renovated smaller enclosures that are very useful as holding enclosures for single adult males, juvenile groups and sick/old pigs. In 2022, at the start of the wet season, CCBC had to make some urgent unplanned renovations to the roof of our indoor enclosures due to a number of supports no longer being structurally sound, becoming potentially dangerous during large storms. More details on this goal in section 3b.

Clinic facilities

Unfortunately no progress was made on this goal due to difficulties in finding funding. We carry this goal over to 2023 as there is still a need for facilities within CCBC that have the function for housing recovering birds.

Create satellite populations

Plans progressed in 2022 for the transfer of animals to other institutions nationally and internationally. All these plans are still currently in the process of acquiring the necessary permissions for legal transfer which we suspect will be completed in 2023.

Translocation/reintroduction of Javan Warty Pig

In 2022 we successfully translocated of 9 Javan Warty Pig to Baluran National Park. Some of these pigs are due to be released into the National Park in the first weeks of January 2023. More details in section 3c.

Objectives	Status
<i>In-situ</i>	
Progression of Javan Green Magpie Programme	The <i>in-situ</i> conservation programme for the Javan Green Magpie progressed well in 2022 as we focused upon one particular site of interest through socioeconomic and ecological surveys. We also further researched the trade and trapping networks that threaten this species. More details in section 4a.
Progress plans for community conservation breeding	Plans for the initiation of a programme that involves community members in the conservation breeding and release of species continued to be discussed in 2022 whilst funding opportunities were pursued. Discussions primarily centered on how to effectively manage a programme such as this and suitability of sites. An initial step of expanding our <i>ex-situ</i> conservation breeding programmes to include the Critically Endangered Javan Pied Starling, a target species for this programme, was taken in the latter parts of 2022 (more details in section 2f).
Engage with conservation at the Ciletuh-Pelabuhan Ratu UNESCO Global Geopark	YCKT continued to be involved with and progress conservation at the Ciletuh-Pelabuhan Ratu UNESCO Global Geopark. In 2022, this was primarily in regards to being involved with planning and managing a reintroduction attempt for the Wreathed Hornbill.
Engage with Malind-Bian Conservation Programme, Papua	Activities of YCKT within this large scale programme have been delayed as it gathers momentum whilst navigating bureaucratic process. YCKT is still a main partner of this programme and will likely be involved further in 2023.

2. CCBC Species Information

Table 2. Inventory of the species at CCBC at the start and at the end of 2022 (Male.Female.Unknown)

Species	As of 31/12/2021	As of 31/12/2022
Javan Green Magpie <i>Cissa thalassina</i>	16.24.0 (40)	17.23.9 (49)
Black-winged Myna <i>Acridotheres melanopterus</i>	28.29.0 (57)	29.29.9 (67)
Rufous-fronted Laughingthrush <i>Garrulax rufifrons rufifrons</i>	9.7.0 (16)	8.9.0 (17)
Rufous-fronted Laughingthrush <i>Garrulax rufifrons slamatensis</i>	3.2.0 (5)	5.6.1 (12)
Sumatran Laughingthrush <i>Garrulax bicolor</i>	17.6.0 (23)	17.6.0 (23)
Javan Pied Starling <i>Gracupica jalla</i>	0.0.0 (0)	6.3.0 (9)
Spectacled Laughingthrush <i>Garrulax mitratus</i>	4.0.0 (4)	3.0.0 (3)
Javan Warty Pig <i>Sus verrucosus</i>	22.23.0 (45)	17.20.5 (42)
TOTAL CCBC	98.90.2 (190)	102.96.21 (219)

a. Javan Green Magpie *Cissa thalassina*

Over the course of 2022 our Javan Green Magpie population grew by nine individuals and now sits at a current population of 49 individuals. A total of 10 birds hatched to seven different pairs and all but one survives as we enter 2023. The one chick that died was unfortunately attacked and killed by the parents shortly after fledging, we are unsure why this occurred but suspect aggression from the male associated with wanting to attempt another breeding effort. Of the nine surviving offspring six are F1 and three are F2. Of the F1 individuals, four birds are offspring from birds that had never bred before at CCBC.

In addition to conservation breeding efforts we were also able to add two new individuals to our local population. These were two adult males who had been kept as pets for a number of years. Unfortunately, shortly after arriving, one of these birds died whilst in quarantine from an undetermined cause. One other loss from our population was a founding female who had never bred before, the cause of death was due to a systemic infection.

After a disappointing breeding season in 2021, 2022 has been extraordinary and we enter 2023 with already our highest ever breeding success for one season. With the breeding season continuing until around March, we predict our population to continue to grow over the coming months. We finish 2022 with a good shape age pyramid which has many young birds, overall, before sexing results of recent offspring, our population is slightly skewed towards females.

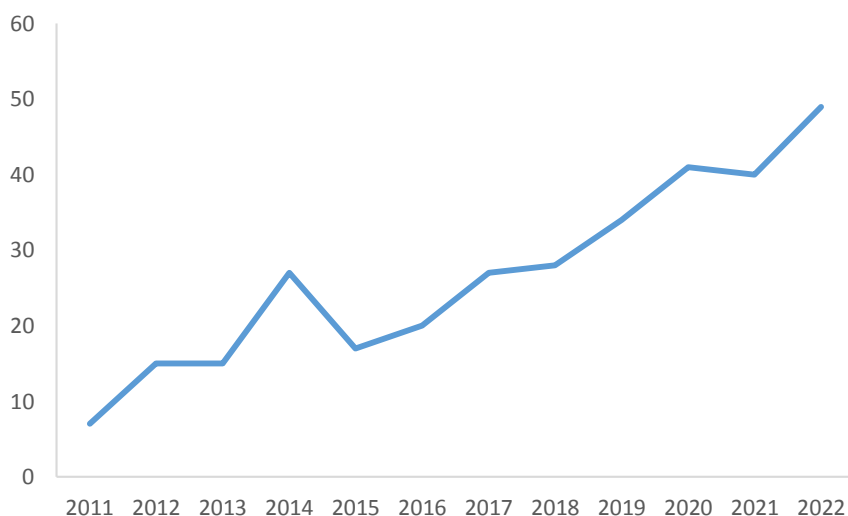


Figure 1. Population trend of Javan Green Magpie at CCBC since inception of the conservation breeding programme

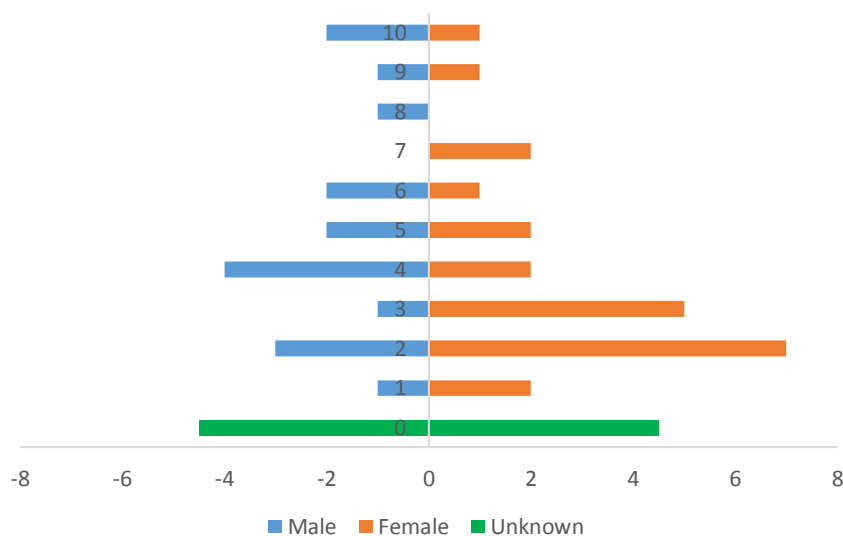


Figure 2. Age pyramid of the current Javan Green Magpie population at CCBC

b. *Black-winged Myna* *Acridotheres melanopterus*

Over the course of 2022 our local population of Black-winged Myna increased by 10 individuals this is predominantly due to breeding recommencing and also due to the fact four birds are now included that previously were excluded due to being considered hybrid. Conservation breeding was resumed with select pairs who have underrepresented genetics in our population but whom have been selected for translocation to form satellite populations elsewhere as per recommendations from the international studbook. From these pairs we had 11 offspring, one of these unfortunately died at two months old due to parasite burden.

Four other deaths occurred in our population in 2022 of 2 F0 birds and two F1 birds. Three of these deaths were from natural causes and one bird was euthanized due to age related issues affecting quality of life. The three birds to die from natural causes were all birds that were older than 10 years old and the cause of death were undetermined in two individuals and one died with severe anaemia (likely caused by organ failure).

Our population is well distributed between male and females however the age pyramid shows a poor shape due to our aging population. 26 birds in our population are F0 birds, however 15 of these arrived in the same confiscation in 2018 and we have still been unable to test our population for interrelatedness. Until we conduct these tests, we will not breed with these birds.

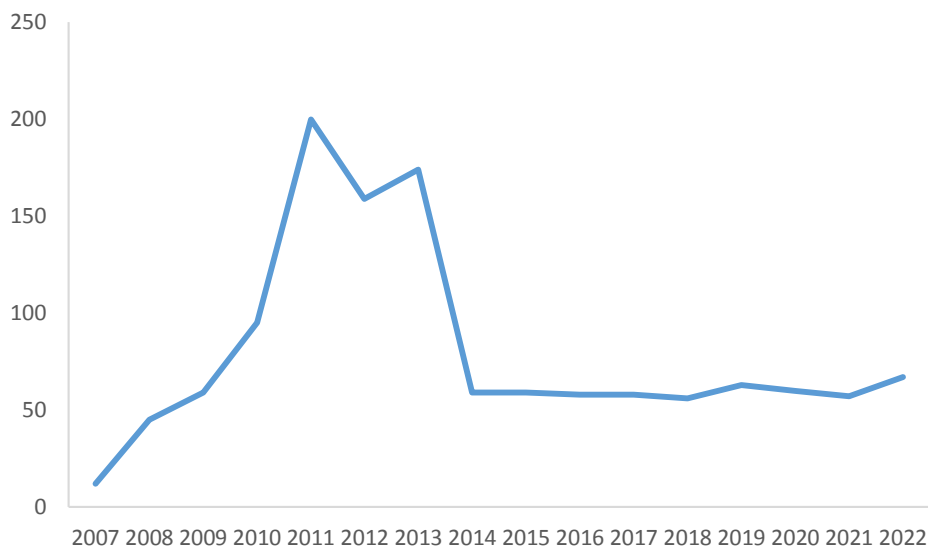


Figure 3. Population trend of Black-winged Myna at CCBC since inception of the conservation breeding programme

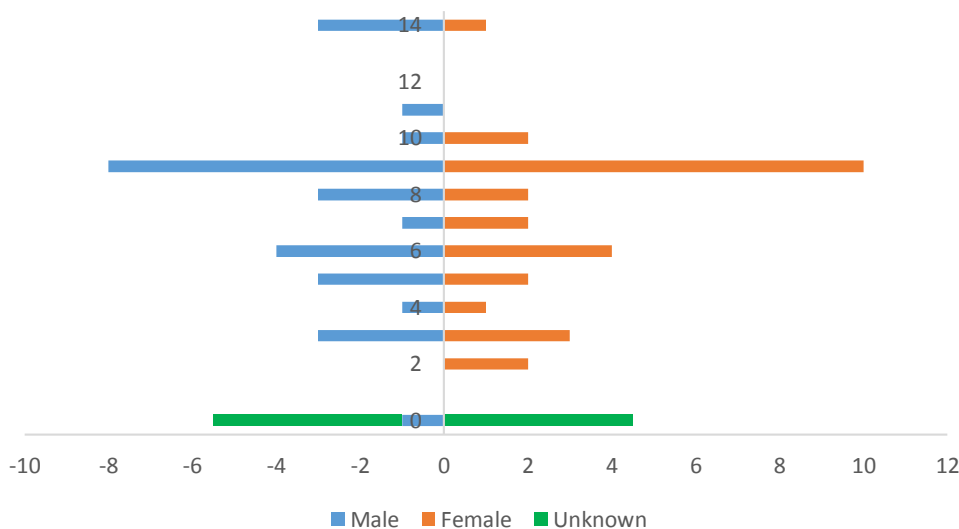


Figure 4. Age pyramid of the current Black-winged Myna population at CCBC

c. *Rufous-fronted Laughingthrush Garrulax rufifrons rufifrons*

Over the course of 2022 our local population for the nominate species of the Rufous-fronted Laughingthrush grew by one and now stands at 17. This was a bittersweet year for the conservation breeding programme which included the successful hatching and rearing of six birds from three different pairs, unfortunately of these six birds, four died in 2022. Three of the four chicks to die all died in a relatively short time post-fledge and all had morphology development issues. We suspect these issues are related to nutritional deficiencies from their time being reared in the nest, these issues however did not affect all chicks in a clutch. The one other chick to die in 2022 died at 2 months old with the cause of death likely being due to parasite burden. We also lost one F1 male from our population in 2022, the cause of death was unconfirmed but this individual had multiple organs in poor condition, especially through the digestive system.

This continues to be one of the most challenging conservation breeding programmes at CCBC. With breeding success slowly becoming more consistent this has not yet translated into a successful programme. Due to these difficulties, our age pyramid can mostly be described as a stationary shape and is a population that is lacking in genetic diversity. The distribution between males and females is even within our population.

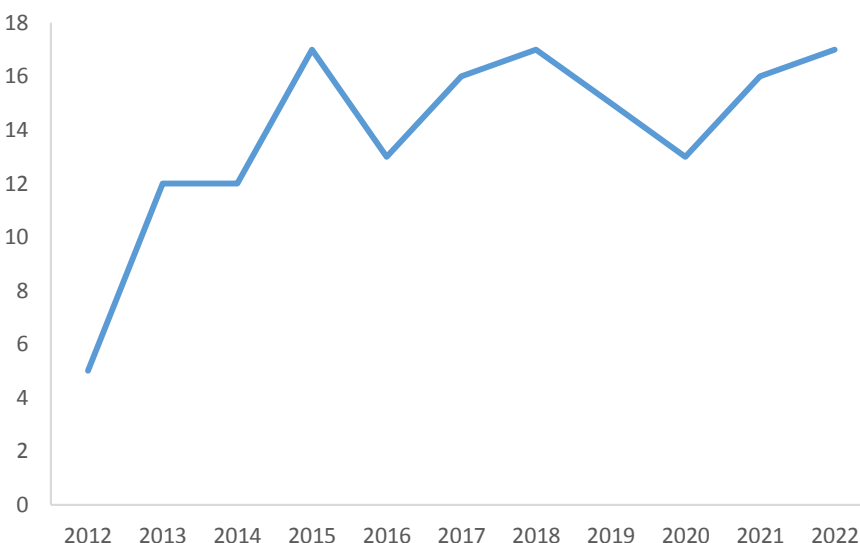


Figure 5. Population trend of nominate Rufous-fronted Laughingthrush at CCBC since inception of the conservation breeding programme

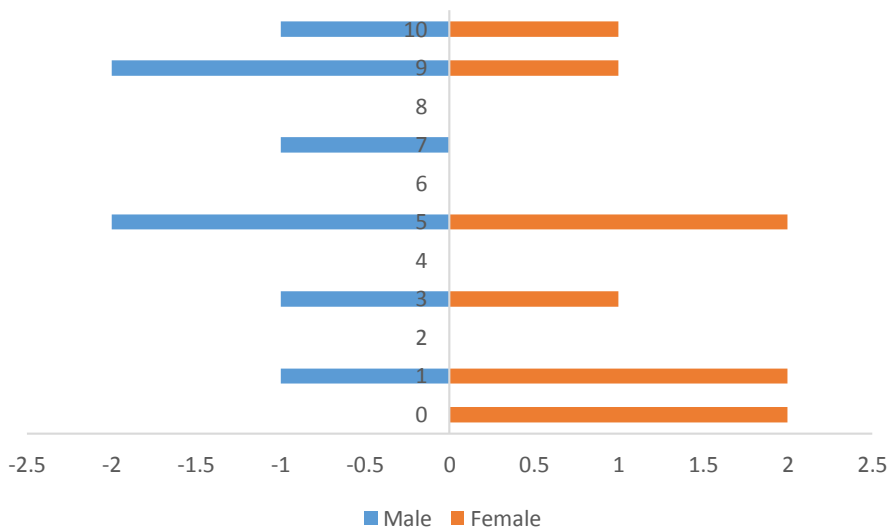


Figure 6. Age pyramid of the current nominate Rufous-fronted Laughingthrush population at CCBC

d. *Rufous-fronted Laughingthrush Garrulax rufifrons slamatensis*

2022 was a breakthrough year for the conservation breeding programme of the Rufous-fronted Laughingthrush Mount Slamet subspecies as we had a world first successful breeding effort in the captive environment. Over the course of 2022, two separate pairs produced seven offspring which all were successfully reared to independence. With no deaths in our local population in 2022 our population increased by seven in 2022 and we now stand at 12 individuals.

Although we should celebrate our conservation breeding successes from 2022, the reality is that this local population remains small and has only five founding individuals. In 2023 we will continue to encourage breeding in pairs, make new pairs and, if possible, look to add founders to this programme. Our population is heavily skewed to a female distribution with five of the seven birds bred in 2022 sexed as female, one as male and one not yet genetically tested.

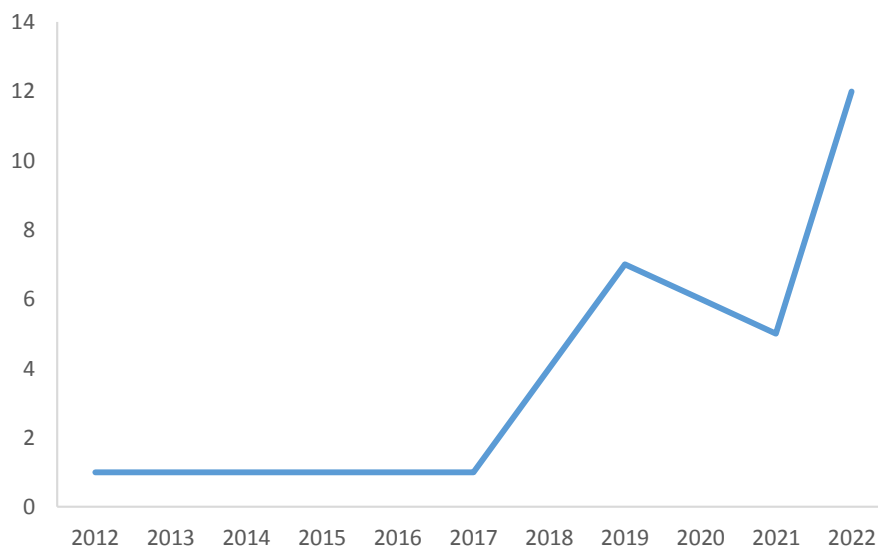


Figure 7. Population trend of Mount Slamet Rufous-fronted Laughingthrush at CCBC since inception of the conservation breeding programme

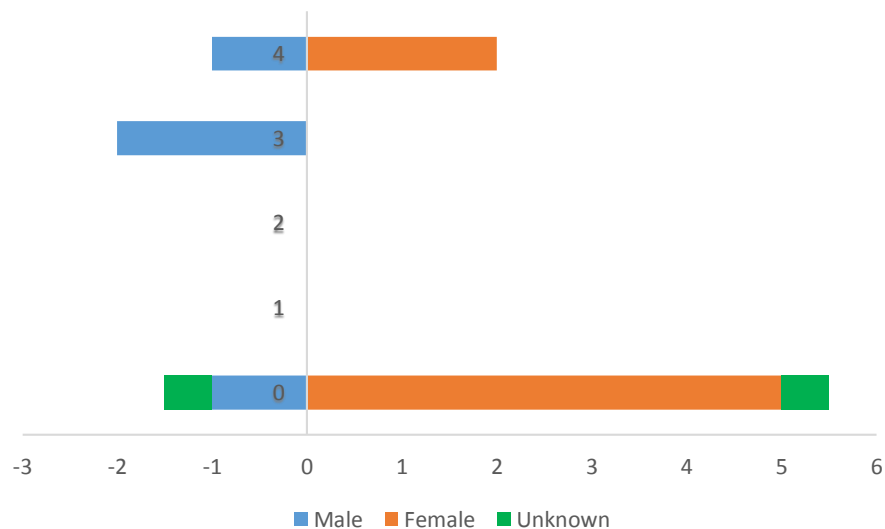


Figure 8. Age pyramid of the current Mount Slamet Rufous-fronted Laughingthrush population at CCBC

e. *Sumatran Laughingthrush Garrulax bicolor*

Over the course of 2022 our conservation breeding programme for the Sumatran Laughingthrush has remain unchanged with regards to population dynamics with no recorded deaths and breeding not being encouraged in any pairs. We currently do not encourage breeding as the conservation strategy for these birds is unclear and we have limited aviary capacity. The conservation strategy is unclear as all the genetics of our birds are now already represented in the European Studbook and there is currently no programme for this species in Sumatra. We continue to promote this species to other facilities internationally and nationally, mainly zoos or conservation breeding facilities, as we attempt to develop satellite populations.

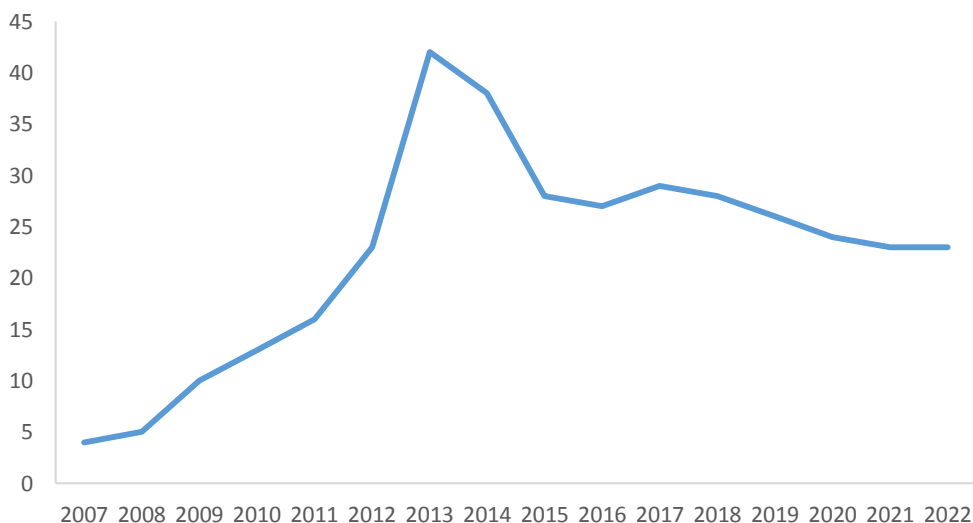


Figure 9. Population trend of Sumatran Laughingthrush at CCBC since inception of the conservation breeding programme

Our population is skewed towards males in its distribution and almost all birds, bar four, were hatched at CCBC. The age pyramid is therefore an accurate representation of the age profile of our breeding programme.

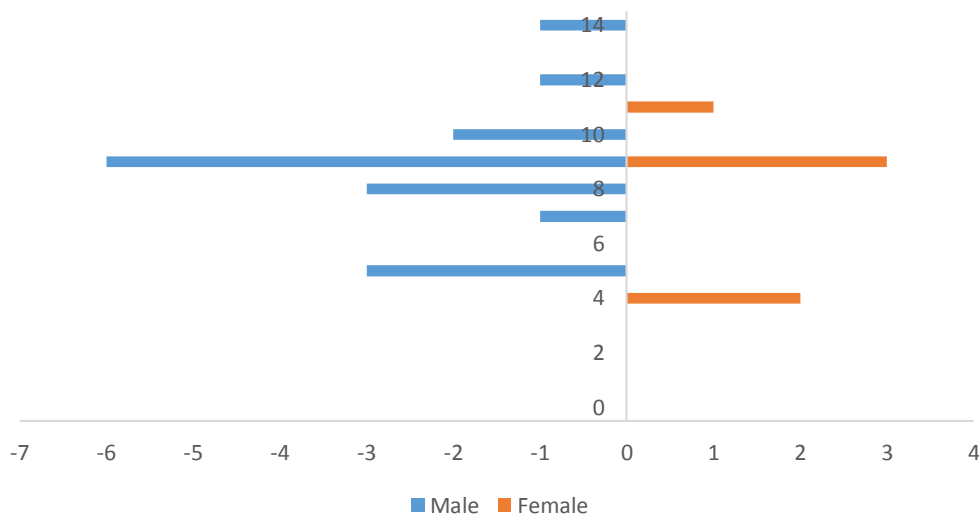


Figure 10. Age pyramid of the current Sumatran Laughingthrush population at CCBC

f. *Javan Pied Starling Gracupica jalla*

In 2022 we started a conservation breeding programme for the Javan Pied Starling gaining 10 birds from a breeder in Central Java. Shortly after arriving unfortunately one bird died whilst in quarantine from an infection. Of the remaining nine birds, we have six males and three females. All birds are now in the main facility of CCBC and our aim is to genetically test and encourage breeding in 2023 for a number of pairs.

The Javan Pied Starling is an interesting case in the context of conservation as it has recently been taxonomically split from the Asian Pied Starling *Gracupica contra*. Following this split, the Javan Pied Starling received the status of Critically Endangered on the IUCN RedList due to it being functionally extinct in the wild. This species however has no protection in Indonesia which means commercial breeding is legal and it is predicted there are between 600,000 to 1,000,000 birds in captivity across Java and Bali. The genetics of these birds across Java and Bali however are not managed and many birds are likely to be hybrids or of the same lineage. It is therefore important for conservation action for this species before it becomes essentially a domesticated species. We hope to work with other breeding centers in the future on the conservation of this species as well as explore other techniques such as community conservation breeding.

g. *Spectacled Laughingthrush Garrulax mitratus*

We currently have three males of this species in CCBC which are remnant individuals from a breeding programme that was developed in 2008 for the practising of Laughingthrush husbandry. We have already started the paperwork to translocate these individuals this year to trusted zoo facilities where they can live in larger aviaries.

h. Javan Warty Pig *Sus verrucosus*

Over the course of 2022 our local population of Javan Warty Pig decreased by three and now stands at 42 individuals. We had a total of 11 pigs born to five different females (fathered by three males), had five pigs die and translocated nine to East Java (more details in section 3c). Of the pigs that died, three were piglets, of these three, one was not seen again after leaving the nest, presumed eaten by mother and two others were abandoned by their first time mum. We suspect these two piglets were abandoned as the mother was visibly stressed by the experience and piglets were likely born premature. We attempted to hand raise these two piglets but both deteriorated quickly shortly after coming into human care. Of the two other pigs that died, one was a founding male that died from age related illnesses and one was a female which died from an infection in the reproductive system originating from birthing complications.

Our age pyramid has a stationary shape with a consistent spread of ages across the population and a skew towards females. This skew is not an issue and is preferred due to the requirements of housing one male in breeding groups. Limited opportunities to contribute pigs to *in-situ* or *ex-situ* conservation efforts means CCBC desperately needs to continue renovating and expanding our *ex-situ* facilities whilst promoting the development of satellite populations. Paperwork is currently in process as we hope to achieve translocations in 2023.

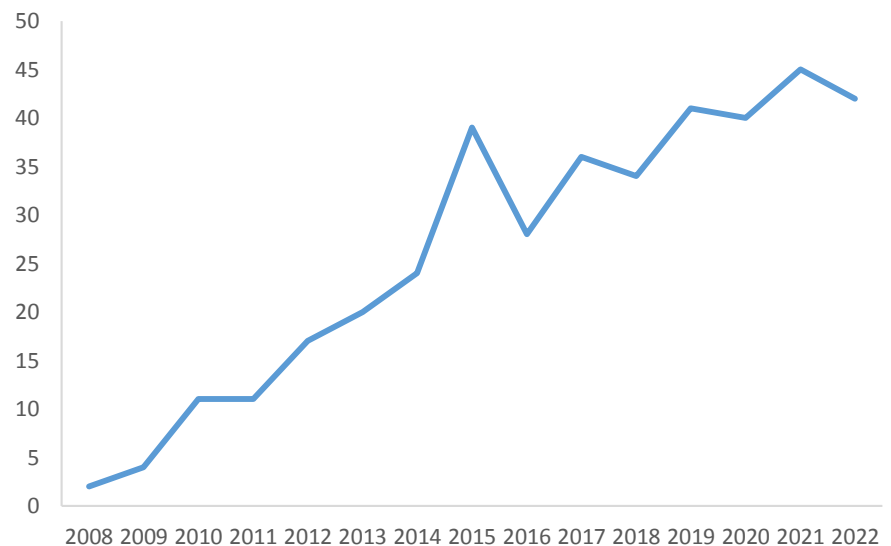


Figure 11. Population trend of Javan Warty Pig at CCBC since inception of the conservation breeding programme

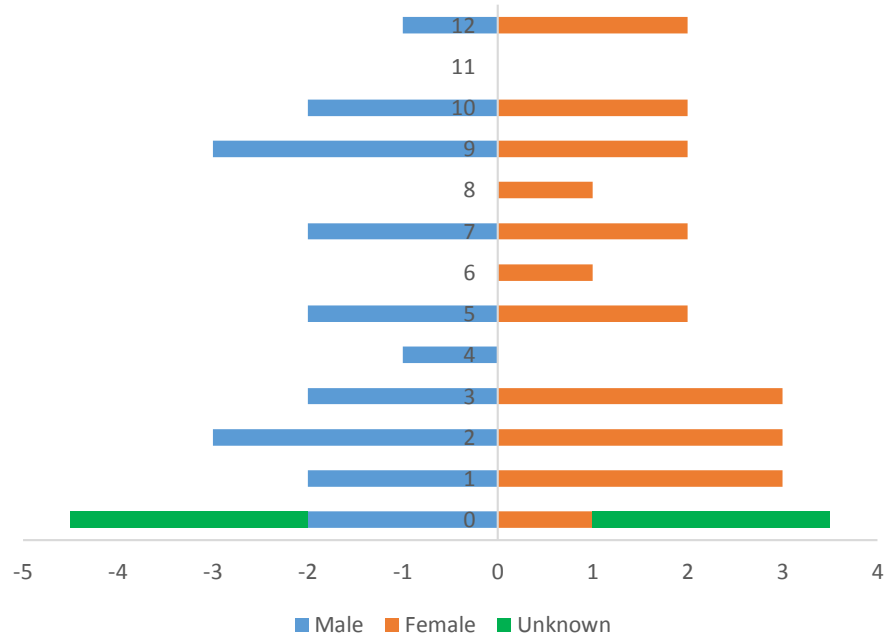


Figure 12. Age pyramid of the current Javan Warty Pig population at CCBC

Species Picture Highlights



Photo 2. Mount Slamet Rufous-fronted Laughingthrush Fledglings. B.Ferns – YCKT.



Photo 3. Javan Green Magpie Fledglings. B.Ferns - YCKT.



Photo 4. Javan Pied Starling in Quarantine. A.Widyantoro – YCKT.



Photo 5. Nominate Rufous-fronted Laughingthrush Fledglings. B.Ferns – YCKT.



Photo 6. Javan Warty Pig with Piglets. B.Ferns – YCKT.



Photo 7. Black-winged Myna Chicks. A.Widyantoro – YCKT.

3. Achieved Projects

a. Insect Breeding Facility

With the quality and variety of live feed we are able to offer the our birds in the *ex-situ* environment of CCBC identified as an area that needed improving, in 2022 we completed the building of a bespoke insect breeding facility. With generous funding from Prague Zoo in association with the City of Prague a facility has now been built that provides CCBC with a large enclosed building that measures five by seven meters. This facility has incorporated into the design a double layered roof to avoid large temperature fluctuations, building materials that promote insulation and multiple holes in the structure to ensure good ventilation. The design within this building is a simple layout of shelves running the perimeter of the room. We currently now are delayed with large scale breeding of insects due to the unforeseen issue of the building not reaching the temperatures required and we now research the most effective way to heat this room or each individual breeding box.



Photo 8. Insect breeding facility (left) and composting unit (right).
B.Ferns – YCKT.



Photo 9. Layout of inside insect breeding facility. B.Ferns – YCKT.

As well as the main building, a separate composting unit has been built which will attract the Black Soldier Fly *Hermetia illucens* which at the larval stage are highly nutritious. Within the main building, once we have found the best solution for meeting ideal temperature requirements we will begin with the breeding of crickets, cockroach species and beetles. With these insects being bred we will become more self-sustainable through the reduction of our reliance upon local markets, increase the variety of the diet we are able to offer our birds and be able to guarantee the quality of insects provided. Overall we hope this will bring multiple health benefits to our local populations and have a positive effect on our breeding efforts.

b. Pig Facilities

With high local population numbers and a desire to keep improving the overall genetic diversity of our local population, a long-term goal of CCBC is to renovate and improve our pig facilities every year. This goal is important and on-going as our facilities are large and for the most part built on land that is shifting due to topography and our pigs digging behaviour! Whilst the shifting of land starts to slow as it flattens, we were in 2022 able to focus on necessary, and at times urgent, facility maintenance.

Urgent facility maintenance is in reference to the unplanned roof renovations of our main building which covers all the inside areas of our enclosures. Made from wood and tiles, this roof had started to show its age in the last year with tiles becoming loose and wood succumbing to pests and environmental conditions. Following a period of high wind and heavy rainfall, the view was taken that much of the wood needed replacing and that we would change the roof material to lightweight metal sheeting. Although an expensive project, we hope this serves us well in the years to come. The planned maintenance focus of 2022 was on ensuring we had good quality holding enclosures for pigs that are not in breeding groups. A total of five inter-connected holding enclosures were renovated and, whilst these renovations may not look too impressive, they provide us invaluable flexibility in the management of this species. The purpose of these enclosures are multi-functional and provide a calm environment for pigs expecting to give birth, sick/old pigs or juvenile groups.



Photo 10. Pig roof before renovations. B.Ferns – YCKT.



Photo 11. Pig roof after renovations. A.Widyantoro – YCKT.



Photo 12. Example of renovated enclosure. B.Ferns – YCKT.

c. Javan Warty Pig Translocations

In 2022 we were very pleased to once again have the opportunity to contribute to the breed and release programme for Javan Warty Pig at Baluran National Park, East Java. In February 2022, head pig keeper Pak Aos accompanied nine pigs on this journey across Java where all arrived safely and the pigs were immediately released into a large habituation enclosure. Some of the CCBC pigs from this translocation, and previous translocations, are due to be released in the early stages of 2023. With very few *in-situ* conservation efforts for the Javan Warty Pig, the programme at Baluran National Park, which aims to restore natural ecological condition, is very important for the conservation outlook of this species as well as the overall ecosystem health of the National Park.



Photo 13. Carrying pigs to truck. B.Ferns – YCKT.



Photo 14. Pigs all loaded. B.Ferns – YCKT.



Photo 15. Release of pigs at Baluran National Park. R. Anisa – BNP/Copenhagen Zoo

4. *In-situ* Fieldwork

a. *Javan Green Magpie Programme*

In 2022 we followed on from our work in 2021 which focused primarily on 1) Gaining a better understanding of trade of the Javan Green Magpie and 2) Engaging with communities near sites with records of Javan Green Magpie. Records that were used included academic literature, current trade information and non-published information from our conservation network. Following this initial approach we identified two sites of interest in West Java, one of which became the focus for 2022. This field site is an isolated mountain forest range which historically has been understudied by ornithological research.

We began the year by conducting socio-economic surveys in the communities surrounding the forest focusing on demographic, perceptions of the forest and forest use, amongst other topics. This gives us an important understanding of the anthropogenic environment in which we base our field work and importantly introduces us and our work to the surrounding communities. With reports of Javan Green Magpie still being caught at this site we moved on to the ecological surveying aspect of our project as we aimed to confirm first-hand the presence of Javan Green Magpie in this forest.

At the end of 2022 we began conducting field visits and surveying bird diversity across the whole site in collaboration with the local forestry department. Despite recording over 100 different species we were not able to confirm the presence of Javan Green Magpie. In tandem with the ecological surveying we also have built a good relationship with the local forestry department, forestry police and community forest rangers which are key stakeholders for the success of this programme. For details on our plans for 2023 please refer to section 5bi.



Photo 16. Survey site. P.Akbar – YCKT.



Photo 17. Student conducting socio-economic survey. Meidiyanto – YCKT.



Photo 18. Ornithological surveying.
G.Prasetya – Kuningan University

b. Foundation Programmes

I. Ciletuh-Pelabuhan Ratu UNESCO Global Geopark (CPUGGp), West Java

CCBC is one of the two main programmes of the parent foundation, Yayasan Cikananga Konservasi Terpadu (*Cikananga Integrated Conservation Foundation – YCKT*). The other main programme is Cikananga Wildlife Center and often *in-situ* activities are at field sites which have the potential to span both CCBC and Cikananga Wildlife Center, either currently or in the future. One example of this is Ciletuh-Pelabuhan Ratu UNESCO Global Geopark (CPUGGp) where YCKT is a key member of the conservation management structure.

In 2022 the key focus at CPUGGp was on the reintroduction of four rescued and rehabilitated Wreathed Hornbill *Rhyticeros undulatus* at the site. Having undertaken social and ecological surveys in 2021 to better understand the environment and current status of Wreathed Hornbill at the site, the decision was made to focus our release at a wildlife reserve on the eastern part of the CPUGGp. Following a few months in a habituation aviary, the release of the four hornbills was realised in the final few months of 2022. Complete with GPS trackers, we were able to monitor the hornbills both directly and remotely as they adapted to life in the wild. Our monitoring activities continue into 2023 and, whilst this was not the smoothest reintroduction attempt, we take away many positives and lessons, even more so when considering the rarity of hornbill reintroduction attempts.



Photo 19. Male foraging post-release.
T. Busina – University of Prague.

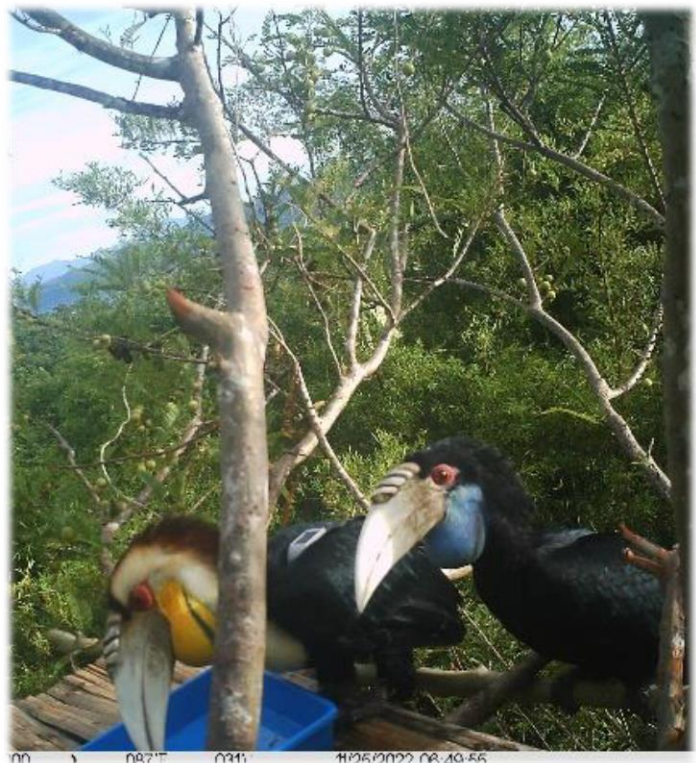


Photo 20. Camera trap footage at feed station. PPSC – YCKT.

5. Goals for 2023

a. *Ex-situ*

I. Conservation Breeding

Begin Progressing the Breeding Programme of the Javan Pied Starling

In the drier months of 2023 we will aim to begin conservation breeding of newly acquired Javan Pied Starling as well as add new individuals to this programme. This species is non-protected in Indonesia and is widely bred for commercial uses despite its status as extinct in the wild. Consequently conservation breeding programmes are important to manage the remaining genetics.

Continue Successes of Previous Breeding Seasons

Building on 2022, we aim to have further success with the conservation breeding of the Javan Green Magpie and Rufous-fronted Laughingthrush with which we have made great progress. It will be our aim in 2023 to further diversify the overall genetics of our local population.

II. Facilities

Dismantling of Old Aviary Blocks

A goal that is being carried over from 2022 is the dismantling of old aviary blocks that are no longer in use due to their poor condition. With the aviaries safely dismantled and any usable materials saved, we will start to prepare the land for the building of a new aviary block. Land preparation includes the felling of large trees that are in danger of falling in storms and the flattening of land to accommodate building plans.

Essential Maintenance of Aviaries

Just as important as building new aviaries is the maintenance of our existing facilities that have been built in the past seven years. The tropical environment can be unforgiving on these builds and therefore the focus will be on aviaries e.g. fresh coats of paint and renewing cement and refurbishing keeper facilities.

Clinic Facilities

A goal carried over from 2022 is for the installing of small cages in a pre-existing building to serve as recovery cages for sick or injured birds. With the building already built, it is now a case of sourcing funding to build mounted cages on the wall that will provide a quiet and clean environment for recovering birds.

Source Large Scale Funding For New Aviary Block

A key goal for 2023 will be in the sourcing of funding to expand the facilities within the CCBC *ex-situ* environment. Following two years of very successful conservation breeding and plans to grow the amount of conservation breeding programmes held by CCBC, it is vital we continue to grow our aviary capacity to increase the impact of our conservation efforts.

III. Insect Breeding

With our insect facility built and starter insect species identified, all that is left is to ensure our building meets optimal conditions for breeding e.g. temperature. Once we have found a suitable solution for raising the temperature, we will begin with slowly building up our insect populations and also consider a member of staff to focus on managing the insect breeding facility.

IV. Pig Facilities Expansion and Renovations

In 2023 we will continue with our long-term goal of improving and expanding our Javan Warty Pig facilities. The target for 2023 will be to replace multiple metal perimeter fences as well as internal metal fences with our tried and trusted design of half cement wall, half mesh design. This design we find is the safest for keeping the pigs as it provides a visual barrier and returns a higher success rate for breeding.

V. Recruit New Keeping Staff Member

With our local bird populations growing and plans for new aviary blocks, in 2023 we will aim to recruit a new member of staff to join our bird team. With other aspects of the center growing as well, namely the development of live feed projects, an extra pair of hands will be crucial in the coming years to synchronise with the expansion of the center which has not had a new bird keeping staff for eight years.

VI. Recruit Assistance for Veterinary Team

Our core veterinary team is made up of two staff members and their roles cover the medical management of both CCBC and the Rescue Center which make up Cikananga Wildlife Center. We have identified the need for a vet nurse to join this team to assist with the workload. This new member of staff we foresee as having key roles in administrative record management, health monitoring and diagnostic sampling e.g. faecal examinations.

VII. Animal Translocation

Satellite Populations

A key function of the conservation breeding model is the formulation of satellite populations, growing this network acts as added security against factors that may impact programmes. In 2023 we will aim to develop and contribute satellite populations for multiple species both nationally and internationally. Plans are already in place and paperwork is progressing for Javan Green Magpie, Sumatran Laughingthrush, Black-winged Myna and Javan Warty Pig.

Reintroduction

For our conservation breeding programmes, with which we do not currently have a self-managed *in-situ* programme for, we aim to, where suitable, collaborate with other programmes. This is primarily in reference to our Javan Warty Pig conservation breeding programme which we hope in the coming year can once again contribute to *in-situ* efforts.

b. *In-situ*

I. Continuation of Javan Green Magpie Programme

Having made a great start with our Javan Green Magpie project in the past year and a half, in 2023 we will continue with a focus at our field site. Activities for 2023 include a systematic ecological survey of the mountain range using audio devices, integration with surrounding communities, engagement with bird trapping networks and relationship building activities with the local forestry department, forestry police and community forest rangers. Targets for this year include being able to confirm through our surveying the presence or absence of Javan Green Magpie and to engage with a large percentage of the surrounding community regarding our work and environmental topics through social events and presentations.

II. Community Conservation Breeding

A conservation technique that CCBC is interested in pursuing is the concept of integrating communities within the conservation breeding network. This draws upon the idea of working with the ingrained tradition of bird keeping in Indonesia by engaging with bird keeping and breeding communities to develop a mutually beneficial conservation strategy. Whilst this will not be a suitable strategy for all species and has not been widely tried, we believe it has huge potential for species such as the Javan Pied Starling. Whilst we still discuss suitable locations, gain funding and develop programme logistics it is likely, unless funding is found, that 2023 will be focused on developing a framework, primarily discussing with bird keepers, breeders and our conservation partners.

III. Surrounding Cikananga Area

The surrounding area to CCBC is comprised of rural villages and mixed agricultural land with the primary crop grown on this land being rice. Cikananga Wildlife Center, within which CCBC is located, however is around 15 hectares of mixed woodland. This area provides a refuge for local and migratory wildlife with a relatively high diversity of species for the area. Our engagement with the surrounding communities regarding environmental topics however is minimal and an area we wish to improve in 2023. This is especially important as in the coming years we would like to emulate other programmes which promote bird friendly villages and create benefit for the communities through ecotourism and bird friendly products.



Photo 21. Cikananga village and surrounding area. PPSC – YCKT.

6. Team Dynamic

The primary caregivers at CCBC remained the same in 2022 as in 2021 and are divided into two teams, birds and pigs. Focusing on the care of the birds are Head Keeper Ajle and Keepers Asep and Wawan, whilst pig care is the responsibility of Senior Keeper Pak Aos and Keeper Dodi. This set up is however flexible when necessary and although a small team is challenging at times, it is also one of the strengths of CCBC! Bertie Ferns remains in the Conservation Breeding Manager role and Pak Ono holds the role of Deputy Director, managing center operations and official processes e.g. licenses and permits.



Photo 22. Ajle, Wawan, Asep and Bertie (from right to left). B.Ferns – YCKT.



Photo 23. Pak Aos and Dodi (from right to left). B.Ferns – YCKT.

In 2022 we unfortunately said goodbye to Veterinarian Bilan Viawan as she returned to her family home in Sumatra. Bilan had been at Cikananga for over three years and during this time she had learnt quickly, shown strong commitment to her role and importantly brought her cheerful spirit to the team! Replacing Bilan in 2022 was Anatasha “Reza” Widyanoro, Reza is a recent graduate from Brawijaya University, East Java and comes to Cikananga with experience from multiple *in-situ* and *ex-situ* veterinary work placements. In the first half year since joining Reza has shown a strong work ethic and willingness to learn and has quickly become an important member of the team. Wahyu Hananto remains the Head Veterinarian at Cikananga and, now in his 7th year in this role, is a very experienced and accomplished Vet. We were finally able to send Wahyu to Chester Zoo for three months in 2022 where he completed a residency that had been delayed since before the COVID pandemic.



Photo 24 Wahyu in the UK. W.Hananto – YCKT.



Photo 25. Reza in action.
B.Ferns – YCKT.

Our *in-situ* field team is now comprised of two staff members following the addition of Panji Gusti Akbar at the end of 2022. Panji had been contracted to the Javan Green Magpie project throughout 2022 in an ecological surveying role and, having impressed in this role, we were keen to add Panji to our team as a Field Biologist. Panji is a keen birder with an impressive ability for bird identification and arrives with experience on multiple research projects across Indonesia. Continuing in the role of Programme Officer of the Javan Green Magpie programme is Meidiyanto. Meidiyanto has proven to be an adaptable and hard worker as he has taken on more responsibilities in this role which requires him to engage with multiple stakeholders and coordinate on the ground activities.



Photo 26. Meidiyanto (left) and Panji (Right). G.Prasetya – Kuningan University

7. Sponsoring and Partnership

- Chester Zoo - *Core Partner*
- Dudley Zoo
- EAZA Silent Forest Campaign
- Los Angeles Zoo
- Mandai Nature – *Core Partner*
- Montpellier Zoo
- Prague Zoo in association with the City of Prague
- Rotterdam Zoo
- Rothschild Foundation
- Tulsa Zoo
- Wroclaw Zoo
- ZGAP – *Previous funder who were pivotal in the progression of CCBC initially*
- ZSL

The CCBC team would like to thank all the above sponsors for their previous and continued support.

Thanks to your support during this period we have been able to keep a full complement of staff and have not been required to reduce staff working hours or wages. Alongside this, we have kept local populations of Critically Endangered and Endangered species to a high standard and seen progress on multiple fronts with *ex-situ* and *in-situ* projects. Without your support this important conservation work would not be possible.

8. Appendix

Decision making protocol for acquisition of birds

Where possible the legal acquisition of birds is always preferable and the route of acquisition we pursue, working with the forestry department, rescue centers and sometimes convincing private owners without the need for financial exchange. The decision to acquire birds is not a decision that is taken lightly by CCBC as the risk this could pose to fuelling the trade is recognised. This being said, there are certain circumstances that, when used in conjunction, may merit this action, these are outlined below.

- 1) Is the species often handed over to CCBC following confiscations?
- 2) Is the demographic of the population in CCBC healthy? E.g. over representation of current genetics within population, age pyramid, sex skew, low population numbers.
- 3) Is the species/subspecies often seen within the trade?
- 4) Is the species/subspecies wild population numbers of extreme conservation concern?