CONSERVATION ALERT

The elephant in the room: addressing the Asian songbird crisis

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Introduction

Many of the tumultuous events in South, South-East and East Asia during the period from the 1930s until the 1980s are almost forgotten. Nonetheless almost every part of the region covered by the OBC today was involved to a greater or lesser extent; the various human conflicts inflicted genocide and persecution, long term suffering and depredation and the destruction of traditional ways of life on many Asian peoples. It was followed by false hopes, better times, the creation of new states, new ways of life and new aspirations. During this turmoil, many areas of conservation interest and concern were closed to international scientists for safety reasons. There was much destruction of habitats, some of it deliberate due to military activities, sowing of minefields, defoliation etc., and many human communities were reduced to living under survival conditions. In addition to the human suffering, all forms of wildlife were devastated.

When some sort of 'normality' gradually returned, the naturalists and conservationists had a lot of catching up to do. First and foremost there was a need to 'take stock', make new inventories and assess what had been destroyed and what had survived, often with little background data to work from. This activity occupied much of the 1980s and 1990s. As developing states sought to better feed and house their peoples, there were huge pressures to release land for these purposes, and prevention of destruction of natural habitats became the top priority for the conservation community. Against this background, it is perhaps unsurprising that other forces at work went unrecognised and unchallenged. Birds have played a major part in the traditional way of life of many Asian peoples—for food, entertainment, religion and art; many of these traditions had been submerged during the troubled times and it was some time before they resurfaced as people became more settled and just a little more affluent.

What has become evident in the last two decades is that the destruction during the mid-twentieth century, followed by the reconstruction and now the rapid growth of many human populations, is putting immense pressure on all forms of wildlife, and birdlife is no exception. Today the number of Asian avian species that are being dragged towards extinction through being a human food source are few, and the same can be said about species used for religious ceremonies (e.g. merit releases).

In the twenty-first century, the major overwhelming force that threatens to drive an increasing number of avian species to extinction, is the trade in birds for human entertainment, be it a bird's ability to sing or simply that it has attractive attributes or beautiful plumage. Furthermore, to the innocent, a bird may appear to be happy and at home in a cage.

In the last two decades the realisation that there is 'an elephant in the room' has grown quickly across the international community of ornithologists, ecologists and conservationists. The full dimensions of the Asian songbird crisis have emerged from diverse investigations of the plight of a few individual species, and as a result of the efforts of an increasing number of dedicated people monitoring both the disappearance of birds from their natural habitats and the frightening scale of the markets trading in wild birds for human entertainment (hereafter, simply 'the trade'). In the following paragraphs the current efforts to address the resulting challenges are explored.

An early signpost

Apart from members of the Psittaciformes (Parrots), long known to be targets of the worldwide pet trade, the first Asian bird to come under the 'extinction due to trade' spotlight was the Bali Myna *Leucopsar rothschildi*. Thanks to its exquisite plumage, this unfortunate bird had been singled out as a collector's item from the time of its discovery early in the twentieth century (BirdLife International 2001) and, although in principle 'protected' by Indonesian law since 1970, application of the law has been ineffective, and its route to perdition has been well documented. Never common, even when first described, and inhabiting only a very restricted range, it was all too easy to regard it as a special case. Tony Sumampau of Taman Safari International (see below) organised Bali Myna workshops in October 2015 and February 2017, involving members of the international conservation movement, and evidence that Bali Myna conservation is now taken seriously was

demonstrated by the presence of the Governor of Bali and the Director General of the Department of Natural Resources and Ecosystem Conservation at the first meeting. An International Advisory Board has been set up and hopefully it is not too little too late.

The Threatened Asian Songbird Alliance (TASA)

Towards the end of the 1990s and in the early years of the twenty-first century, several conservation biologists based in European zoos, with an interest in and capacity to undertake conservation projects, began to co-operate and pool their resources in efforts to address the conservation of some of the most threatened passerines in Asia through *ex situ* conservation breeding projects. Collar *et al*. (2012) outlined how this dedicated group was seeking to respond to what had been seen as a problem affecting just a few species, but which rapidly assumed crisis proportions as the evidence of its scale began to mount. With one part of the group interested initially in the Bali Myna and Black-winged Myna *Acridotheres melanopterus* and another in China's Blue-crowned Laughingthrush *Garrulax courtoisi*, the group began to meet annually to evaluate progress, compare results and exchange data. With each meeting, the list of target taxa steadily grew. In the decade between 2005–2015, it became increasingly evident, through the growing number of trade market surveys carried out under the auspices of TRAFFIC—principally on Java—and through the evidence brought back from the field by several influential ornithologists and biologists (Eaton *et al*. 2015), that the Greater Sunda region, and Java in particular, was the biggest driver of the trade and it was species resident on Java, Sumatra and their satellite islands which were suffering the greatest losses due to the trade.

In 2015 this group of zoo-based conservationists, already informally operating as the Threatened Songbirds of Asia Working Group, adopted the name Threatened Asian Songbird Alliance (TASA), when it was officially recognised by the European Association of Zoos and Aquaria (EAZA)—the association of the parent organisations of these workers. The European conservation biologists had built close relations with two Javan institutions: Cikananga Conservation Breeding Centre (hereafter Cikananga), Sukabumi, West Java, in the foothills of Gn Gede, and Taman Safari International (hereafter Taman Safari), Bogor, West Java. Both organisations run important captive-breeding programmes and Taman Safari is at present constructing a major new breeding facility at Prigen, East Java, where many of the Javanese species are expected to be housed. A third institution, the Sumatran Orangutan Conservation Programme (commonly known as 'The Haven'), Medan, Sumatra, is currently developing a facility with the support of the Durrell Wildlife Conservation Trust (Jersey Zoo), in the expectation of working with lower-altitude Sumatran avian species. The individual members of TASA have their own particular focus on, and commitments to, Asian songbird conservation, but the umbrella organisation serves as a forum in which they can report and agree next steps.

The Asian Songbird Trade Crisis Summits

TASA has always liaised closely with staff at Singapore's Jurong Bird Park (hereafter Jurong) for information, opinion and further support, including help with the potential movement of birds out of South-East Asia to Europe for conservation breeding activities. As part of its conservation programme, Wildlife Reserves Singapore (WRS), which manages Jurong, has also provided assistance to Cikananga and to initiatives with the Bali Myna. WRS had recognised the seriousness of the situation in South-East Asia and that the opportunity existed to make a significant further contribution to tackle the problem and, together with TRAFFIC, convened an 'Asian Songbird Trade Crisis Summit', which was held at Jurong on 26–29 September 2015. This was the first time the word 'crisis' had been used to register the scale and seriousness of the problem with the media and general public.

Asian Songbird Trade Crisis Summit September 2015

The stated objective of the meeting was to reduce the threat from the trade to songbird taxa in the Greater Sunda region and work towards the survival of these species. See Lee *et al*. (2016) for a detailed report of this meeting (including the list of participants and their affiliations). The key aspects of the meeting are summarised below.

The first step of the participants was to identify all the songbird taxa in South-East Asia whose populations are seriously affected by the trade, and rank them by the perceived severity of threat, which produced a two-tier list (Lee *et al*. 2016). The first tier—priority targets for immediate action— was occupied by 12 species, [taxonomy approximating to Inskipp *et al*. (1996)]: Black-winged Myna, Common Hill Myna *Gracula religiosa*, Asian Pied Starling *Gracupica contra*, White-rumped Shama *Kittacincla malabaricus*, Javan White-eye *Zosterops flavus*, Java Sparrow *Lonchura oryzivora*, Silver-eared Mesia *Leiothrix argentauris*, Straw-headed Bulbul *Pycnonotus zeylanicus*, Rufous-fronted Laughingthrush *Garrulax rufifrons*, Bali Myna,

MOHIT KUMAR GHATAK

Plate 1. Endangered Straw-headed Bulbul *Pyconotus zeylanicus*, Bukit Timah Nature Reserve, Singapore, 18 November 2016. Singapore is the only location where this species appears to survive in the wild.

ROLAND WORTH

Plate 2. Critically Endangered Javan Pied Starling *Gracupica jalla* in aviary at Taman Mini recreational area, East Jakarta, Java, 25 November 2015.

Sumatran Laughingthrush *G. bicolor* and Javan Green Magpie *Cissa thalassina*. The second tier—high conservation concern but requiring further research—was occupied by 16 species comprising Oriental Magpie Robin *Copsychus saularis*, Sumatran Leafbird *Chloropsis media*, Sunda Laughingthrush *G. palliatus*, Ruby-throated Bulbul *P. dispar*, Greater Green Leafbird *C. sonnerati*, Orange-spotted Bulbul *P. bimaculatus*, Chestnut-capped Thrush *Geokichla interpres*, Orange-headed Thrush *G. citrina*, Chestnut-backed Thrush *G. dohertyi*, Javan Myna *Acridotheres javanicus*, Pin-tailed Parrotfinch *Erythrura prasina*, Grey-cheeked Bulbul *Alophoixus bres*, Oriental White-eye *Zosterops palpebrosus* 'and other *Zosterops* species in the complex', Hill Blue Flycatcher *Cyornis banyumas*, Asian Fairy Bluebird *Irena puella* and Long-tailed Shrike *Lanius schach*.

The specific needs of each taxon were documented and cross-referenced to four areas of activity: (1) Genetic and field research, (2) Conservation breeding and husbandry, (3) Community engagement, communication and education, and (4) Trade, legislation and enforcement. For further remarks about areas of activity see Discussion.

Second Asian Songbird Trade Crisis Summit February 2017

WRS organised the second summit at Jurong in February 2017 to review, update and carry forward the initiatives discussed or put in hand in September 2015.

A proposal to form an official IUCN Species Survival Commission (SSC) group (see https://www.iucn.org/theme/species/about/species-survival-commission) to represent the Southeast Asian Songbird Working Group was pushed forward and the IUCN approved the formation of the new 'SSC Asian Songbird Trade Specialist Group' in May 2017 (https://www.iucn.org/ssc-groups/birds).

The taxonomy of the target species had changed since September 2015, with the recognition of Aceh Bulbul *Pycnonotis snouckaerti*, Sumatran Mesia *Leiothrix laurinae*, Javan Pied Starling *Gracupica jalla*, Grey-backed Myna *Acridotheres tricolor*, Grey-rumped Myna *A. tertius*, Tenggara Hill Myna *Gracula venerata* and Nias Hill Myna *G. robusta* as full species (del Hoyo & Collar 2016, Eaton *et al*. 2016). The publication of the latest IUCN Red List (BirdLife International 2016) saw the following 19 Asian songbird species red-listed:

AGUS NURZA

Plate 3. Endangered Sumatran Laughingthrush *Garrulax bicolor*, Gayo Highlands, Aceh, Sumatra, Indonesia, 30 June 2016.

JAMES EATON

Plate 4. Sumatran Laughingthrush, Jambi city, Sumatra, December 2006. This bird has suffered the same fate as thousands of other members of this species (Shepherd 2011, Eaton *et al*. 2015).

Javan Green Magpie (CR), Straw-headed Bulbul (EN), Ruby-throated Bulbul (VU), Aceh Bulbul (VU), Javan White-eye (VU), Rufous-fronted Laughingthrush (CR), Sumatran Laughingthrush (EN), Sumatran Mesia (EN), Javan Pied Starling (CR), Bali Myna (CR), Black-winged Myna (CR), Grey-backed Myna (CR), Grey-rumped Myna (CR), Javan Myna (VU), Tenggara Hill Myna (EN), Nias Hill Myna (CR), Sumatran Leafbird (VU), Greater Green Leafbird (VU) and Java Sparrow (VU). The acknowledgement that some subspecies are also under threat only lengthens the list (Eaton *et al*. 2015).

It was agreed that criteria were needed to regulate changes to the working group's list. Participants were concerned that some species currently in the second tier of priority, e.g. Sunda Laughingthrush, Grey-cheeked Bulbul and Greater Green Leafbird, were increasingly seen in the trade, and perhaps required uplisting to the first tier; Javan Banded Pitta *Hydrornis guajanus*, Lesser Green Leafbird *C. cyanopogon* and Javan Leafbird *C. cochinchinensis* were tentatively added to the second tier.

The above provided the authority for a list of species requiring legal protection in Indonesia that was presented to the Indonesian Minister of the Environment, Siti Nurbaya Bakar, on 24 February 2017, and thus took a step forward on the legislative front.

A presentation about the EAZA 'Silent Forests' campaign was made (see below) and groups reviewed progress with the four main areas of activity: research, husbandry, community engagement and trade legislation.

Discussion

Research programmes

A surge of evidence of the threat posed by illegal trade has been obtained from surveys of bird markets in South-East Asia, especially Indonesia, under the aegis of TRAFFIC: in Jakarta (Chng *et al*. 2015), Bandung (Chng *et al*. 2016) and central and eastern Java (Chng & Eaton 2016a), Bangkok (Chng & Eaton 2016b), Singapore (Eaton *et al*. 2017) and Vietnam (Eaton *et al*. in press). These have been matched by species-specific analyses, of pittas (Shepherd *et al*. 2015), Black-winged Myna (Shepherd *et al*. 2016a), laughingthrushes (Shepherd 2013, Shepherd *et al*. 2016b), Greater Green Leafbird (Chng *et al*. 2017) and Critically Endangered species (Nijman *et al*. 2017). Eaton *et al*. (2015) outlined the scale of the role of trade in endangering Indonesian taxa in a review

which recommended greater law enforcement, public awareness campaigns, *in situ* management, conservation breeding, commercial captive breeding, commercial wild breeding ('ranching'), working with trappers, and field, market and genetic surveys. Iqbal (2015, 2016) highlighted the novel, very disturbing practice of trading birds online.

Eaton & Collar (2016), Eaton *et al.* (2016) and del Hoyo & Collar (2016) have published a number of taxonomic revisions involving the recognition or confirmation of several of the taxa discussed in this paper as species. Extending and investigating these changes, a number of studies are being carried out under the supervision of Frank Rheindt (National University of Singapore) to look into various conservation-genomic topics relating to the identification of hybrids, and the delimitation of conservation units and cryptic diversity across shamas (*Kittacincla*), mynas (*Acridotheres* and *Gracula*), white-eyes (*Zosterops*) and others.

The conservation breeding challenge

It is very difficult to predict how successful a conservation breeding programme will be, particularly in cases where there are few data on any aspect of a species's breeding behaviour (see Noske 2017), and at the outset, the basic difficulty of securing an adequate founder population—generally estimated to be about 15 pairs—is an unknown quantity. Thereafter, many practical difficulties may be encountered before a surplus of offspring allows the prospect of releases to the wild to become a reality. One aspect is probably predictable—that more aviary space will be needed than initial estimates suggest—if only because programmes move forward more slowly than hoped. This may leave willing participants frustrated due to a lack of space and human resources.

Plate 5. Commercial breeding of two Critically Endangered starlings by villagers of Klaten, Central Java, for local sale, February 2017. Javan Pied Starling *Gracupica jalla* and Black-winged Myna *Acridotheres melanopterus* are both almost extinct in the wild in 2017. Klaten villagers are skilful at raising these birds and their skills can be put to good use by conservation breeding projects (see Collar *et al.* 2012).

NIGEL COLLAR

As stated above, at present the *ex situ* programme has only two regional breeding centres: Cikananga and Taman Safari, both in West Java. Others are clearly needed elsewhere on Java (Taman Safari is building one in East Java), on Sumatra, where the Durrell Wildlife Conservation Trust is supporting development of The Haven, on Bali, on Singapore, where WRS has a project in hand, and perhaps on Borneo.

On top of this there are a number of requirements relating to best practice: a programme manager; health and husbandry protocols and a scrupulously maintained studbook for each taxon; development of husbandry capacity, including the transformation of rescue centres into breeding centres; a clear policy on stock acquisition; compliance with veterinary, quarantine and biosecurity protocols and with national and international legislation; the highest levels of cooperation and collaboration, and full integration with reintroduction planning. Since captive stock acquire domestication traits within a few generations in captivity (e.g. Jones 2015), releases should be made as early as possible—problems with the Bali Myna today may be linked to this, since *ex situ* populations derive from stock poached decades ago.

These requirements amount to an enormous challenge in terms of financing, logistics, training and coordination. It is hardly reassuring that the pressure may be relieved by some species being too elusive to obtain. A lot of searching may be needed to acquire adequate founder populations of Grey-backed and Grey-rumped Myna, Sumatran Mesia and various taxa in the White-rumped Shama complex; then, once acquired, the relationships between the captive stock must be determined, and although the technology exists to do this, it is at a cost that conservation bodies cannot afford.

Community engagement, communication and education

This area of activity covers the need to raise awareness of local communities and the general public, both Indonesian and international, of the issues and of key conservation efforts, with the goal of ultimately reducing demand for songbirds through a strategic communications and behavioural change strategy. Essential components of any programme to reduce trapping pressure include working with breeders to reduce mortality

and monitor compliance, developing a regulatory framework for the immensely popular and highly lucrative songbird competitions, and working in key protected areas to eliminate trapping through better patrolling, better conservation awareness and stronger local engagement.

Trade, legislation and enforcement

The requirements here were to reduce the threat of illegal and unregulated trade, through (better-coordinated) surveys in key bird markets and monitoring of other trade hubs/forums, and to lobby for and support improved regulation and effective enforcement at national and international levels including full protection for species under national legislation and CITES.

Campaigning for change

Tritto & Sözer (2014) wrote, 'Forest areas that used to resonate with bird calls are now silent'. Picking up this theme, EAZA will launch a campaign entitled 'Silent Forests' in September 2017 to raise public awareness of the Asian songbird crisis and raise funds for the programmes outlined above—with Javan Green Magpie, Sumatran Laughingthrush, Bali Myna, Nias Hill Myna, Straw-headed Bulbul and White-rumped Shama the particular targets. EAZA's objective is 'to improve the situation of Asian songbirds in their natural habitat and to develop an increased knowledge and understanding of the threats to these passerine species and how zoos can contribute to save them'. Both TRAFFIC and BirdLife International are partners of EAZA in this campaign, which has multiple objectives addressing law enforcement, training and capacity-building within Asia, the establishment of new breeding centres, community outreach and awareness, husbandry guidelines and agreed research and monitoring priorities.

In February 2017, Tony Sumampau, co-owner of Taman Safari, organised a visit to Yogyakarta so that summit participants could see a songbird singing contest at first hand. The club organising the event, Pelestari Burung Indonesia, is the only one in Java to use only captive-bred birds in their contests. Sumampau believes that a campaign is needed to persuade all clubs on the island to adopt the same position (see Jepson & Ladle 2009). However, Burivalova *et al.* (2017) have pointed out that captive-bred birds are currently more expensive and are perceived to sing less well than wild-caught ones. Moreover, Eaton *et al.* (2015) expressed scepticism about commercial breeding, mainly because of the potential that it has for laundering wild-caught animals (e.g. Nijman 2014), but added that scrupulous regulation and synchronisation with incentives to change cultural attitudes might work. It is obviously important to investigate the options in more depth.

In conclusion and anticipation

As the law currently stands, it is technically illegal to trade in wild birds in Indonesia (Nijman *et al.* 2017) and, with the inescapable evidence of the impact of trapping on bird species and populations, it is clearly time for the authorities to do much more to remedy the situation. Even so, all the proposals and programmes developed by the conservation community clearly recognise that improving law enforcement is only one measure by which to tackle the songbird crisis. Real progress is only likely to come when there is a far wider recognition of the problem and a far deeper understanding of its causes. In February 2017, the Kalimantan-based NGO Planet Indonesia ingeniously brought together trappers, traders and conservationists in a workshop to search for agreement on how to reduce unsustainable bird-trapping in West Kalimantan province (http://www.planetindonesia.org/news/). As a result of the workshop, Planet Indonesia will now hold similar 'awareness building' workshops in the nine districts of West Kalimantan, targeting another 900 trappers with the help and support of participants from the first workshop.

Initiatives such as this are needed all over Indonesia, and form an integral part of the emerging project to salvage heavily depleted populations of over-exploited bird species. Native and international expertise and enthusiasm are at last beginning to cohere in a new spirit of collaboration and commitment. All the same, things now have to move very fast if this goodwill is to translate into effective and long-lasting conservation. Changing 'hearts and minds' of those who live and work in the birds' environment must be combined with legislation and formal initiatives.

The final—and in some ways the greatest—potential value of this huge initiative is that it is the first time that such a broad-based approach, harnessing together a broad range of expertise, has been attempted for a wide range of species. If successful it will be a blueprint for similar projects for other avian species in this and other parts of the world, which will surely be needed in the future.

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