NATURE WATCH

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Featuring:

Birds are the True Masters
Cats in Crisis
A Pangolin's Plea
Sunbird Displaying
Know your Pulai

NATURE SOCIETY
(SINGAPORE)
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A Pangolin's Plea

Poem by **Leong Tzi Ming**

Leong Tzi Ming prepares to release a young Pangolin into the wild after its health has been checked by the zoo veterinarians. Photo: Tay Soon Lian.

Pangolin. Photo: Norman Lim.

Pangolin feeding on ants. Photo: Norman Lim.

My body's armed with scales just like an ancient dragon
My claws are as sharp and strong as any eagle's talon

My belly is pinkish and sparsely coated with hair
My young will be raised on milk and motherly care

When moving about, I walk on my knuckles
I can also climb trees with a tail full of muscles

Living without teeth, I'll never visit the dentist
A regular diet of termites and ants is what I insist

My long sticky tongue will reach into their nest
This source of protein is one of nature's best

I live a quiet life and do not emit any call
If threatened, I simply curl up into a ball

But somehow this self defence seems never enough
Just in case I'm cruelly captured and treated rough

By people who hunt me down for medicine or food
Or others hoping to boost their libido and mood

Please understand that I'm part of native biodiversity
I'll be most grateful if you can protect me and my family

We're trying to survive in our rainforest home
We just need our privacy and freedom to roam

This poem is re-printed with permission from Save the Pangolin, *a booklet launched on 18 April 2010 by Nature's Niche Pte Ltd and Raffles Museum of Biodiversity Research, National University of Singapore in collaboration with Cicada Tree Eco-Place, Nature Society (Singapore) Vertebrate Study Group and TRAFFIC Southeast Asia. A digital edition of the leaflet can be viewed at http://rmbr.nus.edu.sg/raffles_museum_pub/Save_the_Pangolin.pdf.*

Sunda Pangolin or Malayan Scaly Anteater (*Manis javanica*) Below: With a baby clinging to its back, this mother Pangolin heads for privacy. Photos: Norman Lim.

Cats in Crisis

We are losing the world's favorite animal and her relatives.

Text by **Chris R. Shepherd** and **Loretta Ann Shepherd**

Tiger skin for sale.
Photo: Chris R. Shepherd - TRAFFIC Southeast Asia.

2010 – the Year of the Tiger, and we are well on our way to losing every last one of them from the wild. The Tiger was voted the World's favorite animal by viewers of Animal Planet, but that hasn't offered it much protection. Largely due to illegal killing to supply the demand for their parts, Tiger populations in the wild have plummeted from 100,000 to an alarming low of approximately 3,200 over the past 100 years.

Forests are full of snares; poachers kill and smuggle Tigers at will. Restaurants sell not just Tiger prey species illegally but some even sell the meat of Tigers themselves. Medicines containing Tiger bone are readily available, often openly displayed. Tiger skins are sold to tourists, along with the skulls, teeth and claws.

Habitat loss and fragmentation, increased conflict between Tigers and people, and severe over-hunting of Tiger prey species, are also reasons behind the near extermination of the world's largest and arguably most-loved cat.

Victim of multiple encounters with snares in Indonesia. Photo: Chris R. Shepherd - TRAFFIC Southeast Asia.

But millions of dollars are raised and spent on Tiger conservation, so why are we losing these majestic creatures at such an alarming rate?

In this day and age, it is a frustrating reality that those on the frontline, the people risking their lives everyday to protect Tigers, and other wild cat species, regularly have to deal with serious inadequacies, ranging from weak and outdated legislation, lack of equipment and resources, to insufficient capacity to carry out their duties.

Poachers are often armed to the teeth and well resourced, while enforcement officers often carry out their work unarmed and under equipped, operating in some cases without vehicles or petrol for vehicles – in some cases even using taxis to carry out their investigations and raids.

This can only change with increased resources being channeled to the frontlines, and with sufficient political will.

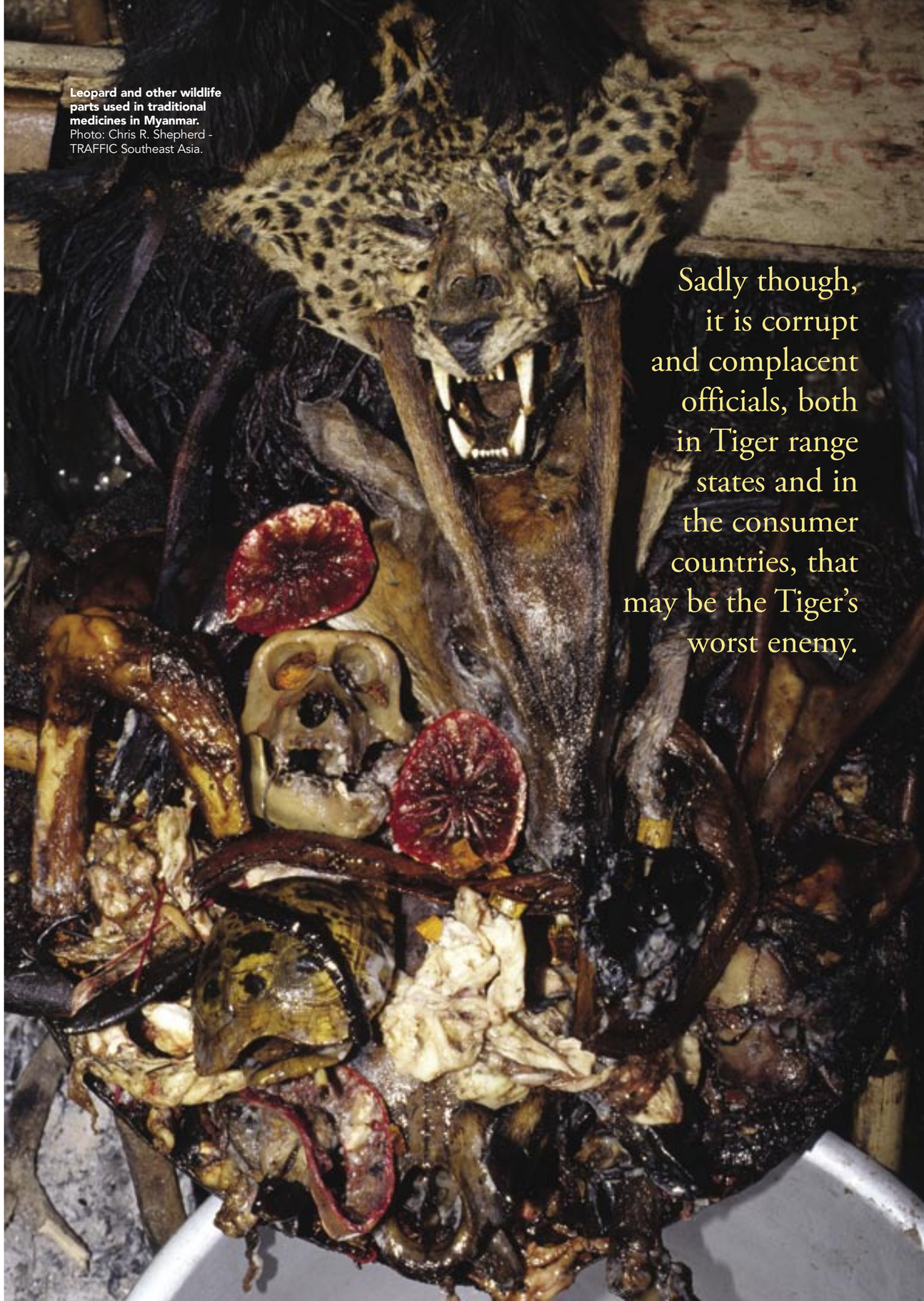
Sadly though, it is corrupt and complacent officials, both in Tiger range states and in the consumer countries, that may be the Tiger's worst enemy. Not only are these individuals allowing poaching and illegal trade to wipe out our last Tigers with their

TABLE 1

Status of South-east Asia's Cats

Cat species	CITES	IUCN Red List of Threatened Species (2010)
Tiger *Panthera tigris*	I	Endangered
Leopard *P. pardus*	I	Near Threatened
Snow Leopard *Uncia uncia**	I	Endangered
Clouded Leopard *Neofelis nebulosa*	I	Vulnerable
Sunda Clouded Leopard *N. diardi***	I	Vulnerable
Asiatic Golden Cat *Pardofelis temminckii*	I	Near Threatened
Marbled Cat *P. marmorata*	I	Vulnerable
Bornean Bay Cat *P. Badia*	II	Endangered
Fishing Cat *Prionailurus viverinnus*	II	Endangered
Flat-headed Cat *P. planiceps*	I	Endangered
Leopard Cat *P. bengalensis*	I/II***	Least Concern
Jungle Cat *Felis chaus*	II	Least Concern

** Only fairly recently determined to be in South-east Asia, in Myanmar*
***Recently elevated to species level but still treated as Neofelis nebulosa by CITES*
****Only the populations of Bangladesh, India and Thailand are in Appendix I; all other populations are included in Appendix II*



Leopard and other wildlife parts used in traditional medicines in Myanmar. Photo: Chris R. Shepherd - TRAFFIC Southeast Asia.

Sadly though, it is corrupt and complacent officials, both in Tiger range states and in the consumer countries, that may be the Tiger's worst enemy.

Big cats of South-east Asia

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Sumatran Tiger (*Panthera tigris sumatrae*). Camera trap photo from Gunung Leuser National Park, Sumatra, Indonesia. Photo: Mike Griffiths/WWF-Canon.

Snow Leopard (*Uncia uncia*). Photo: David Lawson/WWF-UK.

Sunda Clouded Leopard (*Neofelis diardi*) at night. Sumatra, Indonesia. Photo: Mike Griffiths/WWF-Canon.

Leopard (*Panthera pardus*) in grassland. Bandhavgarh National Park, India. Photo: R. Isotti, A.Cambone - Homo Ambiens/WWF-Canon.

snares, guns and poison, they are also undermining the work of honest, hard working officials.

Commercial farming of Tigers is increasingly being held up as a solution. While the owners of such businesses may reap financial benefits, commercial farms do little, if anything, to protect threatened species in the wild in countries where protection of the species in the wild is weak.

For example, commercial bear farms in China have not slowed the poaching of Asiatic Black Bears. Farming of Yellow-crested Cockatoos has not stopped this species from nearly vanishing from much of its former range in Indonesia. Domestic cattle-ranching has not done a thing to slow the demise of South-east Asia's wild cattle species.

Commercial Tiger farms would not deter the poachers living and working in Tiger range states either, and with few obstacles or risks in their way, they would continue to hunt and sell wild Tigers as they do now – why wouldn't they? It would be foolish to think otherwise.

There is also the risk that commercial production of Tiger parts will stimulate demand and thus increase pressure on the remaining wild populations. What message would the legalization of Tiger farms send to the public? To the consumers?

This core area of lowland rainforest north of Kota Tinggi in the Malaysian state of Johor is habitat for Tiger and other cats, but much reduced in size and quality since this picture was taken in 1994. Photo: Morten Strange.

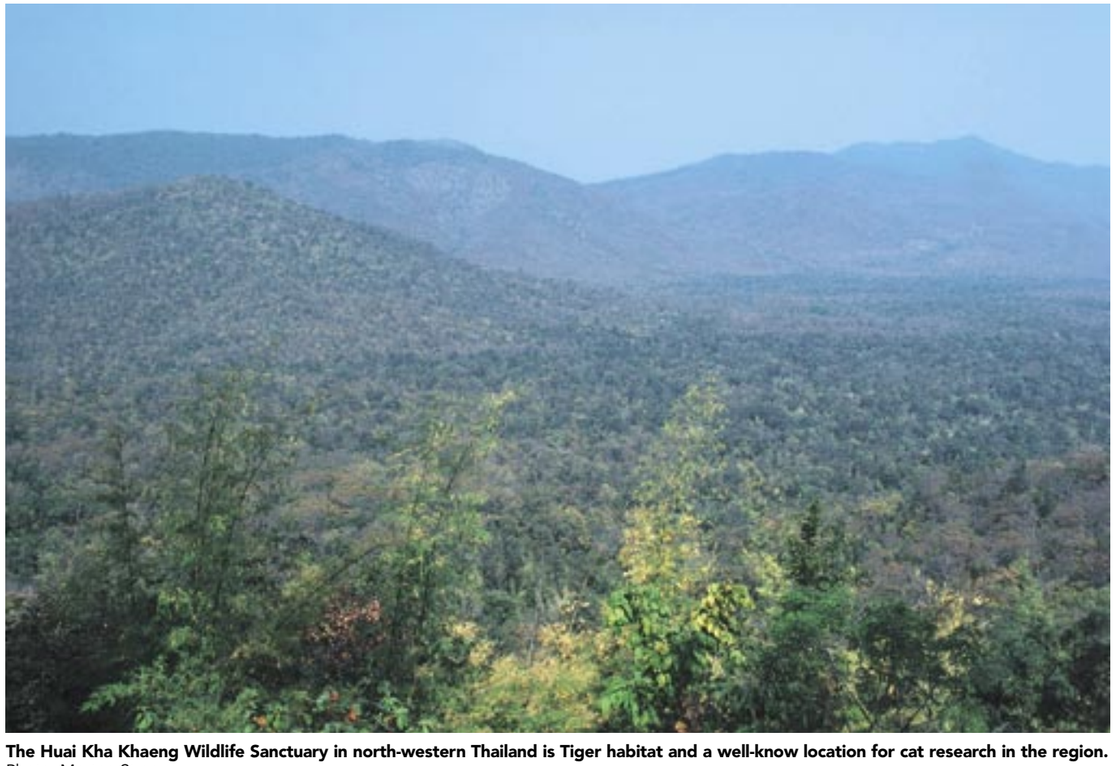
Unless Tigers are effectively protected in their habitat, illegal markets shut down, and prosecutions for illegal killing and trade of Tigers increased, the downward spiral to extinction will continue. We have already lost three of the nine Tiger subspecies, i.e. Caspian, Bali and Javan Tiger. Singapore was the first country in South-east Asia to lose her Tigers altogether. Let's not lose anymore.

But it is not just the Tigers that are in trouble. There are 12 cat species in South-east Asia, most of which are threatened with global extinction – five of these are already considered Endangered by the IUCN (*Table 1*). All wild cats are protected to some degree by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), with prohibits or regulates international trade. All South-east Asian countries, with the exception of Timor Leste, are party to CITES. National legislation in each country in the region also protects cats to varying degrees from persecution and trade, although these laws are often out-

Asiatic Golden Cat (*Pardofelis temminckii*). Photo: Gerald S. Cubitt/WWF-Canon.

A spotted or *tristis* form of Asiatic Golden Cat. This skin was observed for sale in a market in Myanmar, along the Thailand border. Photo: Chris R. Shepherd - TRAFFIC Southeast Asia.

Clouded Leopard (*Neodelis nebulosa*). Photo: David Lawson/WWF-UK.



The Huai Kha Khaeng Wildlife Sanctuary in north-western Thailand is Tiger habitat and a well-know location for cat research in the region. Photo: Morten Strange.

dated, riddled with loopholes and carry insufficient penalties.

One recent case study is given here to exemplify the scale of the trade in Tigers and other wild cats. Studies on the trade in wild cats carried out in wildlife markets in Myanmar by TRAFFIC have highlighted the threat of hunting and commercial trade. Between 1991 and 2006, 12 surveys in four wildlife markets in Myanmar uncovered recognizable wild cat parts, representing a large number of wild cats of eight species (*Table 2*). Turnover was not measured during this study, but anecdotal information suggests it is very high, thus the number of cats killed and sold in Myanmar is considerably higher. Hunters and traders selling cats in these markets have said that many of the cats, especially Tigers, are becoming extremely difficult to find.

All wild cats throughout Southeast Asia are being threatened by hunting and trade, as well as habitat loss. There is evidence showing increasing demand for bones of some species, such as Leopards, as the more heavily sought after Tiger bones become increasingly more difficult to obtain. Demand for the beautiful pelts of some cats, especially these with spots and stripes, continues. Private collectors and even some unscrupulous zoos play a role in the illegal trade.

But it is not too late. Tiger populations can rebound if the pressures are removed. Adequate habitat still exists in many places, and prey populations can recover quickly if given the chance. But serious protection and enforcement is needed, and resources more than ever are required. They must be spent in an accountable and efficient manner, with better support for enforcement personnel on the ground needed urgently. And most importantly, the support from those with the power to make these things happen, to save Tigers and other wild cats from extinction in the wild, is needed now more than ever.

TABLE 2

The total parts and minimum number of individuals of wild cats observed in Myanmar 1991-2006*

Species	Total parts observed	Total minimum individuals observed
Tiger	167	107
Leopard	215	177
Clouded Leopard	301	279
Marbled Cat	4	4
Asiatic Golden Cat	111	110
Fishing Cat	37	37
Leopard Cat	483	442
Jungle Cat	2	2

**note only skins and skulls were counted from 1991-1998*
Source: Shepherd, C. R. and Nijman, V. (2008) The wild cat trade in Myanmar. TRAFFIC Southeast Asia, Petaling Jaya, Malaysia.

Jungle Cat (*Felis chaus*), Pench National Park, MP, India. Photo: Roger Hooper/WWF-Canon.

Leopard cat (Prionailurus bengalensis). Photo: David Lawson/WWF-UK.

Flat-headed Cat (*Prionailurus planiceps*). Sarawak, Malaysia. Photo: Gerald S. Cubitt/WWF-Canon.

Chris R. Shepherd *and* ***Loretta Ann Shepherd*** *are a husband-and-wife team based in Malaysia. They travel extensively in the region and overseas, watching, photographing and writing about wildlife. Both have dedicated their lives to conservation, and are involved in a wide range of projects and activities. Chris is the Deputy Regional Director with TRAFFIC Southeast Asia and Loretta is the Coordinator for MYCAT – the Malaysian Conservation Alliance for Tigers.*

Editor's note*: A special "thank you" goes to Dr Richard Thomas with the TRAFFIC Cambridge, UK office. Richard is an old friend and colleague of mine from our BirdLife International days. While Chris Shephard has excellent pictures from the cats trade, Richard provided* Nature Watch *with the additional wonderful images of live cats.*

So, what can I do?

The public too has a role to play. Here is what you can do:

- Ask your government to take urgent action to stop the illegal trade of Tigers and other wild cats.
- Ask that your government not support commercial farming of Tigers.
- Ask that authorities treat wildlife crime as a serious issue and hand down penalties severe enough to be a deterrent.
- Write letters to the newspapers and other forums, expressing your concerns. Congratulate authorities and others who are taking action towards saving Tigers and other wild cats.
- Avoid restaurants selling wild meat and report those that sell illegally sourced meat to the authorities.
- Ensure the medicines you use do not include parts of Tiger, or any other any other threatened wildlife. Report any cases of illegal trade to the authorities (In Singapore: Agri-Food and Veterinary Authority (65+) 6227 0670 or NGO-managed hotlines for wildlife crimes (in Singapore: ACRES, Wildlife Rescue Hotline (65+) 9783 7782.
- Promote wildlife-friendly products – reduce your impact on the habitat of wild cats as much as possible.
- Support organizations working to protect Tigers and other wild cats.
- Learn more about the conservation needs of the wild cats – knowledge is power! Tell others about the conservation needs of wild cats.

Tiger and Leopard for sale in Myanmar. Photo: Chris R. Shepherd - TRAFFIC Southeast Asia.

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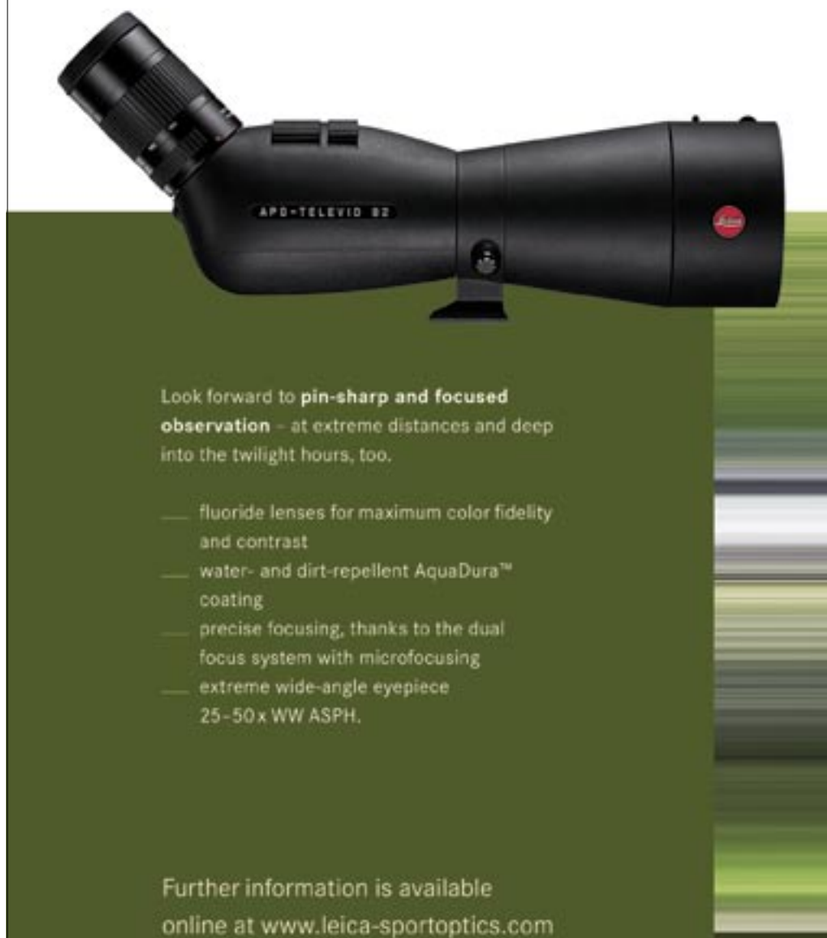

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BIRD STUDY

Birds are the True Masters of Song

The composer Dr. Robert Casteels is intrigued by the vocalization of birds. Here he reflects on a fascination that led to one of his compositions entitled *Bird Songs*.

Text by **Robert Casteels**

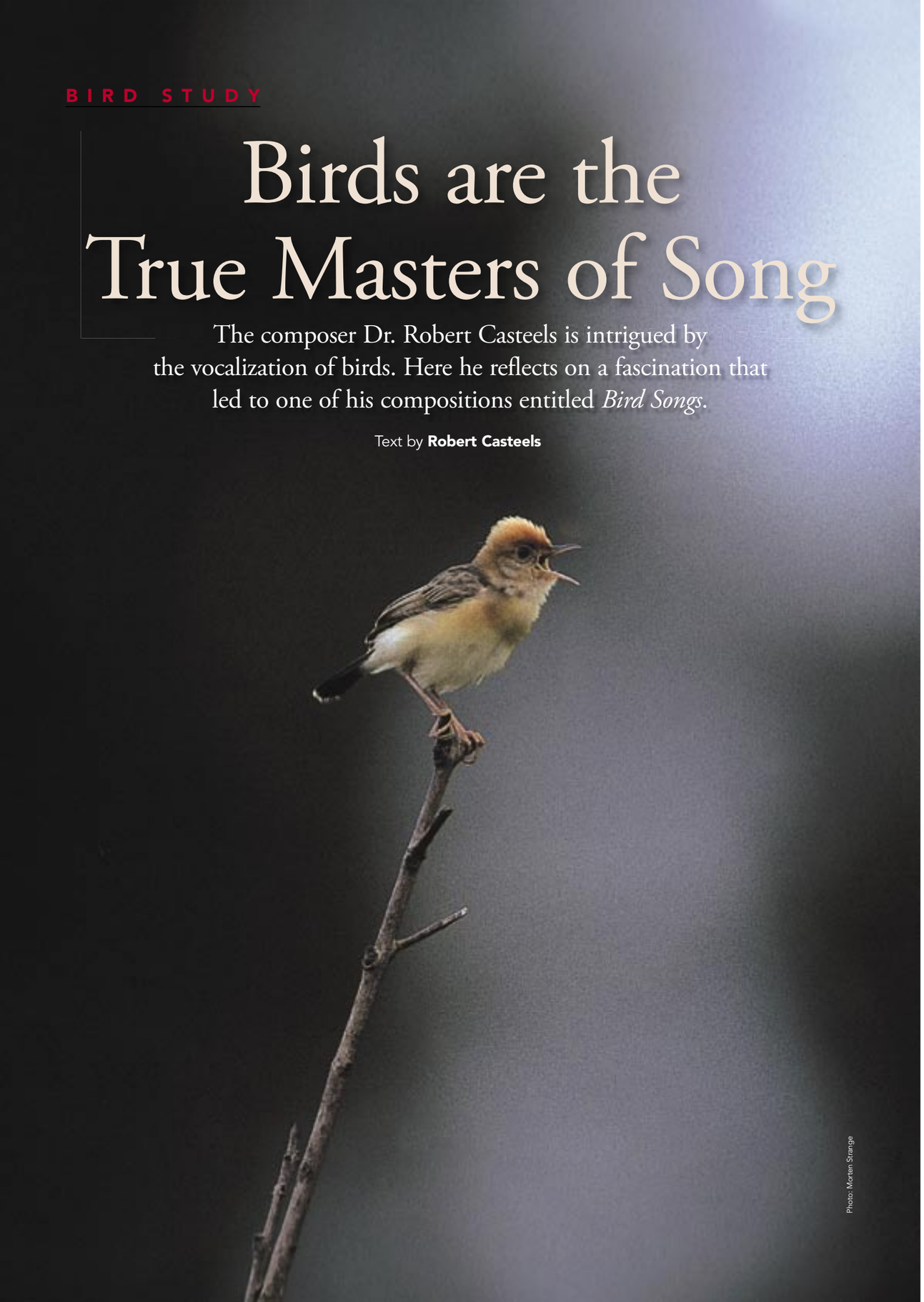


Photo: Morten Strange

I enjoy the sound of birds, frogs and insects. But I am particularly overwhelmed by the melodic complexity and avoidance of rigid numerical repetition in bird songs. I can relate to stories told by bird enthusiasts about birds singing in a particular musical key or developing elaborate structural patterns. In short, all that surpasses what my trained ear as a professional musician can grasp. My interest was spurred by an interesting article (Lin, 2006) published in *Nature Watch* given to me by a fellow Nature Society member. Two years later, this journey led to the creation of an original music composition based on the songs of some birds resident in this region.

"Birds are creatures who not only sing at their business, but whose business it is to sing", wrote Kirkegaard. Why, when, for whom and how do birds sing? How do they learn?

The short answer is that the scientific community has not yet been able to come up with factual answers applicable to all bird species. Avian diversity is far richer in the tropics than in the temperate zones, yet most research has taken place in the temperate regions. The study of bird song is highly intimidating. I attempt here to highlight 10 points for which there is experimental evidence.

1. Birds have a rather poorly developed olfactory system. They depend heavily on sound which travels in all directions and over long distances, making it a more effective means of communication than visual signals, especially in darkness and poor light. However, there are factors, such as humidity, temperature and landscape, which affect the quality of sound transmission.

2. The syrinx, the equivalent of the human larynx, is the sound-producing organ in birds. Located at the bronchial junction, the syrinx has two potential sound sources, one in each bronchus. Hence the two sides of a bird's syrinx can operate independently. Therefore, it is possible for a bird to repeat a sound at such high speeds that we humans seemingly hear one constant pitch instead of a series of short sounds interrupted by intervals of about 10 milliseconds. In mammals, it is clear that the sound is produced during exhalation, akin to how sound is produced by a wind instrument. However, in birds, ornithologists disagree as to how and when sound is produced, whether it is during exhalation or inhalation.

3. Young inside un-hatched eggs can already vocalize. But the song learning process takes place at different times for different species - some bird species learn as juveniles while others learn as juveniles and young adults. There is a great difficulty in determining exactly how much song learning and song recognition is innate as opposed to learnt from what the young bird hears. Bird songs and human music resemble each other acoustically. Just like babbling human babies, young birds go through a period of so-called subsong or whisper song, which is quiet and variable. Gradually the song crystallizes into the full song typical of adults of the species. Some birds reared in acoustic isolation produce aberrant songs; others do not. After a critical time window for song learning, some species will no longer enlarge their repertoire. On the other hand, males of other species do update their song repertoire from year to year, possibly to rival new males.

4. Huge variations exist between species in the variety and size of their repertoire as well as the way this repertoire is used. Some species develop intricate songs, others do not. Most birds sing more than one version of their principal species' song while others do not have such variations. These geographical variations are known by ornithologists as dialects. A complex song individualizes its singer, to its advantage versus a potential mate, but also at the same time to its disadvantage versus a possible predator.

5. In many species only the male sings. Experimental evidence has shown that variations in testosterone levels have an effect upon chicks' vocalizations, and in turn, the songs they sing. Males do not necessarily learn the songs

After a critical time window for song learning, some species will no longer enlarge their repertoire. On the other hand, males of other species do update their song repertoire from year to year, possibly to rival new males.

of their natal area. Males proclaim and defend their territory by counter-singing against rival males, which stimulates the females for sexual display and readiness. The rate of male songs peaks with the fertile periods of the females. In a Darwinian logic, female birds may be selecting males on the basis of the amount and complexity of the songs males sing as a guarantee of excellent genes. Females do not necessarily prefer to mate with males singing the same dialect as their fathers. The better a male sings in quantity and quality, the less he spends time feeding. Consequently, he must be an efficient

feeder holding a territory of good feeding quality.

6. In some species, females also sing. Females sing within the mated pair in situations such as when other females appear, or to trick the male into returning by giving the impression that a rival male is trespassing on his territory. Some pairs of male and female sing elaborate antiphonal duets, alternating different notes. Sometimes the duet is so tight that the song sounds like a single call.

7. There are annual song-cycles and daily song-cycles. Some species sing up to 22,200 songs during a single day. The dawn chorus, which refers to the marked increase of singing during dawn, is still not fully explained. Some species sing their last song of the day in about the reverse order of their first song of that day. The song production peaks in the morning, decreases and reaches a minimum after midday, increases again towards the evening.

8. Most species of birds learn only the song of their own species and seem to be attracted by the song of their own species. The songs that are attractive to human ears are not necessarily those birds use for wooing. Mimicry is rare, except when imitating competing species or predators, so that the singer's territory appears to be dangerous and well defended.

9. Parent-offspring recognition works even in a crowded restricted space such as on a small isolated island. Many species have two clearly different alarm calls, one for a flying predator and another for a predator on the ground or perched in a tree. Defending food always corresponds to the lowest-pitched of all the sounds a species makes.

10. Insects, amphibians, birds and mammals have developed a language of sound to a high degree of sophistication. Singing is expensive in terms of energy and must therefore be utilitarian and functional. However, nothing prevents us from accepting that a relaxed and satiated bird may at times emit songs for sheer pleasure.

Photo: Tiny Wee

Robert Casteels conducting the first performance of *Bird Songs*, Singapore Botanic Gardens, 5 December 2009.

European art music composers and birds

Man's appreciation of bird-songs has far preceded his scientific interest. Virtually every composer who has been inspired by bird songs has taken one of three different approaches. The first of these is the anthropomorphic approach where composers associate human feelings to bird calls. Clément Janequin, a 16th century. French composer, wrote a six-minute vocal piece without any instruments entitled *Le Chant des Oyseaux*, that consists mostly of aviary onomatopoeia. Syllables imitate the sound of bird sounds that it aims to portray. The vocal virtuosity is daunting for the singers. 470 years later, the piece's hilarious effect and puns still brings audiences to infectious laughter.

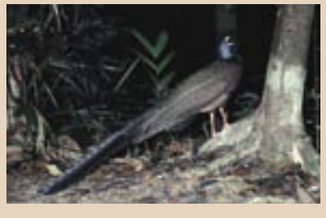
Until the 18th century, the cuckoo bird referred to the one cuckolding as opposed to the one cuckolded, because the Common Cuckoo lays her eggs in other species' nests. The dove represents love and peace. The nightingale's song is seen as one of pure unmixed joy, also representing nostalgia. Mozart bought a starling which had been taught to sing. Allow me to fly over masterpieces by J.S. Bach, Antonio Vivaldi's *Four Seasons*, Haydn in his oratorio *The Seasons*, Beethoven in his *Pastoral Symphony*, Tchaikovsky and many more.

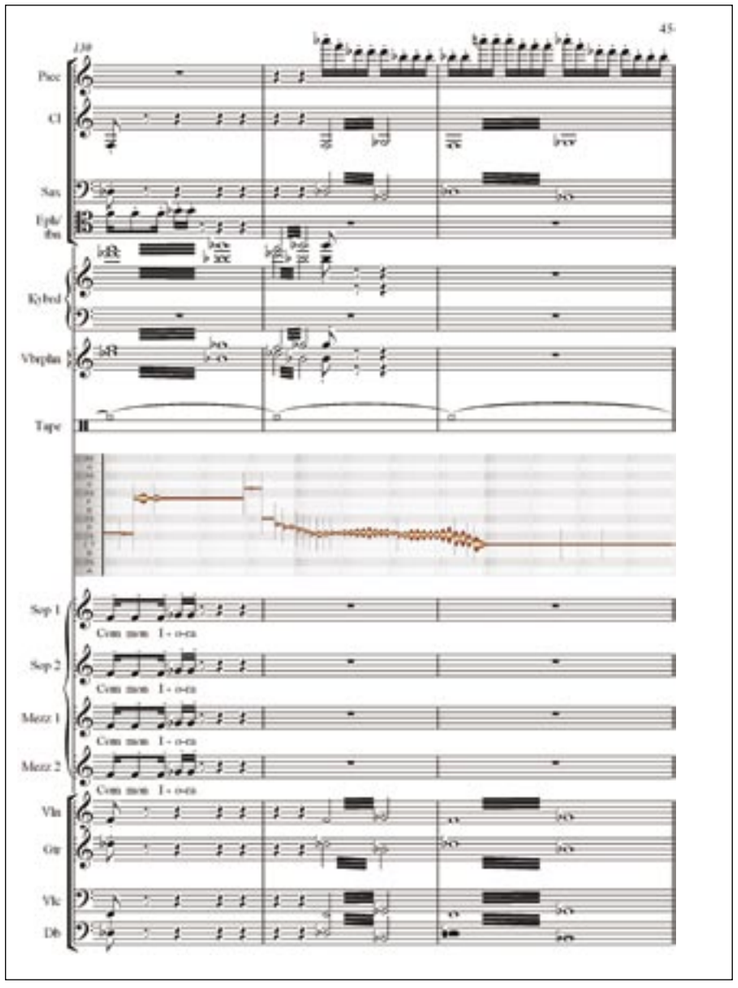
The second approach is the ornithological approach of Olivier Messiaen, a 20th century French composer who called himself an ornithologist. He travelled extensively all over the world with a tape recorder, notating as closely as possible bird calls which he then assigned to instruments.

His music is technically complex. Since his 1953 orchestral work entitled *Réveil des Oiseaux* inspired by the so-called avian dawn chorus, consisting exclusively of 38 bird songs in 20 minutes, nearly every piece Messiaen composed for the next 50 years included bird calls.

Bird calls

The term "song birds" is usually used to refer to members of the order Passeriformes. But many non-passerines also call, such as this Great Argus *Argusianus argus* from Malaysia, which in fact has one of the loudest voices in the rainforest.





Page 45 of the full score of *Bird Songs*; the voices sing the name of the bird; the piccolo flute on the top line engages in an instrumental dialogue with the call of the Common Iora represented by its sonogram.

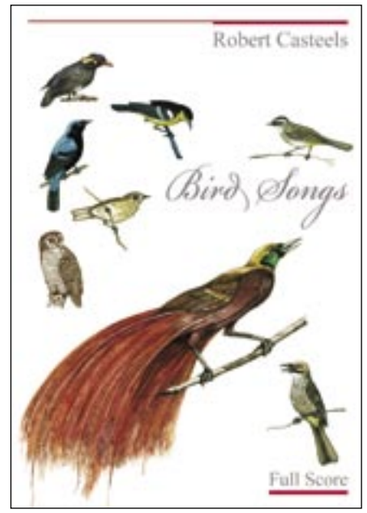
His *Catalogue des Oiseaux* is a series of 13 piano pieces entirely based on bird calls. In his five-hour long opera *Saint Francis of Assisi*, first performed in 1983, the entire sixth scene consists of an uninterrupted 30 minutes of bird calls.

In 1924 the Italian composer Ottorino Respighi was the first composer to include pre-recorded bird songs in his *Pines of Rome*. (So did the English band Pink Floyd in their 1969 song *Grantchester Meadows*).

Finally, composers concerned about the degradation of planet Earth have adopted an ecological approach. In 1972, the Finnish composer Einojuhani Rautavaara composed a Concerto for Birds and Orchestra entitled *Cantus Articus*. The sound of the full orchestra is mixed with pre-recorded calls of bog birds in spring, the shore lark and migrating swans.

Singapore Botanic Gardens' 150th Anniversary

On 5 December 2009, the Minister for National Development, Mr Mah Bow Tan, graced as Guest-of-Honour a concert for the grand finale of Singapore Botanic Gardens' (SBG) 150th Anniversary. On the Shaw Foundation Symphony Stage of Palm Valley, a group of Singapore's best jazzmen performed Maurice Ravel's 1914 *Trois Beaux Oiseaux du Paradis*, Jimi Hendrickx's 1967 *Little Wings*, Paul McCartney's 1968 *Blackbird*, George Shearing's 1952 *Lullaby of Birdland* (that refers



Cover of the full score of *Bird Songs* with original illustrations by Sutari Supari.


Photo: Jolie Gouw

The audience and the Shaw Foundation Symphony Stage, Palm Valley Singapore Botanic Gardens 5 December 2008.

Overwhelmed by the beauty of the bird calls, I decided against transcribing them for instruments or transforming them through audio manipulation. I also abandoned the idea of bringing caged birds on stage and using the recordings I made in the mountains of Northern Thailand and Laos.

‘Best’ song birds

Passerines have the most complex and sophisticated vocal skills among birds. Here are some of the ‘best’ singing families represented.

Photos: Morten Strange

Ashy Tailorbird *Orthotomus ruficeps* (Sylvidae family, from Malaysia)

Oriental Magpie Robin *Copsychus saularis* (Turdidae family, from Thailand)

Bright-headed Cisticola *Cisticola exilis* (Cisticolidae family, from Thailand)

Chestnut-winged Babbler *Stachyris erythroptera* (Timaliidae family, from Malaysia)

White-throated Fantail *Rhipidura albicollis* (Rhipiduridae family, from Malaysia)

Bare-throated Whistler *Pachycephala nudigula* (Pachycephalidae family, from Indonesia)

to jazz legend Charlie “Bird” Parker), as well as Manning Sherwin’s and Eric Maschwitz’s 1940 song *A Nightingale Sang in Berkeley Square*.

In addition, the group premiered my new piece entitled *Bird Songs*. In 2003 for the official launch of the Garden City Fund at the Istana, I had recorded nature sounds from Singapore parks and woven them into a composition for percussion and piano. For this SBG outdoor celebration in 2009, I opted for 4 wind instruments, 4 electric string instruments, 4 voices, keyboard and vibraphone.

Overwhelmed by the beauty of the bird calls, I decided against transcribing them for instruments or transforming them through audio manipulation. I also abandoned the idea of bringing caged birds on stage and using the recordings I made in the mountains of Northern Thailand and Laos, because I was often not able to identify the recorded bird with accuracy.

With the gracious permission of Nature Society (Singapore) and Mr Sutari Supari, I selected ten bird calls (Sutari, 2003) on the basis of their aesthetic beauty and contrasting variety. I then had the chosen tracks filtered from background noises and wind before I submitted them for sonogram analyses.

A sonogram plots the sound frequency in kilohertz against time in seconds. This scientific information helped me in the composition of the interaction between the instrumental sounds and bird sounds. The inclusion of the sonograms in the full score should guide conductors for future performances.

My entire composition (Casteels, 2009) is a journey from artificial imitation to forceful imprisonment to endangered freedom.

The first three minutes of the composition may sound like a senseless chaos: put aside ten minutes of your time and keep listening until the end. In the beginning all instruments are competing with their different respective songs.

Four singers sing the binomial names and improvise in the manner of jazz scat on avian onomatopoeic syllables. The pre-recorded tape plays, in succession, mechanical bird sounds that are MIDI cloned sounds (at 0:24), an ear shattering crowd of white-eyes recorded in the void deck of Block 440 Ang Mo Kio Avenue 10 where aviculturalists and bird-fanciers show off their counter-singing birds and elaborate cages every Sunday morning (at 1:06), and dawn choruses recorded in HDB estates (at 2:14).

In reality this first part of the composition is far from chaotic. Just as in a crowded bird colony parents are able to locate each other, recognize a neighbor from a complete stranger and identify their own young among thousands of others all packed together, every single pitch and rhythm in the beginning of this composition is explainable.

At 3:02, all instruments converge towards a single note that signals the beginning of the second part of the piece.

From this point, instrumentalists will dialogue with the following ten birds which are resident in the Republic of Singapore: the Yellow-vented Bulbul (at 3:22), the Spotted Wood-owl (at 4:07), the Common Iora (at 4:36), the Rufus-tailed Tailorbird (at 5:03), the Hill Myna (at 5:34), the Drongo Cuckoo (at 6:18), the Asian Fairy Bluebird (at 6:39), the Straw-headed Bulbul (at 7:18), the Striped Tit-babbler (at 7:46), and the Malaysian Eared Nightjar (at 8:22).

It was a *Nature Watch* article (Lin, 2006) about the Straw-headed Bulbul that piqued my curiosity. Hartshorne (1992) calls the Hill Myna “the world’s most gifted non singing chatterer”, because, “the Hill Myna’s greater precision in its duplication is to be credited to its superior muscular equipment.” Finally, the sound of the human instruments gently wafts away in a gracious bow to a chorus of the *Paradisaea apoda* (at 9:00), also known as the Greater Bird of Paradise. This species was named by 18th century Swedish botanist, Carl Linnaeus. Paradise referred then to New Guinea. *Paradisea* referes to the belief that this bird never alighted. Apoda was a neologism from Ancient Greek that means without legs, because Europeans only ever saw the magnificent long tail feathers. Thousands of massacred birds had their feet chopped off before being shipped to satisfy a high demand in European millinery.

In composing and performing *Bird Songs*, I humbly endeavoured to share my wonder for nature’s magnificence, my sense of responsibility on how to pass the legacy to future generations, and *hic et nunc*, to spread the word about Singapore’s Nature Society.

Like other citizen, contemporary artists also inherited the earth as a magnificent environment. Progress has enabled many of us to appreciate the beauty of nature at our planetary level, yet the same progress is destroying much of that beauty. In composing and performing *Bird Songs*, I humbly endeavoured to share my wonder for nature’s magnificence, my sense of responsibility on how to pass the legacy to future generations, and *hic et nunc*, to spread the word about Singapore’s Nature Society.

Birds are the True Masters

Harsthorne (1992) coined the word ‘ornithomorphism’ or the bird’s judgment of human music as opposed to anthropomorphism. What did the original inhabitants of the Botanic Gardens, that is the birds, make of my music? I wonder. In 1892, the then famous 51 year old Czech composer Antonin Dvořák accepted a lucrative academic position in New York city.

However, disliking the urban and socialite environment, Dvořák spent time in the country side of Iowa that reminded him of his native Bohemia. There he is said to have been irritated by the incessant call of a scarlet tanager (“that damned bird”) and to have exclaimed: “Birds are the true masters”. In all humility, I concur.

Dr. Robert Casteels *is a music composer, conductor and educator, and a member of Nature Society (Singapore).*

RECOMMENDED LITERATURE

For a truly extraordinary account of a lifetime devoted to personal bird watching: Dee (2009) *Running Sky* consists of 12 riveting essays, one for each month.

For a window on the world of rigorous scientific research, its baffling research methods that include field recording and observation, submitting birds to various stages of surgical deafening and alterations to their syrinxes, analyzing birds’ response to loudspeakers, hand rearing and various phases of acoustical isolation: Kroodsma & Miller (1996).

For the classic text books of English speaking academic literature: Armstrong (1963) Catchpole (1995) and Thorpe (1961). William Thorpe (1902 – 1986) was arguably Britain’s most famous ethologist and ornithologist.

For truly original thoughts on the aesthetic aspects: Hartshorne (1992) as well as chapter 15 entitled “Aspects of the evolution of man’s appreciation of bird song” by E.A. Amstrong in Hinde (1969) :343-365 and chapter 16 “The aesthetic content of bird song” by J. Hall-Craggs in Hinde (1969) :367-381.

To take with you on your desert island: three recommended recordings of art music compositions that focus on bird songs and calls:

Clément Janequin, *Le Chant des Oyseaux*, by the Ensemble Clément Janequin/ cd published by Harmonia Mundi.

Olivier Messiaen, *Le Réveil des Oiseaux*, Cleveland Orchestra conducted by Pierre Boulez/ cd published by Deutsche Gramophon or Orchestra National de France conducted by Kent Nagano/ cd published by Erato.

Einojuhani Rautavaara, *Cantus Articus*, Royal Scottish National Orchestra conducted by Hannu Lintu/ cd published by Naxos.

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Message from Editor

Photo: Sutari Supari

The Editor with Dr. Casteels at the NSS AGM 15 May 2010.

There is something about birds that just appeals to so many people. As a composer and a musician, Dr. Robert Casteels' special fascination with birds originates from their skills in vocalization; please read his captivating account here of his use of bird calls in his work.

This story links up to Con Foley's visual fascination with the Olive-backed Sunbird's courtship display presented later in this issue. I bet you have never seen a better image of a sunbird than the one on the cover, am I right? Birds are the True Masters indeed.

But it is not a species of bird that is mankind's favorite animal, it is not even the dog (which came in second in that Animal Planet viewer survey that is quoted inside the magazine); it is the Tiger. And yet, people are killing off their own favorite; it is one of those tragic consequences of the assault on our natural world that is happening in these decades, through some mechanisms and drivers that we don't even seem to understand, let alone control, ourselves. In Singapore alone, the Tiger is the logo for a brewery, a pharmaceutical company, an oil company and an airline ... all huge industries and I probably missed out some others ... and yet, in spite of millions of dollars spent on awareness and conservation for the Tiger, the situation for Tigers and other cats is getting worse every year, not better. Chris Shepherd tries to explain why. Personally I have the greatest admiration for what Chris and his colleagues at TRAFFIC Southeast Asia try to accomplish, at little reward for themselves and often under stressful, uncomfortable and even dangerous scenarios. Please read his and his wife Loretta's account in this issue, it is important and well written, even if the message is disturbing.

The somewhat emotional reflections by Dr. Leong Tzi Ming printed in the last issue of *Nature Watch* - 18(1) - were well received by readers, so we follow this up here by re-printing Dr. Leong's touching poem about the plight of the Pangolin; please see the booklet mentioned as a source for more information about the status of our scaly anteater. And finally, Tony O'Dempsey continues his account of some of his favorite plants, here some of the Pulai trees, a series that I also know that many of our readers have enjoyed.

Thank you for supporting *Nature Watch*.

Morten Strange
Editor-in-chief
June 2010

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Olive-backed Sunbird Displaying

Text and photos by **Con Foley**

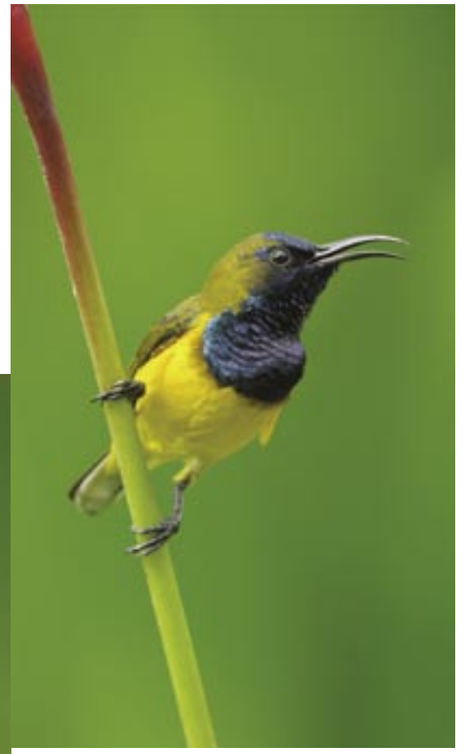
You have to be lightning fast on the trigger, as well as a little lucky, to capture the Olive-backed Sunbird's brief mating display on memory chip. Last year, **Con Foley** was both.

In mid-December 2009 I went to Heliconia Walk at Singapore Botanic Gardens to observe and photograph the sunbirds feeding on the Heliconia flowers together with Jean René Croguennec. I had my camera focused on a particularly promising *Heliconia psittacorum* 'Lady Di' flower cluster. Not long after we arrived, and to our astonishment, a male Olive-backed Sunbird *Cinnyris jugularis* flew into the flower I was targeting and began his mating display. Although I'd never witnessed this before it was unmistakable what he was doing.

The early part of his display was especially vigorous. He extended his apricot colored pectoral tufts, sang at the top of his lungs and flicked his wings as if for added emphasis. This portion of the display lasted for about 30 seconds.

Then he stopped singing and flicking his wings, but continued to extend his pectoral tufts. At first these were fully extended, but as time went on he relaxed even more and the pectoral tufts retracted. This portion of the display lasted for about 2.5 minutes. Then, as suddenly as he had arrived, he flew off.

The early part of his display was especially vigorous. He extended his apricot colored pectoral tufts, sang at the top of his lungs and flicked his wings as if for added emphasis.



He really did look quite stunning with apricot tufts, yellow chest and deep blue iridescent gorget. Unfortunately for this little fellow, there were no females around to witness this spectacle.

I had a hunch and went back to the same spot four days later. And without waiting too long, much to my delight, a male flew into the exact

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same flower as on the previous occasion and began displaying again. But to my disappointment photographically, he was facing away from me. Overall the display was a bit shorter than the first one, but his luck was better this time as there was a female in the vicinity.

I returned several times subsequently but did not see him display again, so perhaps the display accomplished the task at hand and he found a mate.

From my observations, this - the commonest of sunbird species in Singapore - is unique in making this type of spectacular display.

Editor's note: *The author is right; this is the only one of the Singapore sunbirds that uses pectoral tufts to display in this manner. Several other members of the* Cinnyris *genus do the same, but these species are mainly found in Africa, where research suggests that the male display is for territorial defense as well as for attracting females. In Singapore, the behaviour is well decribed by Wells (2007) and on various online sites such as http://besgroup.talfrynature.com/2007/04/24/olive-backed-sunbird-mating-dance/. However, these sunbirds are very small and the display is short, so we bring Con's extraordinary pictures and description here to encourage readers to look for this exciting show themselves. It could happen right in your own backyard or balcony.*

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Con Foley *is an active nature photographer and bird enthusiast. A long-time resident of Singapore, he supports the NSS Bird Group during censuses and bird races, and is also the Past President of Nature Photographic Society (Singapore).*

The Heliconia Walk at Singapore Botanic Gardens in December 2009; this area was re-developed somewhat during 2010.

Know your Pulai

Text and photos by **Tony O'Dempsey**

Photo: Yeo Suay Hwee

PULAI is the common name attributed to a number of large and medium sized trees belonging to the *Alstonia* genus that are closely related to the well known Jelutong (*Dyera costulata*) and Frangipani (*Plumeria* spp.) trees, all of which belong to the Apocynaceae (Periwinkle) family. Pulai trees are easy to recognize due to their pagoda like form, whorled leaves, and if you are lucky, the distinctive twin seedpod that hangs down from the twigs after flowering. In Singapore there are five native species found in our nature reserves, one of which is used as a roadside tree, and one non-native introduced for roadside planting. For this article we feature two native species *A. angustiloba* and *A. spatulata* as well as the cultivated non-native *A. scholaris*.

Alstonia angustiloba

Alstonia angustiloba (Common Pulai) is one of our most handsome trees. It has been planted as a roadside tree and may also be found near the forest edges in our Nature Reserves. When fully grown this species is a majestic sight with massive fluted buttress and extensive crown. A typical habit of this species is the tendency to split into multiple upright trunks as illustrated above.

Alstonia spatulata

Alstonia spatulata (often mis-spelled as *A. spathulata*) (Marsh Pulai) may be found in swampy areas of our Nature Reserves. A clue to recognizing the Marsh Pulai in its preferred habitat is to observe the deeply fluted buttress seemingly disproportionate to the size of the trunk. Final confirmation comes with recognizing the small whorls of 3-4 upward turned leaves dark green on top and yellowish-green beneath with close parallel secondary veins. The enlarged fluted buttress is a specialization of this species that allows the tree to maintain its stance in swampy ground.

Tony O'Dempsey is a long-standing supporter of the nature community in Singapore and chairman of the NSS Vertebrate Study Group. He also has an interest in the trees and plants of the region. He will be presenting some of his favorite Singapore plants in this and future issues of *Nature Watch*.

Alstonia scholaris

Alstonia scholaris (Indian Pulai) is not a native of Singapore. However, this species has been planted extensively as a roadside tree probably due to its distinctive pagoda form and impressive flowerings. In January this year, this species treated us to a mass flowering display over the whole island, filling the night air with its sickly sweet scent.