

NATURE WATCH

Official Magazine of Nature Society (Singapore)

Volume 27 No 2 Apr-Jun 2019 S\$5.00



A UK Chalk Down named Martin



Plight of the Asian Elephant
Oriental Pied Hornbills Dust Bath
Pinnipeds in New Zealand



Hornbill Social Dust Bath

Human parenting and play meets bird parenting and play when **Tim Plowden** takes his daughter to the park.

Text and photos by **Tim Plowden**

The Oriental Pied Hornbill (*Anthracoceros albirostris*) is now a familiar sight to many people living in Singapore. This familiarity presents us with the unique opportunity to observe their fascinating social behaviour. This potential is enhanced by their increasing acceptance of our presence in many places, such as Pasir Ris Park which is home to a flock of approximately 20 birds.

Here they delight local children, including my 2-year-old daughter, with their vocal interaction and antics at the playground, play chasing each other from tree to tree, hopping around branches to fence bills with each other, occasionally pulling off twigs and bark, before descending to perch on swings, see saws and park signboards where they indulge in more social object play.

It was my daughter who drew my attention to the flock's visit to a sand pit

where they gather for a communal dust bath. Communal dust bathing has been documented in arable fields with the Malabar Pied Hornbill (*Ocyrceros griseus*) in rural India. In Singapore children now share their playground with a popular local bird allowing these birds to dust bathe and preen relatively undisturbed.

Social Dusting

Dust baths, also called dusting or sand bathing, are part of a bird's preening



The feathers may be fluffed and the tail spread so the dust can reach the skin more easily.



To take a dust bath, a bird begins by scraping its feet in dry, fine, crumbly dirt or sand to create a wallow.

Dust baths, also called dusting or sand bathing, are part of a bird's preening and plumage maintenance that keeps feathers in top condition.

and plumage maintenance that keeps feathers in top condition. Dust bathing appears to take place in the late afternoon and the hornbills will return to the same dusting spot at the main playground which has space for the entire flock to wallow and suitable sand for dusting. Not all the flock will dust at the same time; some wait nearby or are preoccupied with social play. Dust bathing is not always a communal affair for the flock. Smaller family groups can be found at smaller dust baths in the park. Smaller dust baths are typically temporary in nature – either areas of dusty soil created by dry weather or loose sand left by maintenance work in the park.

Preening

Preening typically follows immediately after a dust bath as part of the hornbills' grooming regime. While preening, the



The dust that is worked into the bird's feathers will absorb excess oil to help keep the feathers from becoming greasy or matted.



Female hornbill works a piece of dry earth between her mandibles while trying to crush it to dust.



Preening often follows immediately after a dust bath as the bird continues its grooming.



Stretching during preening helps provide space between each feather so the entire feather can be stroked and groomed effectively.

MALE OR FEMALE?



The casque and bill size and colour are the fastest and easiest way to distinguish sex and age — and sometimes individuals. If you get close enough, you will see the male (higher up on branch in image) has red eyes.

♂ MALE

- Red eyes
- Larger bill and casque.
- Bill nearly completely yellow except for black patch at base of lower bill.
- Casque is yellow with a black patch sometimes resembling a stripe starting about half way along the bottom edge and extending forwards towards the tip of the casque. Area of black on casque varies between individuals.

♀ FEMALE

- Grayish brown eyes
- Smaller bill and casque.
- More black on the bill especially at the tip of the upper bill and the patch on lower bill base.

In **JUVENILES** the bill and casque are pale yellow (no black). The casque is barely noticeable.

hornbills remove dirt and parasites from their feathers and align each feather in the perfect position. It is not only a vital maintenance activity, for adults it also helps them to communicate a healthier appearance to attract a stronger mate. Some of the adult hornbills allopreen during the communal dust bath, which helps keep the connection between mates strong.

Social Play

Oriental Pied Hornbills display four categories of social play: play chasing, play fighting, play invitations, and social object play. Why are hornbills more likely to play than many other birds? One factor which enables play to evolve is larger brain size which is linked to the amount of time the adults spend rearing the young. Complex

social play in birds is more likely to occur when delayed reproduction is accompanied by persisting relationships between adults and post-fledgling juveniles. There are many benefits to different kinds of play: establishing social rank, learning social rules, practicing survival skills, establishing motor coordination and social bonding.

Personal observations

During the breeding season (January to June), I typically see more males than females in the foraging flocks. From April, I start to see more females foraging in the flock.

It is not a hard and fast rule, but I typically see juveniles foraging with parents and have not yet seen juveniles in foraging flocks of adults or subadults.

It is likely the large group of hornbills I saw at the playground belonged to a roosting flock which were gathering at the start of the breeding season to forage and interact.

Seeing 20 in one flock is special as the most I typically see in foraging flocks is 12. I could speculate that the reason for this flock of 20 forming as being related to the onset of breeding season: some species use flocking behaviour as part of breeding courtship. Whether this social sand



Social object play occurs when two or more individuals engage in repeated interaction with one or more inanimate objects in the environment without subsequent consummatory behavior. The best evidence of social object play is provided by contests over items that cannot be otherwise turned to useful purposes. Role reversals are common in social object play.



Play fighting involves action patterns derived from antagonistic behaviour, but which are performed in ways that minimise injurious consequences.



Play fighting includes only a limited portion of the aggressive repertoire of the species.

bath could be considered as some form of lek – a communal area where two or more males of a species perform courtship displays – is something which could be opened for discussion.

Hornbills sometimes visit our apartment (at one end of the park) where we've had a pair nesting nearby. Recently, we had two males visit us, which is quite unusual. Their relationship fascinates me. Why did these two decide to forage together apart from the flock? Maybe the larger foraging flock disbanded temporarily so that smaller groups could travel to different areas of their territory.

One thing which should be noted is that the hornbills could become the victims of their own success. Their popularity with some local birders is diminishing due to suggestions that the hornbills are responsible for the decline in smaller birds at the park. However, this hasn't stopped some photographers from getting too close to a hornbill nest in the park, such that National Parks Board had to put up a cordon.

A Welcome Return

Despite seeing them regularly, hornbills still fascinate me with their playful social behaviour and strong family bond. It

is easy to understand why children are so captivated by these intelligent and charismatic birds. If they can help children to get excited about wildlife and the natural world, then their return to Singapore is a resounding success. 🌿

REFERENCES

1. Mayntz, M. (2019, January). "How and Why Birds Take Dust Baths." The Spruce. Retrieved from <https://www.thespruce.com/how-and-why-birds-take-dust-baths-386438>
2. Mayntz, M. (2019, January). "Preening: How and Why Birds Preen." The Spruce. Retrieved from <https://www.thespruce.com/why-birds-preen-386448>
- 3, 4 Diamond, J., & Bond, A. (2003). "A Comparative Analysis of Social Play in Birds." *Behaviour*, 140: 1091.
5. Lents, N.H. (2016). *Not So Different: Finding Human Nature in Animals*. New York, NY: Columbia University Press

*Singapore-based photographer and filmmaker **Tim Plowden** focuses on wildlife conservation issues in Southeast Asia. Tim is engaged by conservation organisations and media outlets to raise awareness on conservation issues relating to a range of endangered species. He recently worked with BirdLife International in Singapore to produce a video about the critically endangered Helmeted Hornbill. The regular contributor to Wildlife Photographic Magazine has delivered a series of visual stories about photographing wildlife behaviour.*
