

HORNBILL

DISCOVER THE LIVING WORLD

JULY-SEPTEMBER, 2020



BOMBAY NATURAL HISTORY SOCIETY

‘Pandemic Reflections’ and Looking Ahead

The world continues to suffer due to the COVID-19 pandemic, and India is no exception. All BNHS field stations have, since April, been attending to priority work only. Several BNHS employees and their families tested positive, but thankfully all have recovered and are doing well. Life came to a virtual standstill in the past few months, and now there is a debate on how life should be post COVID – how humans can work towards nature-based solutions, reduce their carbon footprint by adopting new work styles, focus on and monitor zoonotics, aim for a climate neutral economy, and enhance health and agriculture infrastructure.

BNHS has shared digital versions of the last two issues of *Hornbill* with members, who have appreciated this move. While there are some who would prefer hard copies, I feel the time is right now to move to a digital version altogether. It is, however, up to our members to decide on the same.

We recently concluded two important projects supported by MoEF&CC, Government of India, titled ‘Temporal changes in the population and behaviour patterns of waterbirds in Point Calimere, Tamil Nadu, with respect to land use and climate change’, and ‘Predictive modelling of climate change and El Niño related impacts of Giant Clams in Lakshadweep Archipelago and its conservation implications’.

Point Calimere is one of the longest running field stations of BNHS. Till now, a total of 272 bird species have been recorded from Point Calimere Wildlife and Bird Sanctuary. Out of these, 107 species are land birds, 33 are raptors and 132 are waterbirds. The sanctuary supports 22 globally Threatened and Near Threatened bird species, which adds to its ornithological importance. Studies under the Point Calimere project examined the arrival and departure pattern of 18 common species. The data showed that there were no major changes in the arrival and departure patterns of 16 of these species. However, the number of over-summering birds has increased in recent years, and overall, 13 migratory waterbirds were reported to over-summer in Point Calimere and the Great Vedaranyam Swamp (GVS). The studies also showed an overall population decline in the 17 dominant waterbird species wintering in Point Calimere-GVS. Arctic breeding shorebirds, namely Little Stint *Calidris minuta* and Curlew Sandpiper *Calidris ferruginea* that were the most common species among waders, have declined drastically. A decline of over 60% in population was recorded in Little Stint and over 75% in Curlew Sandpiper in the last four decades. A steep decline in the numbers of other common species, namely Lesser Sandplover *Charadrius mongolus*, Greater Flamingo *Phoenicopterus roseus*, Ruff *Philomachus pugnax*, and Black-winged Stilt *Himantopus himantopus*, was also observed. On the other hand, three waterbird species showed an increasing trend in numbers. For example, Eurasian Wigeon *Mareca penelope*, whose numbers did not exceed a hundred birds during the 1980s and 1990s, was recorded in thousands in the recent years. A maximum of 7,000 individuals were recorded during January 2008. For Spot-billed Pelican *Pelecanus philippensis*, a



maximum of 3,000 individuals were recorded in 2013, which constitutes almost 25% of its global population (as per the IUCN Red List data). There are several other important findings from the completed study. Conservation and restoration of key coastal wetlands like Point Calimere-GVS will be vital for migratory birds of the Central Asian Flyway. BNHS is working closely with the state government to undertake a restoration strategy for Point Calimere-GVS.

Our studies in Lakshadweep assessed the impacts of elevated sea surface temperature (SST) on Giant Clams and coral reefs in the Lakshadweep Archipelago. Our findings, published in *Ecological Indicators*, concluded that Giant Clam *Tridacna maxima* may be facing an uncertain future, with declining density and high risk of quasi-extinction under the prevailing high-incidence bleaching.¹ Severely depleted Giant Clam populations cannot be expected to recover without reintroduction/restocking in future. Mariculture may help to prevent further depletion of stocks (leading to local extinction of *T. maxima* in Lakshadweep Archipelago) and should be considered as an important intervention to secure the future of the species.

We also fear that coral reefs in Lakshadweep may be nearing thermal maxima. How will this affect coral community structure needs to be understood. However, we need to carefully plan restoration policies and undertake reef restoration before it is too late. In this context, declaration of three proposed conservation reserves, covering reef areas of 675 sq. km, assumes great significance. This intervention will provide for participatory reef restoration measures and adoption of reef-friendly fishing practices.

The pandemic has provided us all some time off from field responsibilities, but this time was utilized aptly by our researchers. Several papers have been published by BNHS scientists in the last six months, the latest being a monograph ‘Systematic revision of the genus *Peronia* Fleming, 1822 (Gastropoda, Euthyneura, Pulmonata, Onchidiidae)’.²

We hope the pandemic will be behind us soon, so we can resume field work and continue to strive towards a deeper understanding of conservation science. Meanwhile we encourage our members to visit our online retail outlet at www.bnhs.org. Your support is vital for BNHS. I am glad to state that despite the worst fears of an economic impact, we have remained relatively unaffected till now, thanks to our supporters and donors who continue to repose faith in BNHS. The next couple of financial years, however, appear to be challenging and we need to continue to work hard to achieve both conservation goals and the financial stability of our institution.

Deepak Apte

¹APTE, DEEPAK, SUMANTHA NARAYANA AND SUTIRITHA DUTTA (2019): Impact of sea surface temperature anomalies on Giant Clam population dynamics in Lakshadweep reefs: Inferences from a fourteen years study. *Ecological Indicators* 107 (2019) 105604. <https://doi.org/10.1016/j.ecolind.2019.105604>

²DAYRAT, B., T.C. GOULDING, D. APTE, S. ASLAM, A. BOURKE, J. COMENDADOR, M. KHALIL, X.Q. NGÓ, S.K. TAN, AND S.H. TAN (2020): Systematic revision of the genus *Peronia* Fleming, 1822 (Gastropoda, Euthyneura, Pulmonata, Onchidiidae). *ZooKeys* 972: 1–224. <https://doi.org/10.3897/zookeys.972.52853>

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July-September, 2020



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Sharad Kumar, Kedar Gore,
and **A.J.T. Johnsingh** narrate
their experiences in the land of
the tiger – Madhya Pradesh.
From the narration, the
importance of these forested
landscapes becomes obvious
to anyone with an inclination
towards conservation.



10

Being a Biologist in a Wounded World

Time and again, we have been
alerted about the alarming and
deleterious human impact on the
planet. **Giovanni Bearzi** hopes
that we will start to seriously
ponder on this issue, take steps
to prevent further damage, and
contribute to environmental
healing. Thus we would secure
a better heritage for our future
generations, sparing our fellow
humans as well as wildlife some
of the suffering.



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