

Centenary of the Zoological Survey of India

Nearly a hundred years before the century-old Zoological Survey of India (ZSI) was founded in Kolkata, a series of India-specific articles on various aspects of zoology by the likes of B.H. Hodgson and Colonel S.R. Tickel that appeared in the *Journal of the Asiatic Society of Bengal* had turned the city into the key centre of zoological studies in India.

By the time India's first marine survey ship, 'Investigator', a wooden paddle-steamer weighting 580 tonnes and built in Mumbai, was launched and the first deep-sea faunatic survey commenced in 1885, the Indian Museum, which became the new venue for zoological research after Asiatic Society, had already had four decades' expertise in works on the group crustacean (crabs, shrimps, lobsters, barnacles etc).

When ZSI was founded in 1916, it already inherited the legacy of zoological research of nearly a century. Over the last 100 years, scientists at ZSI have recorded 97,515 faunal species in India, of which 4,668 are new to science, besides preserving more than 4.5 million specimens of 60,000 species in its repository.

India is considered one of the mega diversity countries in the world. ZSI has compiled information and made images of these 4,668 new species available between two covers—a book that Union Environment Minister Prakash Javadar unveiled on July 1, 2016.

"This is the first time that all new discoveries from India have been put between two covers. Of these 4,668 new species reported in India, more than 100 are vertebrates (animals with backbone) and the rest are invertebrates (animals without backbone)", ZSI director Kailash Chandra said.

The large scale digitisation campaign taken on the occasion of its centenary celebration marks the institute's transformation from being merely a repository of scientific names and specimens to one that has made the entire knowledge gathered by its scientists accessible to anyone free of cost. It is also in the process of digitizing old and rare books in its library that number nearly 700. Some of these books are 200-300 years old.

Among the rare and old books are *Index Omnium Capitum* (1547), *Osservazioni Di Francesco* (1684), *d'Amboinsche rariteitkamer behelzende eene reschryvinge* (1705), *Descriptions and figures of Two Hundred Fishes* by

Russel, volume I & II (1803), and *Memoire Apterologique* by Hermann (1804)—which are otherwise difficult to access.

"Digitisation of more than 2.45 lakh pages has been completed and made available on the portal faunaofindia.nic.in. "Scanning of 22,891 pages of old and rare books is under way," he added.

Over the course of its century old run, the ZSI has published 10,045 scientific papers, apart from 1,500 books.

However, what could be more beneficial for scientists around the world is the ZSI's initiative of DNA bar-coding—which will make identification of species much easier. Another initiative worth nothing is GPS tagging. "GPS tagging will help researchers locate places where any particular species is found. It will be especially helpful in tracking near-extinct species and help formulate proper conservation plan," Chandra said.

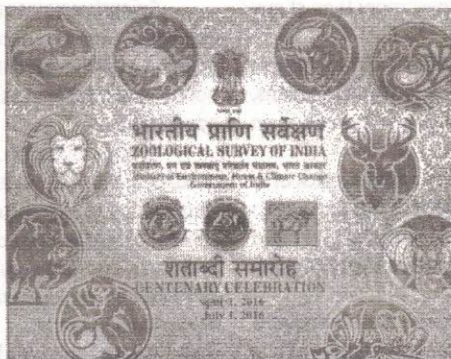
ZSI scientists said the institution has played a key role not only in formulating the country's wildlife conservation policy, but also provide regular help to law enforcement agencies in curbing poaching-related crimes. Among the new discoveries reported in India, the Golden Langur and Namadapha Flying Squirrel—both from the North-east—stand out as the 'most remarkable discoveries'.

Besides, scientists at the Western Ghats Regional Centre have rediscovered two species that were believed to be extinct—Malabar Civet and the Small Travancore Flying Squirrel.

Notably, nearly 13% of the new discoveries (638 species) have been reported from West Bengal, home to the ZSI headquarters and the place where zoological studies in India began more than 200 years ago.

"Though ZSI scientists have reported more than four thousand species new to science, there are plenty more that still remain unreported and unrecorded. We are building up a nationwide network of taxonomy experts to discover species yet unknown to mankind," a senior scientist at ZSI said. Over the last century, the ZSI had been witness to the changing pattern and methods in zoological studies with the advent of modern technology. Now, after completing a century, it is ready to start a new journey. ZSI has entered the digital age.

—Snigdendu Bhattacharya



The seeds of the origin of the Zoological Survey of India (ZSI) can be traced as far back as the January 1784, with the establishment of the Asiatic Society (or the Asiatic Society of Bengal) by Sir William Jones, at Calcutta (now Kolkata). It was followed by the foundation of the 'Indian Museum' at Chowringhee, Calcutta, in 1814. These both organizations got and maintained valuable collections of the zoological specimens, brought by naturalists like that of snakes and fishes by Russel Patrick (1726-1805), fishes by Bloch (1785), plants and animals by Thomas Hardwicke, butterflies & moths by G. F. Hampson and Lionel de Niceville, fishes by Francis Hamilton and several other groups by William Griffith, Jerdon, Hodgson, Thomas Edward etc.

ZSI took birth within the premises of the Indian Museum, on 1st July 1916, with the appointment of Founder-Director Dr Thomas Nelson Annandale, three other officers and perhaps 7 staff members. From the beginning itself, the department was sustained directly under the Govt. of India, till today. It showed lot of promise on the animal studies from the very early stage, by surveying far off places in and outside the British India. A few earlier explorations include the Marine surveys (on the laboratory-ship 'Investigator'), the Cho-Oyu mountain expedition, the Siju Cave survey in the Garo Hills (largest cave in India), the series of surveys for several years in the Chilika Lake on the eastern coast etc.

ZSI had the services of some eminent and hard working zoologists during its last 100 years of journey. These great scientists include Dr T. N. Annandale, Dr Baini Parshad, Dr Sundar Lal Hora, Dr H Srinivasa Rao, Dr M. L. Roonwal, Dr M. S. Mani, Dr T. N. Ananthakrishnan, Dr Biswamoy

Biswas etc. Its present Director is Dr Kailash Chandra.

The department has in its repository valuable specimens of several groups of animals. These include Type-specimens. Some rare specimens are: (i) an Ammonite fossil; (ii) large collection of bird eggs including those of Ostrich and the Long Billed Vulture; (iii) *Typhloperipatus williamsoni*, the link between Annelida and Arthropoda; (iv) *Epiophlebia laidlawi*, the link between dragonflies and damselflies; etc. It is estimated that over 45 lakh specimens of nearly 60,000 species of animals are present in the ZSI collections.

Somewhere in the forties of the last century, the Anthropological Survey of India took birth from the lap of ZSI and thus, studies related to Men and Tribes got transferred to that sister department.

ZSI has two strong arms. These are its library, which has over one lakh books on its shelves, and the publications released, which include several State-Faunas and fauna of regional and biotic zones. A plethora of hand-books, monographs, catalogues, checklists etc. have been published.

An oldest research journal of India, the *Records of Indian Museum* (now the *Rec. Zool. Surv. India*) is in its 116th volume. Among the books, the 'Animal Resources of India: Protozoa to Mammalia: State of the Art' (694 pp.) was released during the Platinum Jubilee celebrations in 1991.

In the sixties, some Regional Stations and later some Field Stations were opened, now all renamed as Regional Centres. The earliest ones were opened at Shillong, Dehra Dun, Pune, Chennai etc. At present there are 16 Reg. Centres, besides the HQ at Kolkata. For public viewing, ZSI

(continued on page 87)

