



Raffles Museum

NEWSLETTER

A publication of the Raffles Museum of Biodiversity Research, NUS

ISSUE NO.4 JUNE 2005 ISSN 0219-5747

Toddycats! - the birth of the Raffles Museum Volunteers

After a 30-year hiatus as the Zoological Research Collection, the collection was revived as the Raffles Museum of Biodiversity Research in 1998. This new identity saw a significant revival of the museum's traditional role in public education, and in many ways, mirrored the efforts of Richard Hanitsch, the museum's director at the turn of the last century!



The Public Gallery was officially opened in 2001 and provided a showcase for biodiversity and conservation issues in Singapore and the region. Guides amplified the experience considerably for the many visitors and a new pool of volunteer guides will conduct lunch time tours for the university community and Saturday morning sessions for the public.

A concerted effort to provide internet resources resulted in more than 10 webpages, domains and blogs that provide information about nature news, ecosystems, animal groups, heritage and conservation sites. These links are all listed at the flagship site, Habitatnews (<http://habitatnews.nus.edu.sg>).

Meanwhile on television, effort was made to encourage and cooperate with production houses, providing content for more than 10 documentaries in the past five years.

Volunteers were getting their feet wet assisting in salvage collections, biodiversity assessments and ecological research. Several pre-existing education programmes in Sungei Buloh, Pulau Ubin and the nature reserves were inherited from The Habitat Group and enhanced by 2001, and this included the coordination of the island-wide International Coastal Cleanup Singapore. New programmes were initiated in Pasir Panjang, Changi and Chek Jawa. In 2002, training workshops for schools and volunteer groups were started to ensure capacity building and to better utilize the museum's resources.



Seining at Chek Jawa, 2001

In order to enhance the growing communication in the community, the Biodiversity of Singapore Symposium was held in 2003. Graced by the then Minister of State for National Development, Dr Vivian Balakrishnan, it was supported by Lee Foundation, the Singapore Institute of Biology and Nature's Niche Pte. Ltd.

It was a unique affair with 30 speakers and 200 participants from research, management, conservation and education groups of government and non-government origins who exchanged notes about each other's work. We ensured lengthy tea times so that everyone had enough time to network and develop new ideas!

Biodiversity Symposium 2003.



With a greater number of young volunteers entering the arena through museum activities, the loose though disciplined methods that had served well in the past had to become more structured and identifiable. And so the Toddycats! came into form in 2002, and today, a core group have stepped up to take the lead as project managers, and in the process, discover the complexity of coordinating a programme.

The Raffles Museum Toddycats have also begun to work with members of other groups on several programmes - National Parks Board or NParks (Chek Jawa Guide Training Workshops), Sculpture Society, NParks & Nature Society (Singapore) (*Hopea sangal* education programme), National Archives of Singapore (Pasir Panjang Heritage Trail), Sungei Buloh Wetlands Reserve (International Coastal Cleanup: Kranji-Buloh mangroves).

Just four years after the Public Gallery opened in 2001, the goal of contributing to education, conservation and research by raising public awareness, creating resources and nurturing a new generation of volunteers has reached out to more than 20,000 people. We welcome you to contribute to this effort by writing to sivasothi@nus.edu.sg.

Programmes of the Raffles Museum Toddycats!

WEBPAGE

<http://rmbr.nus.edu.sg/toddycats>

NATURE AND HERITAGE

Pasir Panjang /Kent Ridge Heritage Trail – this trail explores the fauna, flora and history of the area, the Battle of Pasir Panjang and life in the 60's. The trail begins in NUS and ends at the Reflections of Bukit Chandu.

Pedal Ubin! – guides relate fascinating stories about the flora, fauna, culture and history of Singapore's last idyllic outpost in Pulau Ubin, on bicycle. And learn how to handle a mountain bike properly in the process!

Sungei Buloh Anniversary Walk – this event is also a training ground for inexperienced but interested volunteers keen to become a nature guide. After just 8 hours of training, they guide as part of a team!

MacRitchie – Bukit Timah briskwalks – this is a fast walk aimed at alternative users of forest trails – briskwalkers. It also teaches participants the route from MacRitchie to the summit of Bukit Timah and trail etiquette.

Hopea sangal Education Workshop – this is a joint workshop programme offered by the *Hopea sangal* Working Group which trains secondary school students to teach primary school students all about trees.

Marine life in Singapore – volunteers with a flair for public speaking are provided with some training and a slide show which they modify for assembly talks. Through their presentation, they reveal exciting secrets from our shores, discuss marine ecosystems and the issues affecting their health and survival.



Public Gallery guiding –ironically, this small area covers the greatest numbers of topics as it features animal life and issues in Singapore and the region and tell stories from the museum's large and more than 100-year old specimen collection.

Chek Jawa Guide Training Workshop – these workshops are conducted for volunteer Chek Jawa guides, and deal with the biology of specific animal groups such as crabs, sea stars and fish and the background to events surrounding Chek Jawa.

ENVIRONMENT

International Coastal Cleanup Singapore – Coordinated in collaboration with the Nature Society (Singapore), this is the longest running and largest environmental exercise in Singapore. It involves more than 2,000 volunteers who fan out annually on the shorelines of Singapore to battle marine trash. Zone Captains communicate with volunteer groups, evaluate the site, coordinate manpower and conduct

data verification. Now in its 14th year in Singapore.

RESEARCH ASSISTANCE

Mangrove Mania – an avenue for volunteers to accompany researchers conducting ecological or taxonomic sampling in the mangroves of Singapore. This helps to introduce some of the poorly known mangroves of Singapore to volunteers through a unique and meaningful experience.

Entomology Interest Group – this is group set up to develop some familiarity with the poorly known insect fauna of Singapore, even in degraded ecosystems and to learn some of the common methods employed in entomological studies.

News and heritage sites – comprehensive research and groundwork supports each webpage and blog that has been established, and each of these are growing resources that requires continual work.

The Legacy of Pulau Seringat

July 1997 – as of the first light of dawn lit up the shoreline of Singapore's southern islands, the golden rays revealed a living, thriving reef amidst a peaceful sea. But the small team from the National University of



Singapore that landed on the reef was there for a grim business – salvage collection!

These last witnesses of this living reef would collect, record and preserve as many specimens as physically possible before it was finally lost to land reclamation.

The reef revealed rather surprising finds – numerous Neptune cups, cushions stars, giant

sea clams, crabs, octopus, fish, seastars and colourful corals including spectacularly red sea fans, still submerged by fast currents. These specimens are now on display in the Public Gallery of the Raffles Museum – the labels that accompany each specimen reveal the collection location and date. The larger part of the Pulau Seringat collection is carefully kept in the reference collection where it can be accessed by researchers.

It was a sobering to realize then that besides the small salvage team, very few Singaporeans would be able to appreciate and remember the reef. While some loss of natural habitats has been inevitable, Singaporeans were losing important parts of their natural heritage before they could even witness and remember it. Pulau Seringat was eventually merged with Lazarus Island under the plan to develop a marine village resort, boat landing facilities and beach areas for recreation.



Few people realize this, but when reclamation loomed at Chek Jawa four years later, it was the Seringat experience that prompted the initiation of large scale public walks by the Raffles Museum after the salvage surveys were complete. This encouraged thousands of people "A Last Chance to See" and a dedicated webpage (<http://chekjawa.nus.edu.sg>) documented hundreds of digital photos of animals, plants, topography, visitor experiences, guidesheets and articles, to share the the heritage of the place with even more people.

In December 2001, at the eleventh hour, Chek Jawa was granted a 10-year reprieve from reclamation.

Picture captions: 1. Giant clam (preserved)
 2. Red-eye reefcrab (*Eriphia smithi*)
 3. Frogfish (*Lophiocharon trisignatus*)
 4. A living Giant Clam (*Tridacna squamosa*) 5. A living Neptune's Cup (*Petrosia* sp.) 6. Neptune's Cup (preserved)

The 1986 Stranding of a Black Marlin off East Coast Park



On Sunday 23rd November 1986, museum curator Mr K. L. Yeo received a call about a 3.3 metre long Black Marlin (*Makaira indica*) stranded on East Coast beach. This was a rare event as the fish is usually found in deep-water coastlines and around oceanic islands. The shallow waters off Singapore are an unlikely place for this fish and it was considered a stray, much like the Siglap Leatherback turtle of 1883 and the whale shark believed to have been reported in the 1960's.

It was reportedly in good condition so Mr Yeo set out for the old Joo Chiat Police Station. After examining the specimen, the police agreed to ferry the large fish to the museum to be stored in the large walk-in cold room.

A company was found to taxidermise the specimen and the fish was skinned and a cast was made from its body. The skin was draped around the cast and reassembled. When it was returned to the museum, the marlin was mounted prominently just above the narrow stairwell that leads down to the wet collection. Spotlights lit up the specimen and

the rare visitor (this was well before the Public Gallery was created) was amazed at the size of the fish, and even that it was real!

The creature originally weighed some 245kg, which is light if you consider that the tropical waters species can weigh up to 700kg. Though the cast was stuffed with straw, it looks very heavy. Researchers walking down the very narrow flight of stairs to the Wet Collection can't but help feel nervous at the sight of the heavy-looking Black Marlin suspended on the wall above them!

This specimen will be displayed in the Public Gallery in November 2005

A composite background image featuring several deep-sea crustaceans. At the top is a large, vibrant red shrimp-like crustacean. To its left is a translucent, gelatinous organism with a star-like pattern. Below these are two smaller crustaceans: one is a reddish-orange shrimp-like creature, and the other is a small, round, orange crab-like creature. The background is black.

PANGLA

PANGLAO 2005 was an international deep sea expedition conducted in the Bohol and Sulu seas of The Philippines between 21st May and 1st June 2005.

It was organized by the Department of Agriculture (DA) of the Philippines, France's Ministry of Foreign Affairs and Museum National d'Histoire naturelle, Paris (MNHN), NUS Faculty of Science (FoS), the Raffles Museum of Biodiversity Research (RMBR) and the National Taiwan Ocean University (NTOU).

PANGLAO 2005 is the third major deep-sea exploration of the Philippines.

AO 2005

Traps, dredges and trawls reaching 2300 metres were carried out at 77 stations and numerous strange and unique creatures were revealed by the deep. Interestingly, some rare species turned out to be abundant in specific locations. Some of the colourful catch from the expedition featured here will be worked on by scientists over the next few years. Photos by Chan Tin-Yam.

For updates, see *Raffles Museum News*
<http://rmbr.nus.edu.sg/news/index.php>



Pulau Hantu - A Celebration of Marine Life



In March 2004, environmental journalist Debby Ng emerged from a dive trip amazed at the beauty and diversity of marine life. The site? Pulau Hantu - an island just 40 minutes away from mainland Singapore. Dismayed at its uncertain fate, she approached the Raffles Museum of Biodiversity Research to think of ways to contribute to its conservation. Since most Singaporeans were unaware Pulau Hantu existed, and Debby was a good writer, it was suggested she highlight the island's marine life by recording her experiences on a web log or blog. It took just 10 minutes to setup the blog using a laptop and a wireless network and Debbie started writing the same night.

The blog, coined "Pulau Hantu, a celebration of marine life" is hosted by Habitatnews, the Raffles Museum's nature information webpage. Debby eventually added some truly exciting photos which attracted even more attention. With the help of the local dive e-community FinsOnline, the frequent updates and interesting experiences began to attract attention.

With many divers asking to join the frequent dive trips, Seahounds Scuba, later to become the first local National Geographic dive center in Singapore, stepped forward to help run these trips. And Debby got

certified as a dive master to better lead her trips.

Pulau Hantu continues to surprise with the divers encountering yellow-lipped sea kraits, reticulated pufferfish, turtles, octopus, and the very rare mobula ray, comets, tiger-tail seahorse (a new record) and a colourful nudibranch seen in the tropics for the first time!

The group of divers helping out on trips, sharing discoveries and photographs and contributing posts are known as the Hantu bloggers. In January 2005, Debby gave a comprehensive interview about the project on News Radio 93.8FM's Living Room. In other efforts, they organised a mangrove cleanup 'topside' and are involved in a giant clam restoration project with the Tropical Marine Science Institute, NUS.

In March 2005, the Pulau Hantu bloggers celebrated their first anniversary. During the dive,



they were rewarded with the sight of an adult hawksbill turtle. Through their passion for this iconic little island, they have demonstrated that Singapore has a treasure of marine life right at her doorstep in the Southern Islands.

Webpage:

<http://www.pulauhantu.org>

All images courtesy of The Hantu Blog.

Can you spot the Octopus eyes?



Copperbranded or Long-beaked butterfly fish (*Chelmon rostratus*)



The reef is alive with wonderful, colourful nudibranchs like *Cuthona sibogae*!

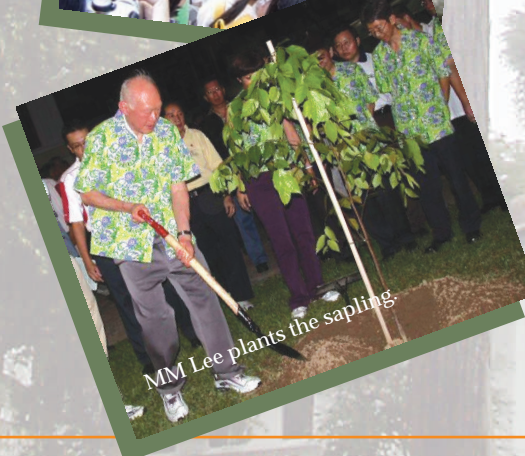
Hopea sangal, a Tree Rediscovered, Felled and Remembered



In September 2002, a *Hopea sangal* tree was rediscovered by Joseph Lai and friends during a survey of the trees of Changi. Listed in the Singapore Red Data Book as locally 'extinct', the discovery was celebrated by the naturalists, the media and the public through articles, photographs and public walks amidst the speculation that a mystery may also have been solved - this may be the species of tree that gave Changi its name.

Yet a mere two months later, the tree was felled by a property developer. Although fuelled by fears about its stability, the deed was carried out without appropriate checks. Ironically, Changi is in the Tree Conservation Area, which should have encouraged greater caution. The public outcry that followed was appeased somewhat by the swift legal action that followed. Compensatory costs and a fine totaling \$84,035 was meted out in March 2003 by District Judge Kow Keng Siong who said this of the *Hopea sangal* tree - "Unfortunately, having weathered more than a century of the forces of nature, it was not able to survive the senseless act of man".

A unique working group was formed by representatives from National Parks Board, Nature Society (Singapore), Sculpture Society of Singapore and Raffles Museum of Biodiversity Research. This group was to oversee the use of the nine pieces of the *Hopea sangal*'s tree trunk which had been rescued from sawmills by the quick-thinking Joseph Lai and friends. In September 2003, a Sculpture



Symposium was conducted to explain the sculpting process by The Sculpture Society and educate the public about the tree. In April 2004, the nine sculptures were installed at and adopted by the Singapore Zoological Gardens.

During this launch, the Working Group conducted the *Hopea sangal* Education Programme to school children attending the launch - they related the *Hopea sangal* story, explained the ecology and role of trees, illustrated how high the tree was by having students lie prostrate to measure out the trunk, and discussed how to actively protect trees!

The programme was a success, and the Raffles Museum volunteers, the Toddycats, were roped in to coordinate the programme. This time instead, students from Nanyang Girl's High School (NYGH) were trained by members of the Working Group and subsequently conducted a programme for primary schools in November 2004. That same month, Minister Mentor Lee Kuan Yew planted a *Hopea sangal* sapling in Henderson, grown from a seedling retrieved from the original tree more than two years ago by members of the Nature Society (Singapore).

In January 2005, an amended Parks and Trees Act was passed in Parliament. It provided enhanced protection for nature and increased the provision for fines and compensation for damage to trees.

The *Hopea sangal* tree spent a very short time in our consciousness, but it has led to an escalation of awareness, reflection and protection for other trees in Singapore.

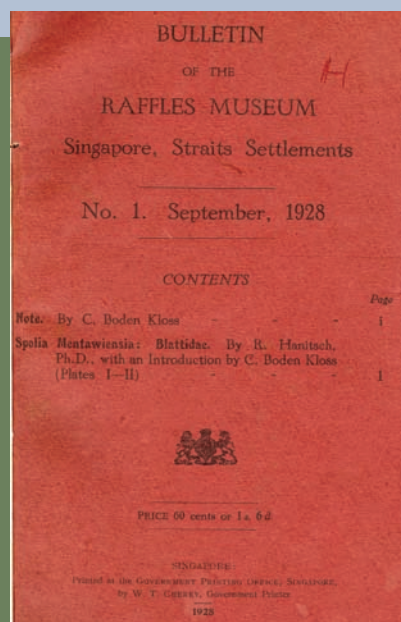
URL:
<http://habitatnews.nus.edu.sg/heritage/changi/>

Bibliography of the Raffles Bulletin of Zoology

Articles from The Raffles Bulletin of Zoology volumes 1 - 52 (1928-2004) are now available for download as pdf files. From 2003 (Vol. 51 onwards), the pdfs were commercially produced and are of a higher quality. From 2005 onwards, the Raffles Bulletin of Zoology will be solely an online publication.

A subject and author index, now available only for issues between 1928-1993, is currently being updated, and eventually the abstracts for all articles will be added to this webpage as well. This material has been released under a Creative Commons License which essentially allows users free access for education and research.

URL: <http://rmbr.nus.edu.sg/rbz/biblio/>



The Scientific Results of Ex Anambas (2002)

In 2002, the Workshop on Managing Potential Conflicts in the South China Sea initiated ExAnambas. Organized on behalf of the authorities of the South China Sea by the Indonesian Institute of Sciences and the Raffles Museum of Biodiversity Research, it successfully fulfilled the political objectives underlying the mission (see Newsletter No. 3).

The initial results have been published as the 130-page "Scientific Results of the Anambas Expedition 2002" in The Raffles Bulletin of Zoology, Supplement No. 11 (2004), describing the expedition and list the non-flowering and flowering plants; polychaete worms and selected groups of molluscs, crustaceans, aquatic insects, echinoderms and fishes. New species are described and checklists are included. The articles can be downloaded from the Ex Anambas website.

URL: <http://rmbr.nus.edu.sg/exanambas>

Raffles Museum News

The Raffles Museum has been blogging! The museum news page was converted into a weblog since June 2004 to allow updates to be quickly and easily posted to the internet. Check the page for the latest news about research, visiting scientists, expeditions, interesting specimens, public talks, volunteer activities, resources on the internet, and other local and international news.

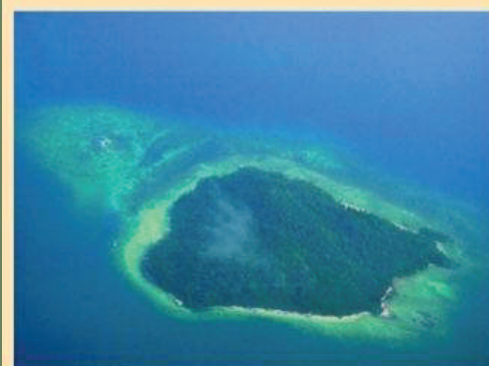
Well illustrated with photos, it on occasion features articles and amusing cartoons from around the world!

URL: <http://rmbr.nus.edu.sg/news/index.php>

The Raffles Bulletin of Zoology

An International Journal of Southeast Asian Zoology

SCIENTIFIC RESULTS OF THE
ANAMBAS EXPEDITION 2002



Peter K. L. Ng, Daisy Wowor and Darren C. J. Yeo
(Editors)

Supplement No. 11

22 March 2004

Notice: The Zoological Reference Collection will be closed from July to early November 2005 for renovations. We apologise for the inconvenience.

The Raffles Museum Newsletter is published by
The Raffles Museum of Biodiversity Research, Faculty of Science,
National University of Singapore, Kent Ridge Crescent, Singapore 119260.
Editors: Chua Keng Soon & N. Sivasothi. Articles by N. Sivasothi
Website at <http://rmbr.nus.edu.sg/newsletter/>