SEPTEMBER 2006 NUMBER 34

Porcupine!

Newsletter of the Department of Ecology & Biodiversity, The University of Hong Kong

Hong Kong Nature Conservation Trust!

The New Nature Conservation Policy of Hong Kong [1] was released in November 2004. The main aim of this new policy is to enhance the protection of private lands with high conservation value, and 12 sites were identified as priority sites. Two new schemes were proposed to enhance conservation on these sites which are a Management Agreement and a Public-Private Partnership (PPP).

Under the pilot Management Agreement scheme, NGOs can apply for funding from the Environment and Conservation Fund (HK$ 5 million have been set aside for this scheme) to engage land owners of these 12 sites to manage the lands for nature conservation. Two projects at Long Valley and one at Fung Yuen were approved in December 2005 amounting to over 4.5 million dollars. Whilst the benefit of these habitat management work to biodiversity are yet to be assessed, local landowners and farmers are willing to participate in these projects by renting lands and premises to the NGOs, or work for the NGOs to manage the lands. These have shown that local communities are more open-minded to conservation than previous perceptions. However, funding for all 3 projects will finish by the end of 2007. There is no indication as to what will happen after these 3 pilot projects are completed.

Fig. 1. Important ecological sites on private lands in Hong Kong are usually small and fragmented, such as Long Valley in the foreground of this picture. Active management is needed to maintain their ecological values and a conservation trust is believed to be beneficial for such purpose.

Fig. 2. The graduation ceremony of the Long Valley local guide training by the Conservancy Association was held in February 2006 at the Ancestral Hall of Ho Sheung Heung. All 20 guides trained came from the local communities. This shows that local communities in the New Territories do support conservation initiatives.

For PPP, developments at appropriate scales may be allowed in the least sensitive parts of the 12 sites, or their surroundings, provided that the developers undertake long-term management of the rest of the sites for nature conservation. All PPP projects should generate net benefits to nature conservation, and land exchange under PPP will be considered by the government. At least 6 PPP projects, all on different sites, were submitted to the government in May 2005. To date, none of these projects has been approved. A recent news article on a local newspaper, Ming Pao, pointed out that the delay in the decision on these PPP projects was primarily due to worries amongst lands-related departments and the bureau. It was said that they did not want to set a precedent for land exchange, or plot ratio increment/transfer, for conservation causes. This is because, unlike many overseas administrations such as the UK, conservation is not considered a "public purpose" in the bureaucratic system in Hong Kong.

WWF Hong Kong has been proposing a conservation trust for Hong Kong since the early 1990s to enable better and more coordinated management in the long term of small and scattered biodiversity hotspots. When the new policy was announced in 2004, the government also indicated that the practicality of establishing a nature conservation trust would be investigated. The major advantage of a conservation trust is that long-term conservation management on these different sites under a Management Agreement or a PPP could be centralized for more effective and efficient implementation.

Recently, Kadoorie Farm and Botanic Garden (KFBG) has studied the National Trust and the National Trust for Scotland in the UK and produced an excellent report on the function and the legal, structural and operational requirements of a conservation trust for Hong Kong. KFBG also organized a workshop on this in March 2006, involving different stakeholders. Meanwhile, the New Territories Heung Yee Kuk (HYK), the official body representing the rural residents, especially the indigenous people of Hong Kong, also wants a conservation trust. The Vice-chairman of HYK, Hon. Cheung Hok Ming, tabled a motion in the Legislative Council on 15 June 2005 concerning the conservation policy. In his motion debate, he urged the government to set up a conservation trust for Hong Kong. In August 2006, in the HYK's submission to the Chief Executive of the Hong Kong SAR concerning the 2006/07 Policy Address, the same request was made.

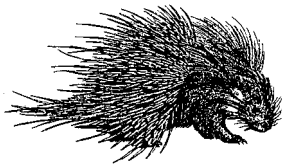
Environmental NGOs and the HYK used to stand on the opposite sides in previous conservation battles in Hong Kong, in fights between biodiversity conservation and land owners' rights for development. Despite differences in opinion on the structure, function and operation of the conservation trust between the two sides, it has been agreed that the first step is to get the government to agree to the establishment of a trust, other issues to be sorted out later. At the time of writing, the two sides are trying to come up with a joint statement to push the government on this issue. The consensus in the public domain is apparent. The major set-up funds of the trust, if not coming from the government, will come from the PPP developers. Now that the PPP scheme is stuck, the pressure is on the government. Hong Kong has long positioned itself as Asia's world city[2] and it is shameful that biodiversity conservation is not recognized as a "public purpose" in a world city in the 21st century.

Billy C. H. Hau

[1] http://www.afcd.gov.hk/misc/NewNatureConservationPolicy/eng/index.html

[2]http://www.info.gov.hk/info/sar5/easia.htm

Porcupine!



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INSIDE THIS ISSUE:

Editorial

In August 2000, Richard Corlett and I first took over the reins from *Porcupine*'s then-Chief Editor Graham Reels and his colleagues at KARC and DEB. DEB had recently moved into the new Kadoorie Biological Sciences Building and we were busy adjusting and adapting to our new living space. The legacy we took on with *Porcupine!* was one that sought to disseminate information on wildlife observations, provide (provoke at times) a forum for discussion, and communicate environmental and ecological research and issues. Going back over the 12 issues since we started, I am pleased to say that we have stayed fairly well on track.

What has changed since 2000 is the relative number of environmentally related articles, many of them reflecting concern for various environmental issues, increasingly articulated by students. We have also become web-based and this has meant that web searches have access to our articles, greatly extending our reach, and that we can make better use of the lovely colour photos that we formerly had to reproduced in black and white. We now have a new and vibrant Environmental Life Science Society, which formation clearly addressed a real need by ELS students, and, there is new editorship for *Porcupine!*

Dr. Billy Hau and Dr. Kenny Leung have graciously accepted the *Porcupine!* challenge. They will be expertly assisted by Ms. Rachel Wong and Ms. Laura Wong, who, over the years, have assembled, massaged and webbed-up *Porcupine!*, learning with us as we moved from hard to soft formats and completely into the electronic age. Rachel and Laura have been, and will continue to be, invaluable members of the *Porcupine!* team, and we are most grateful to them both for all their hard and patient work over the years. Thank you! Finally, a big 'thank you' to all who have contributed articles, letters, insights, comments and materials over the years. Please continue to support *Porcupine!*

Over and out, Yvonne and Richard

News from DEB

Welcome back, to a new semester, a new academic year, a new Dean of Science, and some exciting postings for several of our 'old' colleagues. The Faculty of Science welcomes Professor Sun Kwok to HKU from the University of Calgary in Canada. Professor Kwok joined the Faculty in February, and is a renowned astronomer. We congratulate Dr. Andy Cornish for his move from DEB and SWIMS to WWF-HK in the important role of Director of Conservation, and Dr. Yixin Zhang, until very recently a Research Assistant Professor in DEB and our salamader expert, who has just started his new Faculty position at the State University of Texas at San Marco. Congratulations and good luck to both Andy and Yixin in these important moves. Dr. Yvonne Sadovy is now the Deputy Head of DEB with a special responsibility to work towards our integration into the new School of Biology. The School, which will unite the three biological departments under one umbrella, will become a reality on 1 July 2007. The current scheme for organization of the School (as approved by the University Senate) envisages that DEB will largely continue as a 'Division of Ecology & Biodiversity', along side two other Divisions. I am also pleased to announce my reappointment as Head of DEB.

In closing, I would like to take this opportunity to say goodbye and thank you to Richard Corlett and Yvonne Sadovy as co-editors of *Porcupine!* After presiding over 12 issues, both feel it is time to pass on the pen (or, increasingly, the PC) for others to shape the issues. Dr. Billy Hau and Dr. Kenny Leung have, generously, taken up the *Porcupine!* challenge.

David Dudgeon

Feedback

Dear *Feedback*,

We refer to the book review on "A Field Guide to the Amphibians of Hong Kong" published in the latest issue of *Porcupine!* 33. We are pleased to see that our book has captured the attention of your reviewer and will make good use of his constructive comments in a future revision of the book. Nevertheless, we are deeply disappointed by the approach adopted which, to our concern, would prejudice fellow readers of *Porcupine!* against the field guide before they have the opportunity to read it. Wording and remarks such as "some hooligan at AFCD or Cosmos Books", "migraine-inducing dog's dinner", "ghastly, clamorous jumble of overlapping amphibian photographs" and "recommend it to non-epileptics" are certainly out of place for a newsletter of the reputable Department of Ecology and Biodiversity of The University of Hong Kong.

We respect *Porcupine!* as a highly acclaimed newsletter which has a large readership in particular among fellow ecologists and nature enthusiasts in Hong Kong. However, we regret to see that a book review with such inappropriate wording is being published. We sincerely hope that any book reviews in *Porcupine!* in future could be done in a constructive and respectful manner.

Simon Chan, K.S. Cheung, C.Y. Ho, F.N. Lam, W.S. Tang
(Herpetofauna Working Group, Agriculture, Fisheries and Conservation Department)

Michael Lau
(Kadoorie Farm and Botanic Garden)

Anthony Bogadek
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Authors of "A Field Guide to the Amphibians of Hong Kong"

[**Editor's note**: It should be noted that views expressed in all articles published in *Porcupine!* represent those of the author(s) and do not necessarily represent the views of the Department of Ecology & Biodiversity.]

Dear *Feedback*,

I refer to Graham Reels's review of the 'Field Guide to the Dragonflies of Hong Kong' by Keith DP Wilson in *Porcupine!* 32: 20-21. Although Graham was, on the whole, complimentary about the book, for which I am grateful, he gave the impression that the book was largely a one-man production. The book, now in its second edition, was written in collaboration with Agriculture, Fisheries and Conservation

Department's (AFCD) Dragonfly Working Group (DWG). I must acknowledge their significant input into the publication of this field guide. The DWG, comprised of TW Tam, Boris SP Kwan, Karrie KY Wu, Bryan SF Wong and Joyce K Wong, surveyed many areas not previously covered by dragonfly surveys resulting in considerable updating of distribution and conservation status of HK's dragonflies. In addition the DWG was responsible for the discovery of two species not previously recorded from Hong Kong, the discovery of a new gomphid species (*Fukienogomphus* sp.), editing both the English and Chinese texts, and reviewing the keys, drawings and photos. The field guide was very much a collaborative effort with AFCD's DWG rather than 'the result of one man's efforts.' I would also like to take the opportunity to acknowledge the contribution of T.K. Woo & W.L. Hui who both work in the country parks branch of AFCD. They provided new information on the distribution of Hong Kong's dragonflies and were responsible for the discovery of *Cephalaeschna klotsi* Asahina.

Keith DP Wilson
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All about James True – a new Post-doc at SWIMS

by James True

The sea has always been special to me. I grew up in the wide brown lands of inland Australia; in towns where wheat, sheep and cattle were the basis and the focus of almost everyone's existence. The world changed for me when I learnt about SCUBA diving at the famous surfing beach of Cronulla. My brief glimpses of the sea as a child had not prepared me for the sudden fascination I discovered for the underwater world. Slowly the idea dawned on me that there must be a way to combine my fascination with the sea and some sort of career. At age 24, I hitched 2000 km up the east coast of Australia to North Queensland, where James Cook University was happily juxtaposed among vast mango orchards, a thriving fishery and the Great Barrier Reef.

Now I was in my element! I threw myself into tropical marine science and university life with a passion – working nights as a kitchen hand to pay my fees and volunteering for any researcher who needed a diver. Despite having no background in biology at school (apart from that which comes naturally with agriculture), I managed quite well; I achieved a First Class honours in marine science with a secondary major in computer science and a minor in biometrics. In the typically laid back way of North Queensland, I felt no hurry to get into post-graduate study straight after my degree – I logged nearly 200 diving hours per year up and down the Great Barrier Reef (mostly volunteering for research projects), had a small catering business, and kept my IT skills alive by managing the collection databases for the Museum of Tropical Queensland. While there, I learned from old-school museum people and curated animals from almost every group found in the tropics. During the 'quiet' months I was a dory fisherman in the (then) just-started artisanal live coral trout fishery, catching beautiful fat coral trout (*Plectropomus leopardus*) with hook and line for live export to Hong Kong. Eventually, however, I was confronted with the harsh reality that I would either have to undertake some post-graduate study, or get a real job.

As a fisherman, I was encouraged by many to undertake a fisheries-based degree. More fascinating, however, was what lies beneath – the corals that form the structures where the fish live. James Cook University has been a centre of coral research for more than twenty years, and I was, by this stage, regularly working or volunteering for some of the most prominent coral reef scientists on the planet. I had become involved with AUSCORE – the Australian Coral Records working group – comprising geologists and climatologists and the very occasional biologist working to reconstruct environmental histories based on coral skeletons. An opportunity to work at the nexus between the living animal and the permanent record of its struggle through life was exactly what I was looking for. As an added bonus, the heavy underwater drilling rigs used to extract the long cores preferred in paleoclimatology research required me to undertake some serious industrial diving training.

My first major experiment coincided with the largest mass-bleaching event ever recorded. This later provided me with many valuable insights, but at that stage merely delayed any possible physiological experimentation for 18 months – until the confounding effect had dissipated. My project changed to a more descriptive study examining spatial patterns in coral growth. I still had my extensive commercial diver training to fall back on, so I was often called on by the department head to chaperone new graduate students through their first few field trips. My industrial diving training led me to be invited on many amazing field trips, often as far afield as the Hermit Isles, off the north coast of New Guinea (a place so remote it was last visited by Jacques Cousteau). I was also involved in a survey of North Queensland ports targeting invasive species brought in ships' ballast waters. This survey often involved diving under the piers of tropical ports, chipping off fouling organisms from pylons in pitch-blackness while imagining that the large crocodile one just saw sunning itself on the mud bank nearby might come for a closer look.

During the same period, the Museum of Tropical Queensland received a substantial facelift, investing heavily in new display and collection technology – and, coincidentally, someone to drive it all. I spent the next three years as a computer systems administrator for the museum, doing my PhD research part-time, and spending my weekends and holidays doing lab experiments or traveling to laboratories in different parts of the country to analyze my samples.

After I handed in my thesis, I spent a year in that peculiar limbo that PhD candidates occupy – waiting for the examiners' reports, writing addenda and elucidations to the thesis and helping my wife with her PhD fieldwork in the Gulf of Thailand. Subsequently, I spent more time in Thailand, becoming involved in several post-tsunami surveys and in some of the increasingly progressive ecological research being undertaken by Thai academics.

My position at SWIMS is my first time in China. I am excited by the possibilities to do science here – the reefs of the South

China Sea are subject to unique stresses and offer unique opportunities to study the resilience of corals and coral communities. My previous work has mostly been about how corals respond to stress and the telltale signs that stress events leave in coral skeletons. I hope to continue that work and expand into investigating the behaviour of corals in sub-optimal environments. There are many potential collaborations here as well with researchers who are doing fine work teasing apart different components of the ecological web.

Nature is too complex for the broad ecological questions being addressed in this millennium to be undertaken by a researcher working alone. A willingness to collaborate and a broad experience base are, I believe, two of the most important characteristics of successful ecological researchers. Theoretical knowledge is fundamental to learning, but the more exposure one has to a diverse range of research, the easier it is to understand those ecological webs. The ability to think laterally is seldom apparent in researchers who never leave their comfort zone. In my experience, the more exposure a student has to real research during their degree, the easier it is for them to become a good researcher in the future. My advice to anyone who wants more out of university than just a pass degree and a job at McDonalds? Get out there, get qualified and volunteer!

INVERTEBRATES

New *Planaeschna* record from Hong Kong (Odonata: Aeshnidae)

by Keith DP Wilson
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During late October 2005 I undertook a crepuscular survey of dragonflies at Wu Kau Tang. In the 10-20 minute feeding frenzy which takes place just before dusk, I captured a total of seven aeshnid specimens using a net. Six of the seven specimens were identified as *Gynacantha japonica* Bartenef and the remaining specimen belongs to the genus *Planaeschna* McLachlan. It may represent an undescribed species. No previous species of *Planaeschna* has been recorded from Hong Kong.

The genus *Planaeschna* is mainly confined to Indo-China with outliers occurring in South China, Thailand, Burma, India (Assam) and Japan. Seven species of *Planaeschna* have been described from China, which are *P. celia* Wilson & Reels, 2001 (Hainan), *P. gressitti* Karube, 2002 (Guangdong), *P. maolanensis* Zhou & Bao, 2002 (Guizhou), *P. risi* Asahina, 1964 (Japan & Taiwan), *P. shanxiensis* Zhu & Zhang (Shanxi), *P. suichangensis* Zhou & Wei, 1980 (Guangdong, Guangxi & Zhejiang), *P. taiwana* Asahina, 1951 (Taiwan). In addition, a further five species of *Planaeschna* have been described from Vietnam. A total of 17 species have been described to date with nine of these named in the last 10 years.

The Hong Kong female *Planaeschna* does not belong to *suichangensis*, which is the most widespread and abundant *Planaeschna* species recorded from Guangdong. Currently the female *gressitti* is unknown but the abdomen does not have yellow spots, adjacent to the transverse carina, which are linked to basal, ventral yellow spots to form a yellow median from S3-8. This ringed pattern is possessed by male *gressitti* (Karube, 2002) and in all other *Planaeshna* species the feature is exhibited by both males and females. The Hong Kong female does not have this feature so is most unlikely to belong to *gressitti.* Two new species of *Planaeschna* from central and north Guangdong await description but the Hong Kong female does not belong to either of these new species. It is closest to *risi* but further specimens are nevertheless required, especially a male, before a clear placement of the Hong Kong *Planaeschna* can be made. *Planaeschna risi* was recorded from Guangxi by Wilson (2005) but evaluation of further material from Guangxi and Guangdong indicates this material does not in fact belong to *risi*, which is endemic to Taiwan and the Ryukyu islands.

The Hong Kong female *Planaeschna* was collected over abandoned marshy agricultural land at San Uk Ha, Wu Kau Tang on the evening of 30 October 2005. *Planaeschna* larvae dwell in flowing streams usually in montane, forested areas. Most species are known from altitudes exceeding 500 m. Only one species, described from North Vietnam, *Planaeschna cucphuongensis* Karube, is known from lowland forest (Karube, 1999). The new *Planaeschna* species is likely to breed in montane forested tributary streams in the country park surrounding Wu Kau Tang but its larvae may utilize the tributaries or main stream flowing through the Wu Kau Tang basin i.e. the area covered by the Wu Kau Tang Outline Zoning Plan.

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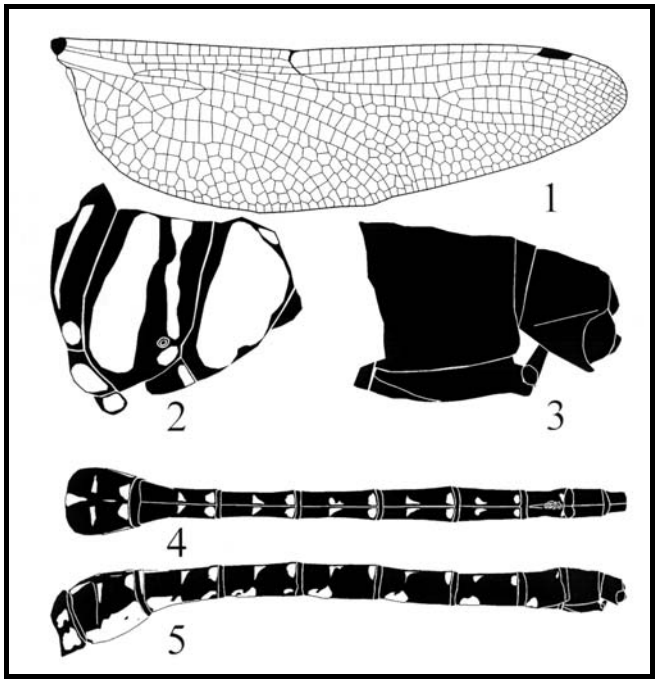

Figures 1-5 *Planaeschna* sp., Wu Kau Tang, Hong Kong. (1) Hindwing; (2) synthorax; (3) caudal segments 9-10, lateral [cerci and styles missing]; (4) abdomen segments 9-10, dorsal; (5) abdomen segments 1-10, lateral.

Sinthusa nasaka (Horsfield) (Lepidoptera: Lycaenidae), a butterfly new to Hong Kong

by Philip Yik Fui Lo, Hui Wing Leung and Leung Wo Kwai
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Sinthusa Moore, 1884, comprises about a dozen small species (Bascombe,1999), distributed from India to Taiwan, including Sundaland, the Philippines and Sulawesi (Eliot, 1992). In the last decade, several new taxa in this genus, such as *S. zhejiangensis* Yoshino, 1995 and *S. menglaensis* (Wang, 1997) were discovered in Southern China, which may reflect the high diversity of the genus in this region. In Hong Kong, this genus has been only represented by a single species, *S. chandrana* (Bascombe,1999; Lo & Hui, 2004).

In butterfly surveys conducted in Hong Kong during the summer of 2004, several female specimens of a suspected *Sinthusa* species were found (Fig. 1). The publication of the discovery has been delayed for almost two years because meaningful taxonomic comparison could not be done until a male specimen was collected in July 2005, and the identity of this lycaenid was then confirmed to be *S. nasaka*.

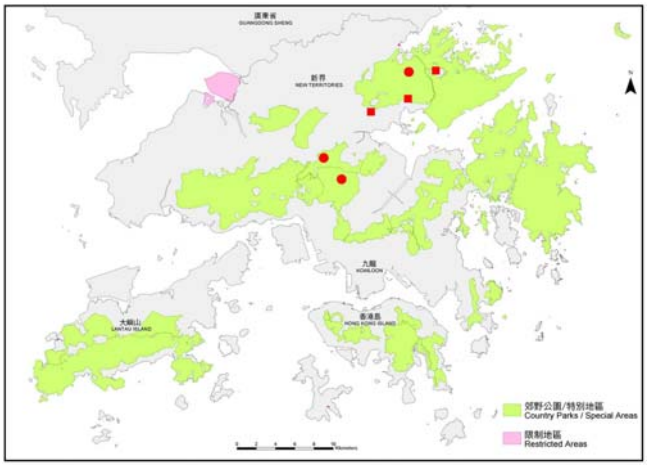

Fig.1. Distribution of *S. nasaka* ssp. in Hong Kong. (Circle denotes record with voucher specimen; square denotes photograph record from Yim, Chong, Yiu & Yiu).

It is worth noting that previously published and illustrated records of this species in China appear to be all female (Gu & Chen, 1999; Wang & Fan, 2002; Chou, 1994); the male *S. nasaka* of the race in China is thus illustrated and described here for the first time.

Materials and Methods

Apart from materials found in Hong Kong, specimens of *S. nasaka amba* (Kirby, 1878) from the Malay Peninsula were used in this study for comparison. Voucher specimens will be deposited in the Agriculture, Fisheries and Conservation Department, Hong Kong (AFCD).

Comparative materials examined:

Sinthusa nasaka amba (Kirby, 1878)

1♀, Malaysia, Perak, May 2005; 1♂1♀, same loc., June 2005, coll. local collector (1♂ genitalia dissected: YFL ly0007).

The genitalia of male specimens were prepared using the following procedures. The abdomen was first removed and placed in 10% NaOH under room temperature for 24 hrs to dissolve the soft tissue. It was then transferred to 70% ethanol and dissected under a stereomicroscope. The dissected genitalia were preserved in 70% ethanol and labelled properly for further study.

Result

Having compared the male genitalia of specimens from Hong Kong and the Malay Peninsula, no major difference was found and their similarities reveal their conspecific relationship.

Specimens examined

Sinthusa nasaka (Horsfield, 1829) ssp.

3♀, Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui (AFCD); 1♀, same loc., 26 June 2004, coll. Y. F. Lo & W. L. Hui (AFCD); 1♀, Tai Mo Shan Country Park, 400m, 09 July 2004, coll. Y. F. Lo & W. L.

Hui; 1♂, Shing Mun Country Park, 500m, 23 July 2005, coll. W. L. Hui (genitalia dissected: YFL ly0001).

Diagnostic Features of *Sinthusa nasaka* ssp. in Hong Kong

Male (Figs. 2 & 3)

Forewing: termen, costa slightly convex, dorsum convex at base. Ground colour of upperside oily blue. Ground colour of underside brownish grey. Cell-end stripe forming double pale brown bars. Post-discal band brownish orange bar outwardly edged with thin white line, running from Rs_2 toward CuA_2; submarginal and marginal bands faint, only slightly darker than ground colour. Hindwing: wing tail at the end of CuA_2; tornal lobe present but small. Ground colour of upperside bright blue, tornal lobe with orange and metallic blue scaling. Ground colour of underside brownish grey.

Fig. 2. Upperside of *S. nasaka* ♂: Shing Mun Country Park, 500m, 23 July 2005, coll. WL Hui

Fig. 3. Underside of *S. nasaka* ♂: Shing Mun Country Park, 500m, 23 July 2005, coll. W.L. Hui

Cell-end stripe forming double pale brown bars. Post-discal spot forming brownish orange broken bar edged with black and white line on both sides, from $Sc+R_1$ towards CuA_2 and a "V" shaped band forming in space CuA_2 and 2A. Submarginal and marginal bands zigzag shaped and barely seen. A dark spot enclosed by orange circle in space CuA_1, orange and metallic blue patch in space CuA_2. Tornal lobe dark brown with metallic blue scaling.

Male secondary sexual characters: scent brand across the origin of R_s on upperside of hindwing and a hair tuft on the forewing underside dorsum.

Male genitalia: (Fig. 4) typical form of the genus. Valvae long and narrow. Phallus long, a distant pointed process at the dorsal posterior end of aedeagus.

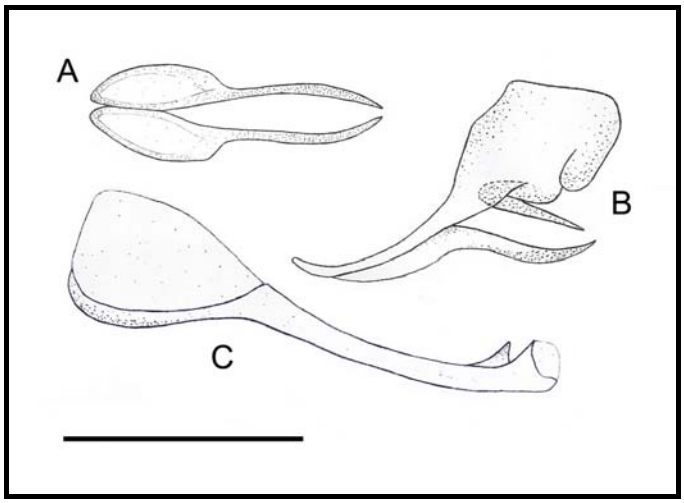

Fig. 4. Male genitalia of *S. nasaka* ssp. in Hong Kong: A. ventral view of valvae; B. lateral view of 9^{th} + 10^{th} sclerites; C. lateral view of phallus. Scale bar = 1mm.

Female (Figs. 5 & 6)

Fig. 5. Upperside of *S. nasaka* ♀: Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui

Forewing: termen, costa slightly convex, dorsum straight. Ground colour of upperside dark brown. Ground colour of underside silvery grey. Wing patterns similar to male, except for more pronounced submarginal and marginal bands. Hindwing: wing tail at the end of CuA_2; lobe present but small. Ground colour of upperside dark brown, tornal lobe

with orange and metallic blue scaling. Ground colour of underside silvery grey. Wing patterns similar to male, except for darker submarginal and marginal bands.

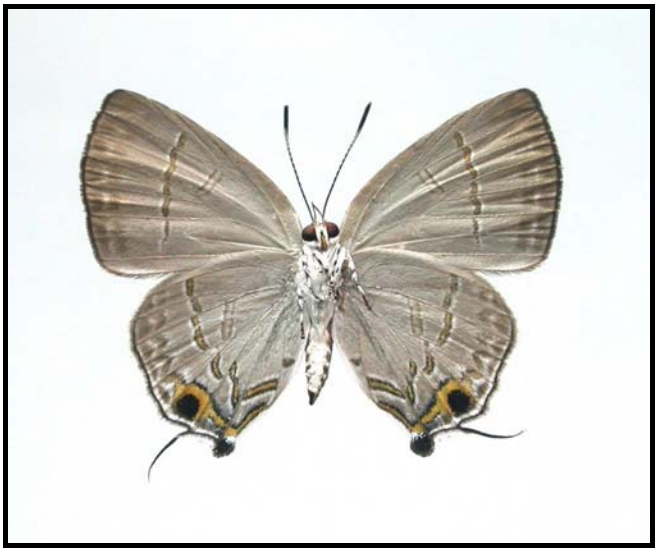

Fig. 6. Underside of *S. nasaka* ♀: Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui

Other information

Immature biology: There is no information on immature stages of this species.

Occurrence: It is undoubtedly a multivoltine species. Adults are found between June and July; there are also photograph records taken in April and November (Yim, Chong, Yiu & Yiu, unpublished photograph records).

Distribution: China (Hong Kong, Fujian, Guangxi and Hainan), Sikkim to Burma, Thailand, Laos and Sunderland (Eliot, 1992; Osada et al, 1999; Pinratana, 1981; Wang & Fan, 2002; Xu & Jiang, 2001). In Hong Kong, it has scattered a distribution in the central and north-eastern New Territories.

Discussion

S. nasaka was once misidentified as *Rapala refulgens* in Chou (1994), but an amendment was made in the revised edition (Chou, 1999) subsequently. Meanwhile, the record of *Rapala refulgens* in Southern China (Bascombe, 1995) was probably an error adopted from Chou (1994).

S. nasaka inhabits woodlands and dense scrublands. It has rapid flight and often settles on vegetation for short periods. Males are rarely seen while females appear to be more common. Adults are attracted to flowers and were observed taking nectar from *Mikania micrantha* and *Litchi chinensis* (Yim & Yiu, unpublished photograph records). With *S. chandrana*-like habit and *Rapala manea*-like appearance, *S. nasaka* behaves like a combination of these two fairly common species. This probably explains why it has not been reported in earlier studies even though it has a fairly wide distribution. In fact, after examining albums of several amateur photographers, *S. nanaka* was found in some of their previous photographic records, and these provided additional information on the distribution of this newly recorded butterfly.

Acknowledgements

We would like to thank Kwok-leung Yip (AFCD) for giving us useful comments on the manuscript. Yik Man Yim, Paul Chong, Michael Yiu and Shiu Man Yiu provided unpublished photograph records of *S. nasaka*. Siu-ki Clive Lau (AFCD) provided literature relevant to this study. Colleagues from AFCD assisted greatly in field work.

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A new record for Hong Kong and China of a Polistine wasp of the genus *Ropalidia* : *Ropalidia mathematica* (Vespidae: Polistinae: Ropalidiini)

by Christophe Barthelemy
Project Co-ordinator
Maitreya Project International

The eusocial wasp *Ropalidia mathematica* (Smith, 1860) has been recorded from various localities in Hong Kong by the author. This paper is a short description of this species. *Ropalidia* species are distinctive from other eusocial wasps by the petiolate 1st gastral segment, the fused and bulbous 2nd

tergum and sternum. They are small insects, *Ropalidia mathematica* being the smallest of the three locally recorded species in that genus (*R. fasciata*, *R. hongkongensis* and *R. mathematica*), not exceeding 9.5 mm in length for workers (measurement is taken from the head to the apex of the 2nd gastral segment due to the collapse of the following segments). Males and queens have not yet been recorded. The coloration is lighter than the other two *Ropalidia* species and the wasp is somewhat maculated with black rufuous and yellow markings (Fig. 1-3).

Fig. 1. Lateral view of a *Ropalidia mathematica* worker.

This wasp is actually widespread in South East Asia and it is quite surprising that it had never been recorded for Hong Kong or China previously, possibly due to its reduced size and inconspicuous colors and habits. The known localities in SE Asia are (Nguyen *et al*, 2006): India (Meghalaya); Thailand, Vietnam, Sumatra; Java; Bali; Sumbawa; Flores; Karimon; Djawa; Sunda Straits; Sulawesi, Lombok, Flores; Sumba; Timor. In Hong Kong this species has been recorded from Kornhill (HK Island) and Pak Sha O (Sai Kung Country Park), although it is possibly wide spread across the territory.

One colony was discovered at the end of June 2006 hanging from climbers in a Ficus tree. It was situated approximately 3 m off the ground and contained four to five individuals. The drop-shaped single comb is typical of this species. It is attached to the substrate by a single pedicel (Fig. 4). The comb contained a full brood, from eggs situated at the bottom to mature larvae placed at the top. Although *Ropalidia* species are known to apply an ant repellant to the petiole (Gadagkar, 1991), this has not been confirmed with *R. mathematica* in Hong Kong. Additionally the pedicel may be imbibed with the substance but it seems to be too short to offer a real protection against ants. The cells are un-specialised, i.e. there is no difference in size for workers, queens and males. The nest material is essentially composed of loosely woven glandular secretions leaving numerous "windows".

Fig. 2. Dorsal view of a *Ropalidia mathematica* worker.

Fig. 3. Head view of a *Ropalidia mathematica* worker.

The colonies in Hong Kong are founded towards the end of March and April. Although a number of species of *Ropalidia* are known to have multiple foundresses (Gadagkar, 1991), this is not demonstrated locally and most of the Polistine colonies studied to date locally are in fact founded by a single queen (pers.obs. unpubl.). The colonies develop all through the summer and finally die off at the onset of autumn. Males of Ropalidia are produced throughout the colony cycle or at least after the emergence of the 1st workers. This is quite unique in the Polistine subfamily which generally produces males towards the end of the colony cycle. The colonies are most probably reduced in size, never having more than ten to twenty workers, as is the case within the Stigma group to

which *R. mathematica* belongs (Spradbery, 1991). As with all other species of *Ropalidia*, *R. mathematica* extracts the meconium (larvae faeces) at the end of the larval development, just before pupation, by creating a hole at the end of the cell, later plugged by the workers for pupation. The dominance hierarchy is not known for *R. mathematica*, but most probably the queen maintains her dominant status by active aggression and disturbing any attempt by other females to lay eggs. Pheromone control is not proven in most Polistine wasps.

Fig. 4. (left) Lateral view of a *Ropalidia mathematica* nest at initiation stage. No worker has yet emerged. Note the single pedicel and (right) frontal view of a *Ropalidia mathematica* nest. Note the large larvae at the top of the nest.

The particular food provision of *R. mathematica* is not known locally but it is assumed that this wasp preys on a variety of small caterpillars as a proteinaceous food source for the larvae. Carbohydrates are most certainly provided through plant nectars and sap and possibly honeydew from various Sternorrhyncha. The particular diet of adults is not known and in general this remains relatively unknown for most Vespidae (Hunt, 1991).

Although direct predation of nests of *R. mathematica* has not been observed locally, Polistine colonies often fall prey to larger Vespids particularly *Vespa tropica*, *V. ducalis* and *V. soror*.

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VERTEBRATES

Whatever happened to the humphead wrasse, *Cheilinus undulatus*, after its CITES Appendix II listing?

by Yvonne Sadovy

The Napoleon fish, or humphead wrasse (*So Mei* in Cantonese) (Fig. 1), was one of the first commercial fish species to be listed on a CITES (Convention on Trade in Endangered Species of Flora and Fauna) Appendix when delegates from more than 150 countries reached a consensus that it be included on Appendix II in October of 2004. Species are listed on Appendix II if they can be demonstrated to be currently or potentially at risk of extinction if current practices persist. Because of the heavy and largely unregulated international trade in live individuals of this species, for food, mainly into and through Hong Kong, this species was considered to be at risk. The CITES listing is a powerful and positive step in the direction of sustainable management because the Convention requires that exporting countries demonstrate that exports are sustainable. If they cannot demonstrate this, then the Convention enables sanctions on exports to be introduced, so there is strong incentive to comply. Both exporting and importing countries play a role in ensuring (through a permitting system) that trade is conducted sustainably, such that Hong Kong, on the receiving end, has a responsibility to closely monitor imports of this species.

Fig. 1. Napoleon fish in the wild. This spectacular creature is one of the largest of all reef fishes and can reach 2 m in length. Its populations are threatened by the live reef food fish

trade which mainly passes into and through Hong Kong. (Photo: P. L. Colin.)

The sustainable management of a large, uncommon, reef fish, like the humphead, is a challenge, given how little we know of the species, how poor the fishery and export data are in most countries, and how difficult the species is to study. One of the biggest problems with its fishery is the major focus on juveniles and small adults in trade (Fig. 2). These life history stages are ideal for restaurant demand.

Fig. 2. Most fish on retail sale are at or below the size of sexual maturation (35 – 50 cm TL) which means that the fishery on the humphead wrasse is largely one of juveniles. Photos show fish being grown out after wild capture. All are below 35 cm. This is one of the major problems with this fishery because it removes late stage juveniles and small adults from the wild before they have had a chance to reproduce and replenish fished populations. [From: Development of fisheries management tools for trade in humphead wrasse, *Cheilinus undulatus*, in compliance with Article IV of CITES. Final Report of CITES Project No. A-254 undertaken by the International Union for the Conservation of Nature and Natural Resources - World Conservation Union/Species Survival Commission (IUCN/SSC) Groupers & Wrasses Specialist Group.]

A major exporter of humpheads is Indonesia which supplies most of the fish we see in local markets. Following the 2004 Appendix listing, the Indonesian government agreed with CITES to work with the IUCN (World Conservation Union) Groupers & Wrasses Specialist Group (which I chair out of DEB) to develop a sustainable management plan for the species. CITES initially funded this work, with the United States government providing more recent support, and I have now spent a couple of years working with the Indonesian government, and others, towards developing a stock assessment for the wrasse that can be used by Indonesia when they introduce their export quota for 2007. Ultimately, the aim is to make the stock assessment format generic enough that any interested country can use it, plug in their own parameters (such as local fish densities and areas of high and low fishing pressure) and tailor a quota to their specific and national needs. Other activities have involved lots of consultations and workshops to make countries aware of the management challenges and provide options for compliance.

There is much to report on, but I will confine myself to just two of the major activities, underwater visual census (UVC) surveys in Indonesia and an international workshop in Hong Kong. Working with Dr. Pat Colin of the Coral Reef Research Foundation we have almost completed comprehensive UVC surveys in 6 areas of Indonesia (Bali and environs, Derawan area, Banda Is., Komodo and environs, NW Sulawesi and NW Papua). The purpose of the surveys were to (a) develop an underwater sampling protocol suitable for a large, wide-ranging and uncommon species (the standard 50 m transects are not the most practical approach for several reasons) and that is easy to do, and (b) collect information on natural fish densities in areas of high, low and medium fishing pressure. These data are for the stock assessment model and represent a baseline for future work.

For the workshop, we were interested in providing background information on the species and in working towards a regionally acceptable approach to its management. Most countries have never had to work on endangered commercial fish species before and several do not even have the correct institutional framework for so doing. The international workshop (Fig. 3) was a first step in providing the necessary information and discussing management options and was extremely well received by participating country (Indonesia, Malaysia, Philippines, Papua New Guinea, Mainland China and Hong Kong) CITES authorities and fisheries personnel.

Fig. 3. Workshop participants from all over SE Asia and a few beyond, including from FAO and the CITES Secretariat.

Mapping (Fig. 4) using a global positioning system (GPS) allows easy return to sites for follow-up monitoring and is a challenge to do successfully for such a large species and using a simple practical and readily repeatable technique. The length of the GPS track, together with an estimated swathe width, enables area surveyed and fish densities to be estimated. In the different areas visited to date (Banda and Derawan remain to be completed) fish densities ranged from lows of < 0.01 to about 1 per 10,000 m^2. In very low-density areas, we had to cover at least 20 km to ensure a representative sample; for higher densities at least 6 km.

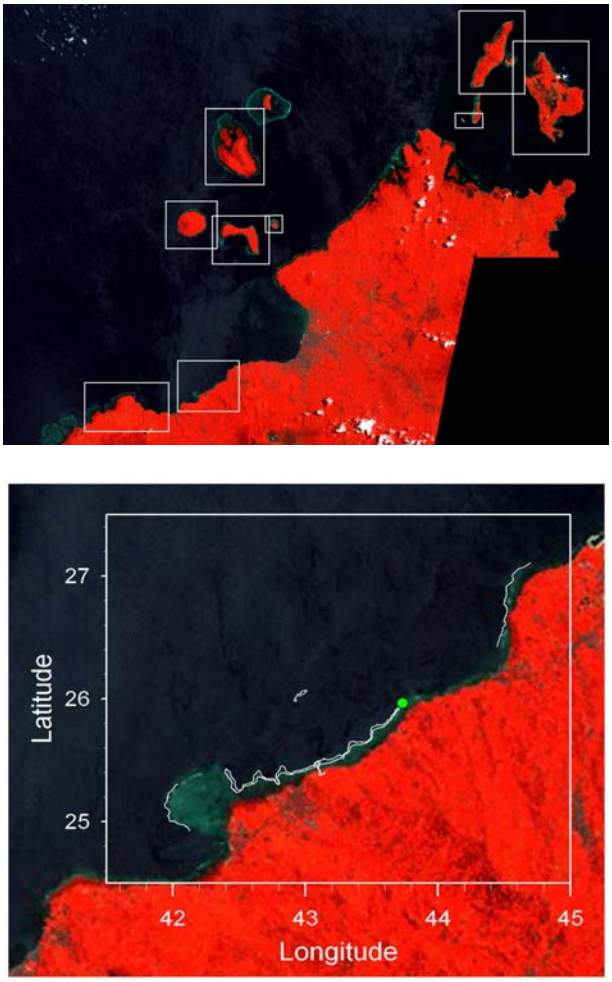

Fig. 4. The two photos show satellite shots of NW Sulawesi with the sample sites shown in boxes (upper). The lower photo is a detail of one of the more southern sites, showing the GPS track swum (mainly by snorkel) as a white wavy line. The dot indicates the one fish seen at this location.

Highlights of this work have been the challenge of developing a stock assessment model, the new UVC technique and the workshops. We have held both internal ones in Hong Kong and Indonesia as well as an international one for the SE Asian region. It has also been a pleasure to work with TRAFFIC Southeast Asia on a trade component and with FAO (Food and Agriculture Organization of the United Nations) on the fishery modelling work (stock assessment). Colleagues in Indonesia have given the work tremendous support and this diverse project has also enabled me to work with WWF here in Hong Kong, and with William Cheung, ex of DEB and now at the University of British Columbia.

Currently, only Indonesia is trying to comply with the CITES listing, with an interim export quota for 2006 of 8,000 animals 10 times less than before the CITES listing. Several countries, like Fiji and Palau, have banned exports altogether and the Philippines also does not allow exports (although fish continue to enter HK from the Philippines). Malaysia is discussing measures and, although Hong Kong has still not complied on the monitoring side, they have assured everybody that this will happen by the end of 2006 and that additional, even stricter legislation is in the final stages of approval. The hope is that within a few years, we may begin to see some progress and that follow-up surveys at our baseline monitoring sites will allow for effective evaluation of measures being discussed or put in place now. For more information on the humphead wrasse and access to reports on the above work see: www.humpheadwrasse.info.

Baseline study at Mabian Dafengding Nature Reserve, Sichuan

by Fion Cheung

With sponsorship provided by the Ocean Park Conservation Fund Hong Kong (OPCFHK), Tony Hung (ENS Year 2) and I had the chance to join a group of researchers and postgraduate students from Sichuan University to conduct a baseline study at Mabian Dafengding Nature Reserve, Southern Sichuan from 4 to 14 December, 2005. Since Tony and I are interested in bird watching, we followed an ornithologist, Mr. Zheng Zhirong, to conduct the bird survey while other surveyors conducted plant and mammal surveys. In our 4-day survey, we spent about 8 hours a day doing transect counts along planned routes in different areas including climbing up hills to reach pristine places in the nature reserve. Any bird species observed were recorded together with the time and location by using a Global Positioning System Unit. A total of 27 bird species (Table 1) was recorded. These included two protected species of Sichuan Province, the Greater Yellownape (*Picus flavinucha*) and the Red-headed Trogon (*Harpactes erythrocephalus*); both were also new records in Dafengding Nature Reserve. For me, every bird species we came across was really amazing because most of them (21 species) were my first records! Through conversations with Mr. Zheng, I also learned about the interesting distribution patterns of birds and methods for distinguishing bird species with similar appearance.

During this trip, we learned that the building of hydropower stations (Fig. 1) and mining operations (Fig. 2) are two of the main threats (in addtion to illegal collection of bamboo shoots, logging and hunting) that the nature reserve is now facing. The former inevitably destroys natural streams and the electricity generated does not even benefit the local communities. Mining explosions were heard almost non-stop throughout the days during our survey which was on top of a 2000 m mountain. The scenes of birds flushed by the explosions really made us sad. These mining activities do not just result in serious habitat destruction and soil erosion but also heavy traffic jams in the area as the over-loaded mining trucks often broke down on the narrow nature reserve road. One night when we were on the way back to the city, which is just 40 km away from the nature reserve, we were trapped in the bus for 19 hours because of several traffic congestions!

Fig. 1. A natural stream (left) and a hydropower station (right) in Shaqiang Nature Reserve Station.

Table 1. Bird species recorded in a 4-day survey at Dafengding Nature Reserve. Common and *species* names follow MacKinnon *et al.* (2000). *A field guide to the birds of China*. Oxford University Press, 517pp.

No.	Common name	Species name
1	Black-browed Tit	*Aegithalos bonvaloti*
2	Black-faced Laughingthrush	*Garrulax affinis*
3	Blue-fronted Redstart	*Phoenicurus frontalis*
4	Brown Dipper	*Cinclus pallasii*
5	Chestnut Thrush	*Turdus rubrocanus*
6	Chestnut-crowned Laughingthrush	*Garrulax erythrocephalus*
7	Crimson-breasted Woodpecker	*Dendrocopos cathpharius*
8	Eurasian Jay	*Garrulus glandarius*
9	Golden-breasted Fulvetta	*Alcippe chrysotis*
10	Greater Yellownape	*Picus flavinucha*
11	Green-backed Tit	*Parus monticolus*
12	Grey-cheeked Fulvetta	*Alcippe morrisonia*
13	Grey-headed Bullfinch	*Pyrrhula erythaca*
14	Grey-headed Woodpecker	*Picus canus*
15	Little Forktail	*Enicurus scouleri*
16	Orange-flanked Bush Robin	*Tarsiger cyanurus*
17	Plumbeous Water Redstart	*Rhyacornis fuliginosus*
18	Red-billed Blue Magpie	*Urocissa erythrorhyncha*
19	Red-headed Trogon	*Harpactes erythrocephalus*
20	Red-winged Laughingthrush	*Garrulax formosus*
21	Rufous-capped Babbler	*Stachyris ruficeps*
22	Streak-breasted Scimitar Babbler	*Pomatorhinus ruficollis*
23	Vinaceous Rosefinch	*Carpodacus vinaceus*
24	White-capped Water Redstart	*Chaimarrornis leucocephalus*
25	Winter Wren	*Troglodytes troglodytes*
26	Yellow-bellied Tit	*Parus venustulus*
27	Yellow-throated Bunting	*Emberiza elegans*

The conflict between development and environmental protection is very apparent at Dafengding. I think it is critical is to find a balance between them. Development is, of course, needed especially in developing countries but one should also bear in mind that the destroyed environment can probably never revert back to its original state. With more and more people better educated in Mainland China, I sincerely hope that people will be prepared to stand up and ask for better conservation policies such as enforcing environment impact assessments (EIA), especially in provinces with rich biodiversity such as Sichuan and Yunnan.

Fig. 2. Mining activities causing serious soil erosion.

I would like to express my sincere gratitude to OPCFHK and DEB for organizing this valuable trip giving us the opportunity to see what is actually happening outside Hong Kong with our own eyes. I still remember the conversation I had with experts in Dafengding. I asked whether they felt frustrated and were pessimistic about the future as their study area was being destroyed even though they had collected data showing its ecological importance. They said, “Yes, of course. But at least we have tried our best to protect this place. Keeping the frustration and doing nothing cannot help the situation. So, no matter how little we can achieve, we will keep on doing our work.” I just wish to share this comment with all colleagues in the conservation field.

A survey of reef fish diversity in Port Shelter

by Ken Ching[1], Anna Situ and Allen To

[1]Environmental Education & Resources Centre

Despite a lot of published and unpublished studies of fish fauna in local waters (Leung, 1994; ERM, 1998; Cornish, 1999; Ni & Kwok 1999; Sadovy & Cornish, 2000), few have documented the fish diversity in Sai Kung waters. With the proposed Fisheries Protection Area in Port Shelter likely to be in place in the near future (AFCD 2004), studies on fish diversity within Port Shelter would provide valuable baseline information for subsequent conservation, management and education purposes.

Monthly underwater visual censuses commenced in early 2006. Surveys were conducted at six sites within Port Shelter, namely Sharp Island, Shelter Island, Kau Sai Chau, Jin Island, Bluff Island and Trio Island. Surveys were concentrated along patches of coral communities and adjacent sandy and rocky areas. Transects were laid along shallow communities with relatively high coral coverage. Divers or snorkellers swam along two 50 m belt transects, with a belt width of 2.5 m on both sides. Fish encountered within the belt transect were recorded (Table 1), to species level if possible, and photographs taken of most species for subsequent verification.

A large proportion of the species recorded is made up of relatively widely distributed and abundant species in Hong Kong waters (Fig. 1). However, a few relatively rare species worth notice are spotted knifejaw darkfin hind (Fig. 2) (*Cephalopholis urodeta*), and one of few local records of axilspot hogfish (Fig. 3) (*Bodianus axillaris*) and snowflake moray (Fig. 4) (*Echidna nebulosa*). Surveys will continue till October 2006.

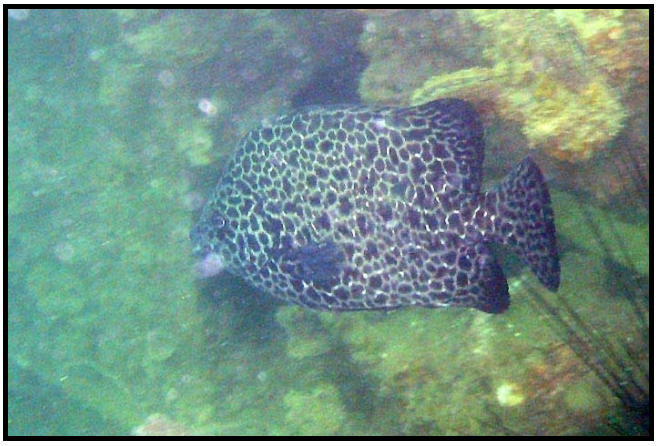

Fig 1. Spotted knifejaw, *Oplegnathus punctatus* (Photo: Ken Ching).

Fig 2. Darkfin hind, *Cephalopholis urodeta*. (Photo: Ken Ching)

Fig 3. Axilspot hogfish, *Bodianus axilliaris*. (Photo: Ken Ching)

Fig 4. Snowflake moray, *Echidna nebulosa* (Photo: Ken Ching)

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Table 1. A total of 106 fish species recorded in the surveys.

Family	Species
Gymnuridae	*Gymnura* sp.
Muraenidae	*Gymnothorax reevesii*
	Echidna nebulosa
Mugilidae	*Mugil cephalus*
Belonidae	*Tylosurus crocodilus crocodilus*
Syngnathidae	*Hippocampus kuda*
Fistulariidae	*Fistularia commersonii*
Scorpaenidae	*Paracentropogon longispinus*
	Pterois volitans
	Scorpaenopsis cirrhosa
	Scorpaenopsis diabolus
	Sebastiscus marmoratus
Dactylopteridae	*Dactyloptena orientalis*
Platycephalidae	*Ratabulus megacephalus*
Serranidae	*Cephalopholis boenak*
	Cephalopholis urodeta
	Epinephelus merra
	Epinephelus quoyanus
	Epinephelus trimaculatus
	Plectropomus leopardus
	Diploprion bifasciatum
Apogonidae	*Apogon doederleini*
	Apogon fasciatus
	Apogon fleurieu
	Apogon niger
	Apogon pseudotaeniatus
	Cheilodipterus artus
Sillaginidae	*Sillago maculata*
Echeneidae	*Echeneis naucrates*
Carangidae	*Selaroides leptolepis*
	Trachinotus blochii
Leiognathidae	*Leiognathus brevirostris*
Gerreidae	*Gerres macrosoma*
Lutjanidae	*Lutjanus argentimaculatus*
	Lutjanus russellii
	Lutjanus stellatus
	Pterocaesio tile
Haemulidae	*Diagramma pictum*
	Plectorhinchus cinctus
Sparidae	*Acanthopagrus latus*
	Acanthopagrus schlegeli
	Pagrus major
	Erynnis cardinalis
Lethrinidae	*Lethrinus nebulosus*
Nemipteridae	*Scolopsis vosmeri*
Mullidae	*Parupeneus biaculeatus*
	Parupeneus multifasciatus
	Parupeneus indicus
	Upeneus tragula
Pempheridae	*Pempheris ovalensis*
Pinguipedidae	*Parapercis snyderi*
Monodactylidae	*Monodactylus argenteus*
Cheilodactylidae	*Cheilodactylus zonatus*
Chaetodontidae	*Chaetodon auriga*
	Chaetodon auripes
	Chaetodon melannotus
	Chaetodon octofasciatus
	Chaetodon speculum
	Chaetodon wiebeli
	Heniochus acuminatus
Kyphosidae	*Girella melanichthys*
	Microcanthus strigatus
Oplegnathidae	*Oplegnathus punctatus*
Pomacentridae	*Abudefduf bengalensis*
	Abudefdus sexfasciatus
	Abudefduf sordidus
	Abudefduf vaigiensis
	Amphiprion clarkii
	Chromis notata
	Dascyllus reticulatus
	Neopomacantrus bankieri
	Neopomacentrus cyanomos
	Stegastes fasciolatus
Labridae	*Halichoeres tenuispinis*
	Halichoeres nebulosus
	Labroides dimidiatus
	Pteragogus enneacanthus
	Stethojulis interrupta
	Thalassoma lunare
	Bodianus axillaris
Scaridae	*Scarus ghobban*
Blenniidae	*Cirripectes filamentosus*
	Entomacrodus stellifer lighti
Tripterygiidae	*Enneapterygius etheostomus*
Callionymidae	*Dactylopus dactylopus*
Gobiidae	*Amblyeleotris gymnocephala*
	Amblygobius phalaena
	Cryptocentrus leptocephalus
	Cryptocentrus strigilliceps
	Cryptocentrus sp.
	Istigobius diadema
Ptereleotridae	*Ptereleotris hanae*
	Ptereleotris microlepis
Acanthuridae	*Acanthurus dussumieri*
	Acanthurus olivaceus

Family	Species
Zanclidae	*Zanclus cornutus*
Siganidae	*Siganus canaliculatus*
Sphyraenidae	*Sphyraena barracuda*
	Sphyraena sp.
Monacanthidae	*Monacanthius chinensis*
	Cantherhines pardalis
Ostraciidae	*Ostracion cubicus*
	Ostracion immaculatus
Tetraodontidae	*Arothron hispidus*
	Chelonodon patoca
	Takifugu alboplumbeus

Night safaris in Lung Fu Shan Country Park, Hong Kong

by Sung Yik Hei (ENS 2)

A group of Environmental Life Science students had three 1-night safaris in early October 2005 and late May 2006 to look for amphibians and reptiles in Lung Fu Shan Country Park just behind the HKU campus. Several different streams along the jogging trail running from HKU to Queen's Mary Hospital were visited. A total of 7 amphibians and 5 reptiles were recorded, including the locally protected Hong Kong Cascade Frog *Amolops hongkongensis* (Fig. 1) (Chan *et al*., 2005). Finding the Hong Kong Cascade Frogs in the tiny little streams in Lung Fu Shan near the campus was particularly exciting. Seeing the locally rare Short-legged Toad *Xenophrys brachykolos* (Fig. 2) in all three visits was also unexpected (Karsen *et al*. 1998). A bamboo snake was spotted (Fig. 3).

Fig.1. Hong Kong Cascade Frog *Amolops hongkongensis* at Lung Fu Shan

Fig. 2. Short-legged Toad *Xenophrys brachykolos*

Fig. 3. Bamboo snake (*Trimeresurus albolabris*)

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Table 1. Species recorded in the night safaris.

Species (Y=present)	Lung Fu Shan (6 Oct 05)	Lung Fu Shan (10 Oct 05)	Lung Fu Shan (30 May 06)
Xenophrys brachykolos	Y	Y	Tadpoles only
Paa exilispinosa	Y	Y	Y
Amolops hongkongensis	Y	Y	Y
Rana livida	Y	Y	Y
Bufo melanostictus		Y	Y
Kaloula pulchra		Y	
Polyedates megacephalus		Y	
Gekko chinensis	Y	Y	Y
Hemidactylus sp.		Y	
Opisthotropis andersonii	Y		
Tropidophorus sinicus		Y	
Trimeresurus albolabris			Y

"Man of the forest" – a visit to the Sepilok Orangutan Rehabilitation Centre

by Lily Ng

The Orangutan (*Pongo pygmaeus*) occurs in Asia. It is the only great ape in Asia and is found only in tropical rain forests in northern Sumatra, Indonesia and Borneo. The Sepilok Orangutan Rehabilitation Centre is located in Sabah, North Borneo, at a site of 43 km^2 of protected land at the edge of Kabili Sepilok Forest Reserve. It is the largest rehabilitation centre in the world for housing injured or orphaned Orangutans, providing medical care and teaching them how to survive before they are returned to the wild. Since many young Orangutans are victims of the illegal pet trade, they lose their climbing ability while they are in captivity. It usually takes several years of training before they are capable of living in the wild.

Orangutans share 94.6% of their genes with human beings. It is our third closest relative after chimpanzees and gorillas. They are the largest of all tree-dwelling mammals and can grow to 1.5 m tall and 90 kg in weight. They are vegetarians. It is interesting that they make up their fresh nests in the crown of the tree every night for sleeping (Fig. 1).

Fig.1. Fresh nests are made in the crown of tree every night (Photo: Lily Ng).

Each day, the centre provides two feeding times, at 10 am & 3 pm. If you want to catch the morning session, you have to take a domestic flight at 7 am from Kota Kinabalu, since there is no direct flight from Hong Kong, or you could stay at the centre the night before. There are several feeding platforms, but only platform A is open to visitors (Fig. 2). Milk & bananas are provided, but the food supply is reduced on other platforms deeper into the forest in order to encourage the animals to find food for themselves. I was glad to see so many Orangutans free in the wild, rather than in cages. Touching the animals is prohibited, but be sure to give them a smile. After visiting them at platform A, remember to stay in the centre to watch a video called "Man of the forest" to learn more about the work of the centre.

In Malay, Orangutan means "Man of the forest". The centre also includes public education on conservation and research with other endangered species, such as captive breeding of the rare and endangered Sumatran Rhinoceros. It has stimulated greater local and international awareness of the protective laws for endangered species. Since Orangutans are now listed as critically endangered species, we need to do something to avoid their extinction in the wild. The work of the centre is an important contribution to their conservation.

Fig.2. Milk & bananas are provided in platform A two times a day (Photo: Lily Ng).

Finless porpoises in Wuhan, China

by Milla Fok and Tracy Pang

In the internship programme organized by the Ocean Park Conservation Foundation Hong Kong (OPCFHK) and the Swire Institute of Marine Science (SWIMS), we worked on a conservation project on two endemic cetaceans, the Yangtze Finless Porpoise (*Neophocaena phocaenoides asiaeorientalis*) (Fig. 1) and the Baiji (*Lipotes vexillifer*) (Fig. 2), in the Yangtze River and Poyang Lake with the Institute of Hydrobiology (IHB) of The Chinese Academy of Sciences in China.

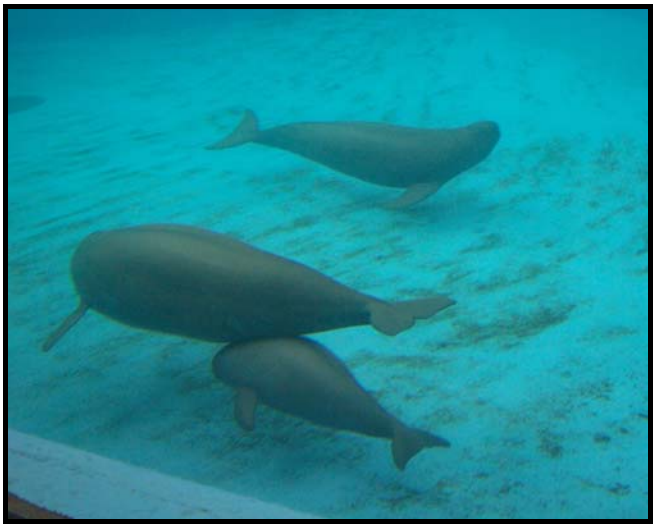

Fig. 1. The Yangtze Finless Porpoise (*Neophocaena phocaenoides asiaeorientalis*)

Fig. 2. The Baiji (*Lipotes vexillifer*)

The Yangtze Finless Porpoise and the Baiji are freshwater cetaceans which inhabit the main stream of the middle and lower reaches of Yangtze River. They used to be widely distributed in Dongting and Poyang Lakes. Unfortunately, with the rapid growth in fisheries boat, traffic and the dredging industry, their populations decreased rapidly. Recent surveys could not locate any Baiji, and it was estimated that only about two to three hundred porpoises still inhabit Poyang Lake.

To evaluate the impacts of human activities on the cetacean's survival, visual and acoustic studies on their populations and daily movements are crucial for effective conservation measures in the future.

We took part in a five-day vessel-based daytime survey (17 to 21 November 2005) in the outlet of Poyang Lake and the adjacent area connecting the Yangtze River (Fig. 3 & 4). During zig-zag line transects and fixed-point surveys, the number and size of each group of porpoises, their distance from our boats and time of the day were recorded. In total, over 200 porpoises, but not one Baiji, were sighted. Acoustic data-loggers were also lowered into the river to record the ultrasonic signals emitted by porpoises. By comparing visual observations and acoustic data, a correlation is hopefully to be developed for future estimation of the numbers of cetaceans during night-time acoustic surveys

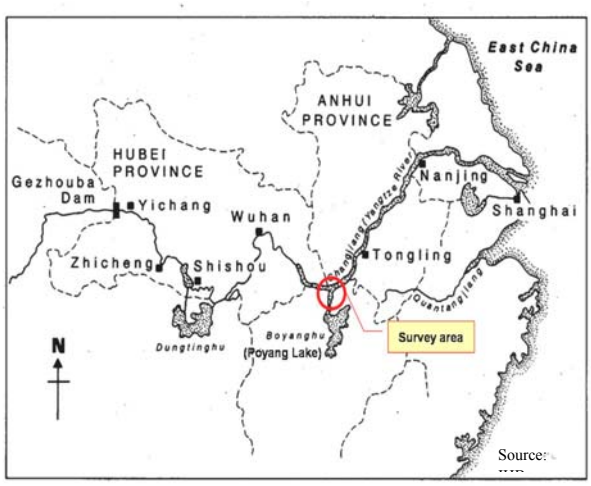

Fig. 3. Survey area encircled

Fig. 4. Survey boat

The major reason for the rapid reduction in the cetacean populations is thought to be habitat destruction. Before our trip, we had no idea about how much the sand-dredging activities were deteriorating the porpoise's habitat. Hundreds of huge barges and dredgers were seen during our short stay in Poyang Lake (Fig. 5, 6 & 7). Dredging activities have been so prevalent in Poyang Lake in recent years with the increasing demand for sand from coastal developing regions like Shanghai. In addition to the serious pollution problem, propellers of the barges do, occasionally, hurt or even kill the cetaceans by cutting into their bodies.

Fig. 5. A dredger

Fig. 6. Barges marching towards Poyang Lake

Fig. 7. Two similar barges with (left) and without (right) a full load of sands.

Recent studies indicated that there may be no interaction between the populations in the Lake and the River. This may be attributable to the infrastructure and other construction work at the mouth of the Poyang Lake (Fig. 8), making porpoise populations from either side of the bridges unwilling to pass them, especially during dry season when the river is narrower. This isolation effect could intensify the hardships experienced by the already depressed populations.

Fig. 8 Poyang Lake bridge and another bridge under construction nearby

We also visited the Baiji Dophinarium, the headquarters for captive breeding and research on the Baiji and Finless Porpoise. There are 5 porpoises, including one calf, living in the captive pools (Fig. 9). The calf is about a meter long. Its birth in July overwhelmed the world and is a breakthrough toward successful captive breeding techniques of Yangtze Finless Porpoise. With growing concern over declining populations of Yangtze Finless Porpoise in the Yangtze River, Poyang Lake and Dongting Lake, release of captive individuals may, hopefully, be able to save the declining population from extinction.

Fig. 9. Captive freshwater finless porpoise in Baiji Dophinarium

The Wuhan Baiji Conservation Foundation was launched in 1996, aimed at sourcing financial support and raising awareness amongst the general public towards the conservation of the mammals. Two national Baiji reserves, one semi-natural, protection stations and provincial reserves

have been set up to house Baiji and Finless Porpoise and provide a disturbance-free habitat for them to reproduce.

We would like to express our gratitude to the OPCFHK and SWIMS for their support of such a meaningful programme. Special thanks to Dr. Kexiong Wang and Mr. Zhuo Wei from IHB for their patience and guidance during our internship; their passion in conserving these lovely creatures has really impressed us.

The bird fauna of Lung Fu Shan and the University of Hong Kong

by Hung Tun Hei, Sung Yik Hei, Fu Wing Kan, Yuen Pui Yu
Environmental Life Science 2004-2007

Lung Fu Shan Country Park is the latest designated Country Park in Hong Kong and is situated right behind our university. Lung Fu Shan is almost entirely covered by secondary forest and exotic tree plantation (AFCD, 2006). Whilst many fellow students visited this area while bird watching for the course 'Ecology of Hong Kong' last year, we are some of the ENS students who are particularly keen on bird watching and have returned to Lung Fu Shan regularly in our spare time. In the past year, we found that Lung Fu Shan is indeed a bird paradise. Over the last winter, we recorded rare and uncommon species such as Mugimaki Flycatcher (*Ficedula mugimaki*), Black-winged Cuckoo-shrike (*Coracina metaschistos*), Asian Stubtail Warbler (*Urosphena squameiceps*) and Streak-breasted Scimitar Babbler (*Pomatorhinus rufucollis*). On 14 February 2006, Allen To discovered the rare Brown-headed Thrush (*Turdus chrysolaus*) along the little path right next to the University Drive. Since then, this little path and the surrounding area have become our favourite birding sites with more than 7 thrush species seen. On 23 March 2006, Fu and Sung recorded a rare Ferruginous Flycatcher *(Muscicapa ferruginea*), the first record at Lung Fu Shan (Fig. 1). Furthermore, Hung, Fu and Chloe Ng saw a Grey-crowned Warbler (*Seicercus tephrocaphalus*) at Lung Fu Shan on 31 March 2006. If this record is accepted by the Hong Kong Bird Watching Society, it will be the second record of this species in Hong Kong.

In addition to the bird records we have made since last year, we have reviewed the literature and compiled a bird list of Lung Fu Shan and HKU (Table 1). A total of 90 species have been recorded so far. These include some locally rare and uncommon species such as the Blacked-winged Cuckoo-shrike, Eurasian Hooby, Grey Treepie, Plumbeous Redstart, Ferruginous Flycatcher and Brown-headed Thrush (Fig. 2). According to AFCD (2006) there are more than 150 bird species in Lung Fu Shan, although there was no detailed species list in the AFCD report. Useful references are Lock (2000) and So (1996, 2000).

Fig.1. Ferruginous Flycatcher (Photo: Billy Hau)

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Fig.2. Brown-headed Thrush (Photo: Allen To)

Table 1. Birds recorded at Lung Fu Shan. Unless specified, the records were made by the authors and other Environmental Life Science students. The status column refers to the status of the species in Hong Kong according to Viney *et al*. (2006).

English name	Species name	Month seen	Status	Source
Schrenck's Bittern	*Ixobrychus eurhythmus*	Spring 2000		Samson So
Cinnamon Bittern	*Ixobrychus cinnamomeus*	Spring 2000		Samson So
Black Kite	*Milvus migrans*	Year round	Very common	
White-bellied Sea Eagle	*Haliaeetus leucogaster*	Sept	Uncommon	So, 1996
Crested Goshawk	*Accipiter trivirgatus*	Year round	Common	
Buzzard	*Buteo buteo*	Oct - Nov	Common	
Eurasian Hooby	*Falco subbuteo*	Sept	Uncommon	So, 1996
Woodcock	*Scolopax rusticola*	Nov	Uncommon	So, 1996
Feral Pigeon	*Columba livia*	Year round	Very common	
Spotted Dove	*Streptopelia chinensis*	Year round	Very common	
Emerald Dove	*Chalcophaps indica*		1999	Samson So
Yellow Crested Cockotoo	*Cacatua sulphurea*	Year round	Very common	
Chestnut wing Cuckoo	*Clamator coromandus*			Samson So
Large Hawk Cuckoo	*Hierococcyx sparverioides*			Samson So
Koel	*Eudynamis scolopacea*	Year round	Common	
Greater Coucal	*Centropus sinensis*	Sept - Nov	Common	So,1996; Lock, 2000
Collared Scops Owl	*Otus bakkamoena*	2006		Samson So
Pacific Swift	*Apus pacificus*	Sept	Common	So, 1996
House Swift	*Apus nipalensis*	Year round	Common	
Common Kingfisher	*Alcedo atthis*	Oct	Common	So, 1996
Dollarbird	*Eurystomus orientalis*	Sept	Uncommon	So, 1996
Barn Swallow	*Hirundo rustica*	Sept - Nov	Common	Lock, 2000
Forest Wagtail	*Dendronanthus indicus*	Sept	Uncommon	So, 1996
Grey Wagtail	*Motacilta cinerea*	Sept	Common	So, 1996
White wagtail	*Motacila alba leucopsis*	Sept	Common	
Olive-backed Pipit	*Anthus hodgsoni*	Nov - Mar	Common	
Black-winged Cuckoo-shrike	*Coracina metaschistos*	Sept - Feb	Uncommon	
Scarlet Minivet	*Pericrocothus flammeus*	Nov	Common	
Red-whiskered Bulbul	*Pycnonotus jocosus*	Year round	Very common	
Chinese Bulbul	*Pycnonotus sinensis*	Year round	Very common	
Orange-bellied Leafbird	*Chloropsis hardwickii*	Nil	Uncommon	So, 1996
Rufous-tailed Robin	*Luscinia sibilans*	Nov - Mar	Uncommon	
Red-flanked Bluetai	*Tarsiger cyanurus*	Nov - Feb	Common	
Oriental Magpie Robin	*Copsychzrs saularis*	Year round	Very common	
Daurian Redstart	*Phoenicurus auroreus*	Sept - Nov	Common	Lock; 2000
Plumbeous Redstart	*Rhyacomis fuliginosus*	Nil		Samson
Grey Bushchat	*Saxicola ferrea*	1998		Samson So
Blue Whistling Thrush	*Myiophoneus caeruleus*	Year round	Common	
Scaly Thrush	*Zoothera dauma*	Sept - Nov	Uncommon	So, 1996, 2001
Japanese Thrush	*Turdus cardis*	Dec - Mar	Uncommon	
Common Blackbird	*Turdus merula*	Dec - Mar	Common	
Brown-headed Thrush	*Turdus chrysolaus*	Feb - Mar	Rare	
Grey-backed Thrush	*Turdus hortulorum*	Nov – Mar	Common	
Pale Thrush	*Turdus pallidus*	Feb – Mar	Uncommon	
Eye-browed Thrush	*Turdus obscurus*	Nov - Mar	Uncommon	
Dusky Thrush	*Turdus naumanni*	Spring 2000		Samson So
Streak-breasted Scimitar Babbler	*Pomatorhinus rufucollis*	Jan	Uncommon	
Masked Laughingthr	*Garrulax perspicillatus*	Year round	Very common	

English name	Species name	Month seen	Status	Source
ush				
Black-throated Laughingthrush	*Garrulax chinensis*	Year round	Common	
Hwamei	*Garrulax canorus*	Sept - Nov	Common	
Silver-eared Mesia	*Leiothrix argentauris*	Sept - Mar	Common	
Red-billed Leiothrix	*Leiothrix lutea*	Feb	Uncommmon	
White-bellied Yuhina	*Yuhina zantholeuca*	Sept - Nov	Uncommon	So, 2001
Asian Stubtail Warbler	*Urosphena squameiceps*	Nov - Mar	Common	
Japanese Bush Warbler	*Cettia diphone*	Nil	Common	So, 1996
Yellow-bellied Prinia	*Prinia flaviventris*	Sept - Nov	Common	So, 1996; Lock, 2000
Common Tailorbird	*Orthotomus sutorius*	Year Round	Very common	
Dusky Warbler	*Phylloscopus fuscatzrs*	Sept - Nov	Common	Lock, 2000
Radde's Warbler	*Phylloscopus schwarzi*	Mar	Uncommon	
Pallas's Leaf Warbler	*Phylloscopus proregulus*	Sept – Dec	Common	So, 1996; Lock 2000
Yellow-browed Warbler	*Phylloscopus inornatus*	Sept - Nov	Very Common	
Arctic Warbler	*Phylloscopus borealis*	Sept - Dec	Common	So, 1996; Lock 2000
Blyth's Leaf Warbler	*Phylloscopus reguloides*	Nov - Jan	Uncommon	
Grey-crowned Warbler	*Seicercus tephrocephalus*	Mar	Very rare	
Dark-sided Flycatcher	*Muscicapa sibirica*	Sept - Nov	Uncommon	So, 1996; Lock 2000
Asian Brown Flycatcher	*Muscicapa dauurica*	Sept - Mar	Common	
Ferruginous Flycatcher	*Muscicapa ferruginea*	Mar	Very rare	
Veriditer Flycathcer	*Eumyias thalassina*	1996		Samson So
Mugimaki Flycatcher	*Ficedula mugimaki*	Nov - Dec	Uncommon	
Asian	*Terpsiphone*	Sept -	Uncommon	So, 2001

English name	Species name	Month seen	Status	Source
Black-throated Laughingthrush	*Garrulax chinensis*	Year round	Common	
Hwamei	*Garrulax canorus*	Sept - Nov	Common	
Silver-eared Mesia	*Leiothrix argentauris*	Sept - Mar	Common	
Red-billed Leiothrix	*Leiothrix lutea*	Feb	Uncommmon	
White-bellied Yuhina	*Yuhina zantholeuca*	Sept - Nov	Uncommon	So, 2001
Asian Stubtail Warbler	*Urosphena squameiceps*	Nov - Mar	Common	
Japanese Bush Warbler	*Cettia diphone*	Nil	Common	So, 1996
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Pallas's Leaf Warbler	*Phylloscopus proregulus*	Sept – Dec	Common	So, 1996; Lock 2000
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Arctic Warbler	*Phylloscopus borealis*	Sept - Dec	Common	So, 1996; Lock 2000
Blyth's Leaf Warbler	*Phylloscopus reguloides*	Nov - Jan	Uncommon	
Grey-crowned Warbler	*Seicercus tephrocephalus*	Mar	Very rare	
Dark-sided Flycatcher	*Muscicapa sibirica*	Sept - Nov	Uncommon	So, 1996; Lock 2000
Asian Brown Flycatcher	*Muscicapa dauurica*	Sept - Mar	Common	
Ferruginous Flycatcher	*Muscicapa ferruginea*	Mar	Very rare	
Veriditer Flycathcer	*Eumyias thalassina*	1996		Samson So
Mugimaki Flycatcher	*Ficedula mugimaki*	Nov - Dec	Uncommon	
			Uncommon	So, 2001

English name	Species name	Month seen	Status	Source
Paradise-flycatcher	*paradisi*	Nov		
Yellow-bellied Tit	*Parus venustulus*	1996		Samson So
Great Tit	*Parus major*	Year round	Very common	
Plain Flowerpecker	*Dicaeum concolor*	1998		
Buff-bellied Flowerpecker	*Dicaeum ignipectus*	Sept – Nov	Uncommon	So, 1996; Lock 2000
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Sept - Nov	Common	So, 1996; Lock 2000
Fork-tailed Sunbird	*Aethopyga christinae*	Sept - Nov	Common	
Japanese White-eye	*Zosterops japonica*	Year Round	Very common	
Little Bunting	*Emberiza pusilla*	Nov	Common	So, 1996
Black-faced Bunting	*Emberiza spodocephala*	Nov	Common	So, 1996
White-rumped Munia	*Lonchura striata*	Sept – Nov	Very common	
Eurasian Tree Sparrow	*Passer montanus*	Year round	Very common	
Black-collared Starling	*Sturnus nigricoll*	Year round	Very common	
Crested Myna	*Acridofheres cristatellus*	Year round	Very common	
Blue Magpie	*Urocissa erythrorhyncha*	Sept - Mar	Common	
Grey Treepie	*Dendrocitta formosae*	Sept - Nov	Rare	So, 1996; Lock 2000
Magpie	*Pica pica*	Sept - Noc	Very common	So, 1996; Lock 2000
Large-billed Crow	*Corvus macrorhynchus*	Year round	Very common	
Budgerigar	*Melopsittacus undulatus*	Sept	Uncommon	So, 1996
Oriental Turtle Dove	*Streptopelia orientalis*	Nov	Common	
Red Collared Dove	*Streptopelia tranquebarica*	Sept – Nov	Uncommon	So, 2001

SWIMS tidings....

Another year seems to have come and gone since the last *Porcupine!*, but this does not reflect a lack of activity – rather a rather rapid passing of time! SWIMS, as ever, has been a centre of research activities, including hosting workshops and talks (the most notable being on tidal movements and patterns with the Hong Kong Marine Biological Association); receiving research visitors (from China, Germany, Italy, UK, Korea, Singapore, Russia) and participating in the second year of the highly successful Ocean Park Conservation Foundation Internships, during which students worked with giant pandas, river dolphins and baiji.

This year has also seen a huge increase in visitor numbers and outreach activities, the most ambitious involving 17 King George V school students on work experience, who, together with helpers from other Hong Kong schools and universities in the UK, Canada and of course our own HKU students, helped boost the research and also social activities at SWIMS.

We have also seen an influx of new research students and Post Doctoral fellows. Ex-SWIMS graduate, Dr Ng Wai Chuen, returned in January to coordinate an RGC project on barnacle distribution and genetics, joined by Dr Wai Tak Cheung, who has been working on the trophodynamics of marine communities. The SWIMS research community was further strengthened by the arrival of Dr James True, from James Cook University in Australia. James is a coral biologist and has initiated a system to cultivate and grow local corals. The transfer of Ms Joyce Ng to help establish culture facilities in SWIMS from the Kadoorie Agricultural and Research Centre has further enhanced this development.

Finally, congratulations to Drs Andy Cornish and Benny Chan who left SWIMS for new positions at WWF (HK) and Academia Sinica, Taiwan, respectively. We look forward to collaborating with them in the near future.

Gray A. Williams
Hon. Director SWIMS

MISCELLANY

Environmentally friendly mariculture - challenges of marine fish culture in Mainland China

by Liu Min

Mariculture production in Mainland China, inclusive of fishes, crustaceans, molluscs and seaweeds, has rapidly increased over the last two decades (Fig. 1). To date, more than 50 marine fish species from over 20 families are cultured, mainly in earthen ponds (Fig. 2) and inshore (shallow coastal water) floating cages (Hong & Zhang, 2003) (Figs. 3 & 4); offshore (deep water) submersible cages have recently been developed (Chen Jiaxin, unpublished data) (Fig. 5).

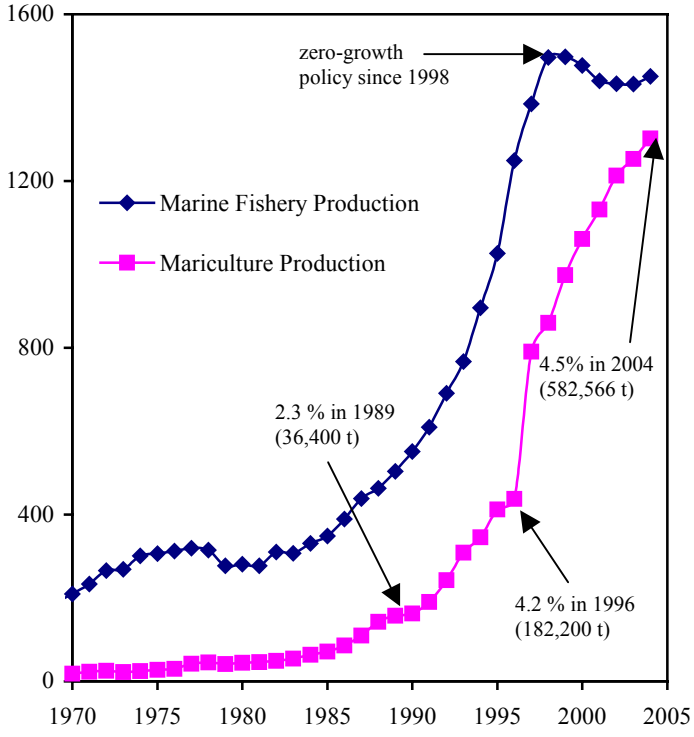

Fig. 1. Estimated annual marine production (including marine fishery and mariculture) (× 10,000 t) in Mainland China between 1970 and 2004, showing marine fish culture production by year (percentages are grow out rates) (http://www.lib.noaa.gov/china/aquaculture)
(Chen Jiaxin & Wong Jiangyong, unpublished data).

Here I do not intend to look into this industry in great detail. Instead, I discuss several of the problems that the marine fish culture industry in Mainland China faces. From both biological and ecological perspectives, these problems cannot be ignored, and greater focus is needed on a more environmentally friendly approach to mariculture. Major issues are the practice of grow-out of wild-caught fish (therefore continued exploitation of wild populations), alien species introductions, loss of genetic diversity and pollution from mariculture operations. Since pollution aspects associated with mariculture are well-known in the region (Yang *et al*., 2004), I will focus only on the first three issues.

Fig. 2. Earthen ponds for grouper and snapper culture in Lingshui (Hainan Province). The investment is relatively low. Fish culture is divided into certain stages, e.g. juvenile culture (from new-hatched larvae to about 5-10 cm TL), grow-out culture (from about 5-10 to 20 cm TL, <500 g), and market size culture (from <500 g to market size). Farmers only focus on one of these stages.

Fig. 3. Crowded inshore floating cages mainly for large yellow croaker (*Larimichthys* =[*Pseudosciaena*] *crocea*) culture in Ningde (Fujian Province). The culture production of this species from the Province contributed to more than 80% of the total national culture production of the species. In 2004, there were more than one million floating cages in Mainland China, with more than 50% in Fujian Province (Chen Jiaxin, unpublished data). (Photo: Prof. Chen Jiaxin).

Of more than 50 marine fish species cultured in Mainland China, only about 10 have achieved hatchery-based mariculture (i.e. both broodstock and cultured fish are from captive breeding) (Hong & Zhang, 2003); for the majority, wild-caught juveniles are the main source of grow-out culturing. The activity of 'growing-out' wild-caught fish in captivity is not relevant for addressing overfishing because it does not necessarily reduce fishing pressure on wild stocks of

Fig. 4. Inshore floating cages for multiple fish species cultured in a Hong Kong mariculture zone. The marine fish culture industry in Hong Kong faces similar problems to Mainland China and elsewhere, such as water pollution and diseases. Meanwhile, high operation investment in Hong Kong makes cultured fish prices higher than those in Mainland China, and less competitive (Chan 2005).

these species (Sadovy, 2001). For instance, for the Hong Kong grouper (*Epinephelus akaara*) (Fig. 6), listed as 'endangered' on the IUCN Red List in 2003 and the most expensive grouper in Hong Kong's live food fish market today, captive breeding has never been successful on a large scale since first attempted in the 1960s. The mariculture production of this species is still mainly from 'growing-out' wild-caught juveniles (Wang Hansheng, personal communication). Shortage of governmental financial support for biological and ecological studies, and with lack of management, its fishing condition and biological status have little chance to improve. Information on its spawning behaviour in the wild, spatial and temporal movement patterns and habitat use throughout its life cycle, population size, landing volumes and catch per unit effort are needed for carrying out management initiatives. Such information, in turn, can also provide guidelines to improve captive breeding techniques (Liu & Sadovy, 2006).

Fig. 5. Offshore submergible cages for cobia (*Rachycentron canadum*) and Greater amberjack (*Seriola dumerili*) culture in Nanao (Guangdong Province). These cages can be submerged when typhoons or red tides come.

Fig. 6. The Hong Kong grouper (*Epinephelus akaara*)

Second, there is no sufficient and effective management of alien fish species introductions in Mainland China, in general. Shandong Province, as one example, has introduced about 30 fish species (both marine and freshwater) for mariculture purposes over the last decade (Liu *et al.,* 2003). However, most of the species fail to establish themselves in culture operations in the region, mainly because of insufficient evaluation of the species before introductions, and because there is no effective management to maintain good economic characteristics following introduction. For instance, the turbot [*Psetta maxima* (= *Scophthalmus maximus*)] has to be repeatedly introduced from Europe due to the rapid loss of its 'good' characteristics (e.g. flesh quality, high growth rate) after one or two generations of captive breeding, which result in 'bad' characteristics (e.g. early maturation and albinism) (Liu *et al.,* 2003). For relatively successful species, current management is also not enough. For instance, the red drum (*Sciaenops ocellatus*), introduced from the United State in the mid-1990s, has had more than 10 million juveniles produced annually (Hong & Zhang, 2003), and the estimated mariculture production was about 43,500 tonnes (about 7.5% of the total marine fish culture production) in 2003 (Zhou & Wang, 2004). Considering its adaptability, the possibility of the species establishing itself in the wild with unknown consequences cannot be ignored (Sadovy, 2000) (Fig. 7). In another case, an introduced fish species, the redtail catfish (*Phractocephalus hemiolioterus*), was caught from the Pearl River Estuary (Fig. 8). Using closed systems and sterile individuals for culturing introduced fish species should be considered.

Third, apparent losses of characteristics considered to be of economic value (e.g. flesh quality, high growth rate and disease assistance) and genetic diversity in maricultured fish species, are not uncommon. For instance, cultured individuals of the large yellow croaker *Larimichthyes* (= *Pseudosciaena*) *crocea*, after several generations in captivity, mature at younger age and smaller size, and have slower growth rates and lower genetic diversity than wild-caught individuals (Liu & Sadovy, unpublished manuscript). It is also noted that the genetic diversity of its wild stocks is particularly low. There are at least three possible explanations. First, this species was heavily exploited at its spawning and over-wintering aggregations between the 1950s and 1970s with almost no

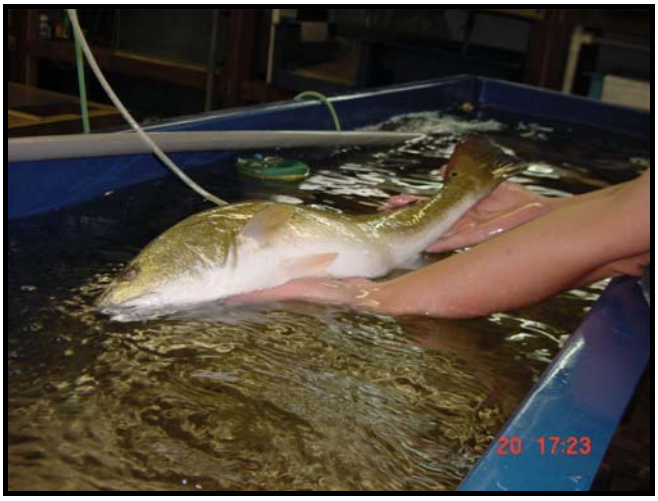

Fig. 7. An individual of the red drum (*Sciaenops ocellatus*) was caught in the bay of the Swire Institute of Marine Science (SWIMS) on 20/06/06. The culture scale of this exotic species in southern Mainland China is large; the individual could have escaped from fishing vessels during transport or from floating cages or even intentional releases.

fishery management. Its fishery collapsed in the 1980s. Since then its spawning aggregations have never reappeared. Second, captive breeding started, following over-exploitation, by using only small number of broodstock from the wild and then a small number of broodstock was taken from captive-bred individuals. This may reduce the genetic diversity of the species after several generations in captivity. Third, large-scale and long-term restocking programmes in the last decade in the East China Sea, the major source area for this species, by restocking captive-bred juveniles with low genetic diversity, may further contaminate the gene pools of its wild stocks. The case of the large yellow croaker sends a clear message of the importance of maintaining genetic variation, conserving biodiversity, and of timely, sufficient and effective management.

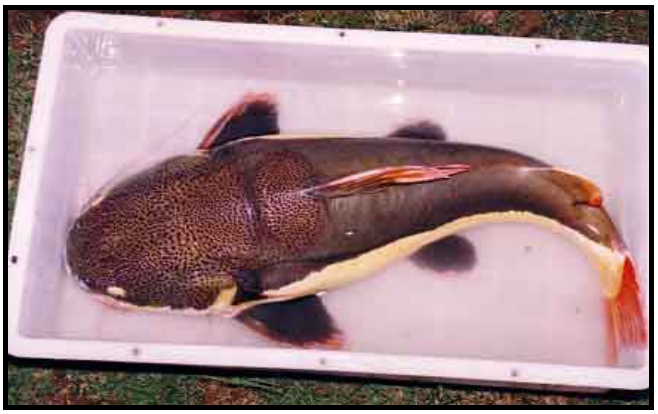

Fig. 8. The redtail catfish (*Phractocephalus hemiolioterus*), a freshwater fish that naturally occurs only in South America. This species was introduced into Mainland China in the late-1990s for public aquarium exhibition. An individual was caught from the Pearl River Estuary in 2001.

To date, offshore submersible cage culture (Fig. 5) is considered to be one of the environmentally friendly mariculture modes in Mainland China, and has been promoted by fishery departments through financial support to investment companies. The economic benefits reported relate to high survival and grow rates, and, presumably, reduced pollution risks for inshore waters. Because of the high cash input necessary for the submersible cage culture industry, most traditional, inshore, small-scale, floating cage culture farmers cannot become involved (Fig. 9). Therefore, inshore cage culture operations, have little prospect of becoming reduced or abandoned, at least in short term, and the associated environmental problems in inshore waters will not be improved or become solved (Fig. 10). Developing offshore cage culture should be planned together with reducing inshore culture scales to achieve the ideal plan for environmentally friendly mariculture.

Fig. 9. Meeting with farmers in Nanao (Guangdong Province), to discuss the future of mariculture development.

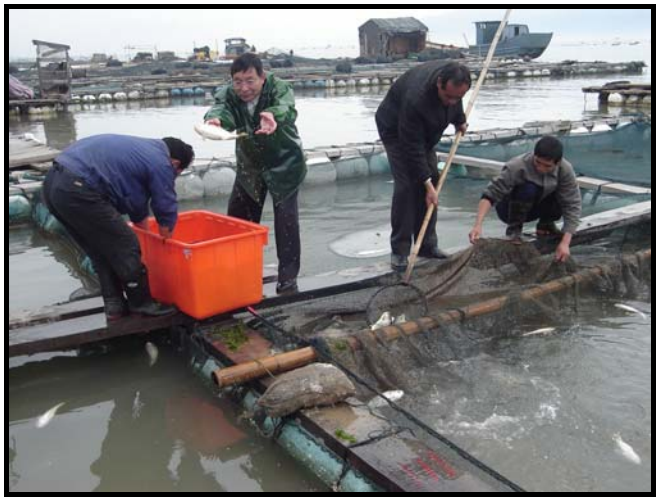

Fig. 10. High fish mortality in inshore floating cages when disease breaks out. (Photo: Prof. Chen Jiaxin).

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Note: On 7-11 March 2006, a workshop on the responsible development of mariculture in the Asia-Pacific region was organized by the Food & Agriculture Organization of the United Unions (FAO) and the Network of Aquaculture Centre in Asia-Pacific (NACA). More information about marine fish culture in the Asia-Pacific region is available from http://www.enaca.org/marinefish.

Environmental Life Science Society activity review

by Executive committee of ELSS
email: elsshku@hkusua.hku.hk

The Environmental Life Science Society (ELSS) is going through its second session since establishment in 2005. During our first six months, the new executive committee was created and various activities were organized. For example, the Super-Pass Dinner, an Eco-tour to Mai Po, an Inauguration Ceremony, a Careers Workshop, a Photo Taking Competition and Exhibition, and the ELSS Football Competition. Let us briefly introduce two of our activities: the Eco-tour to Mai Po and Careers Workshop.

ELSS aims to promote the study of Environmental Life Science and arouse interest in ecology and environmental protection; hence we organized a tour to Mai Po for our members on 6 January 2006 (Figs. 1 & 2). We were grateful to have Dr. Billy Hau, Mr. Yu Yat Tung and several postgraduates as our guest guides. About 30 members participated and this provided an excellent opportunity for our members to know more about the habitat and species in this Wetland of International Importance under the Ramsar Convention. We all enjoyed the trip and have developed various interests in this field.

To provide information and advice for ELSS members on their future careers, we organized a Career Workshop on 24 March 2006. Three ENS graduates: Dr. Alan Leung (Senior Conservation Officer, WWF Hong Kong), Dr. Ng Sai Chit (Senior Conservation Officer, KFBG) and Mr. Terence Fong (Senior Consultant, Environmental Resources Management Ltd) kindly came to the workshop as our guest speakers to

Fig. 1. ELSS trip to Mai Po.

share their working experiences and possible challenges in finding a career. Furthermore, under the friendly atmosphere, there were many interactions throughout the workshop. All the participants now know much more about career prospects in the field of Environmental Life Sciences.

We have also produced an Electronic Magazine – "Leaf with U" which includes a variety of interesting topics. Please visit this link to get the Magazine and know more about our society: http://web.hku.hk/~elsshku

Finally, we would like to take this opportunity to express our gratitude to all Departmental staff, graduates, postgraduates and members who have given us so much support and advice over the past six months. Although we did not accomplish all our goals, we will continue to do our best for the interests of our members, and serve as a bridge between the Department and our members.

Fig. 2. Bird watching at Mai Po.

Will Luk Keng become another Sham Chung?

by Fion Cheung

Luk Keng is the largest (32 ha) freshwater marsh in Hong Kong (Dudgeon & Chan, 1996). It was designated as a Conservation Area (CA) by the Town Planning Board in 1994 and ranked 4th out of 12 priority conservation sites identified in the New Nature Conservation Policy of Hong Kong (AFCD, 2004) [see the front page article]. With this designation and also the high ranking in the new policy that the government has attributed Luk Keng, the site appears to be well protected. However, no "real" protection or management has ever been implemented. On the contrary, since 1999 disturbing activities, including flying model aeroplanes and helicopters in the freshwater marsh, have been reported to affect water birds which roost and feed there (Wong, 2000 & 2002), especially on Sundays and public holidays. This situation is worrying because, in the monthly bird survey conducted in February 2005, a juvenile Black-faced Spoonbill (*Platalea minor*), a globally threatened species listed as endangered and with an estimated world population of less than 700 (Viney *et al.*, 2005), was found using Luk Keng as a feeding site (Fig. 1). Three more roosting juveniles were recorded in April 2006 (Fig. 2).

Fig. 1. A juvenile Black-faced Spoonbill recorded at Luk Keng in December 2005 (Photo: Fion Cheung).

Besides birds, Luk Keng is also an important site for invertebrates. It has the highest species richness of aquatic macroinvertebrates when compared with other freshwater wetlands in the territory (Dudgeon & Chan, 1996). In a biweekly adult dragonfly survey started in February 2005, more than one third of the total Odonate species in Hong Kong were recorded, including the globally-endangered Four-spot Midget (*Mortonagrion hirosei*, Figure 3), and six locally-uncommon species (Wilson, 2004): Dusky Lilysquatter (*Cercion calamorum*), Eastern Lilysquatter (*C. melanotum*), Blue Sprite (*Pseudagrion microcephalum*), Chinese Tiger (*Gomphidia kelloggi*), Coastal Glider (*Macrodiplax cora*) and Emerald Dwarf (*Nannophyopsis clara*). Horseshoe crabs (*Tachypleus tridentatus*) were also found breeding in the mangrove area of Luk Keng.

Fig. 2. Three juvenile Blacked-faced Spoonbills recorded in April 2006 (Photo: Fion Cheung).

Fig. 3. A mating pair of *M. hirosei* (Photo: Allen To).

All these data highlight the ecological importance of Luk Keng, just as the wildlife recorded at Sham Chung in the past showed its biological importance. Despite the occurrence of rare species, e.g. Black Paradise Fish *Macropodus concolor* and Brown Fish Owl *Ketupa* zeylonensis, the 7 ha Sham Chung freshwater marsh has already been destroyed under the guise of farming…turf grass (Fig. 4). Now, though it is unofficial, Sham Chung has become a golf course (Fig. 5). Although Luk Keng is a CA, "agricultural use" is also permitted. It is of utmost importance that we keep a close watch on Luk Keng and stop any unfavourable activities or development .

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See also *Porcupine!* 16, 19 and 21 and the update on Sham Chung in this issue.

Fig. 4. Will this heavy machine arrive at Luk Keng one day? (Photo: Allen To).

Fig. 5. Nothing is impossible! Building a golf course by filling in an ecologically important freshwater marsh in Hong Kong (Photo: Allen To).

A fruitful visit to fish larval laboratory in Taiwan

by Anna Situ

While working on the taxonomic composition of fish larvae in Cape d'Aguilar Marine Reserve, I found that there are scarce records, studies and literature on the diversity and abundance of fish larvae in Hong Kong, and no local fish larvae experts. In September 2005, I visited Professor Chiu Tai-Sheng's laboratory at National Taiwan University in Taipei to get training on fish larvae identification under his supervision.

Professor Chiu (Fig. 1) is in charge of the Economic Fish Laboratory in the Institute of Zoology under College of Life Science in National Taiwan University (http://zoology.lifescience.ntu.edu.tw/english/index.htm). His research focuses on the ecology of larval fishes and fisheries genetics. Being the first one to examine species composition and distribution of fish larvae in Taiwan, Professor Chiu has made extensive contributions to larval biology and ecology since the 1980s, including the establishment of a systematic collection of over 50,000 specimens, a database of the geographical distribution of all species around Taiwan, and publication on fish larvae of Taiwan (Chiu, 1999). Currently, his research team (1 post-doctoral fellow, 4 postgraduate students and 2 technicians) concentrates their work on using molecular techniques to investigate the population structure of mackerel, anchovy, ribbonfish and squids.

Fig.1. With Professor Chiu and all lab mates

During my two-week visit, I was trained with techniques in larval identification and learned about the morphological features of different families and procedures of larval staining and illustration (Figs. 2 & 3). Larval staining clears the body tissues of fish and stains the vertebrae and fin rays with a series of chemicals; counts of the numbers of the two structures are often essential characters for identification to genus and species level. I learnt a lot from the rich experience of Professor Chiu's laboratory and got good background knowledge for my project. After verification of my previous identification, I found over 40 families (out of about 100 families recorded in Hong Kong), and at least 84 species of fish larvae recorded in my eight-month samples from Cape d'Aguilar.

From the visit, I was impressed that the Taiwanese government has put much effort into marine resources research. At the National Taiwan University, I found many on-going projects on marine resources around Taiwan. There are three departments, namely: Institute of Zoology; Institute of Fishery Biology; and Institute of Oceanography that conduct research on a wide variety of habitats and taxa. They also offer a wide range of courses to undergraduate and

postgraduate students such as Ecology of Early Life Fish, Fish Diseases, and Ecology of Plankton. I believe that investment in such research and training are also needed in Hong Kong if the government intends to set up a long-term management plan for the sustainable use of local fisheries and other marine resources.

Besides a good experience in laboratory, I also had a great tour around Taipei's night markets! I would like to thank Dr. Sadovy for the funding, and Professor Chiu and all lab mates in his lab for their generosity in hosting my visit.

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Fig.2. The lab in National Taiwan University I worked in.

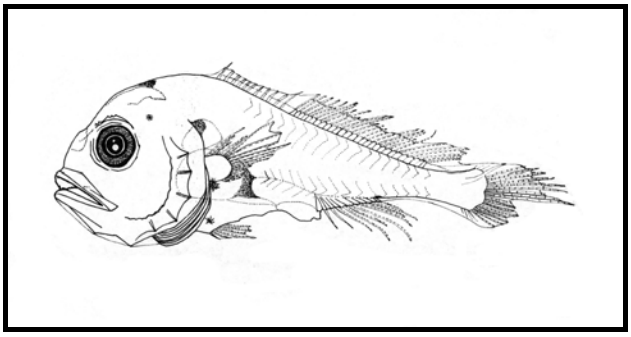

Fig. 3. A croaker (Sciaenidae) larva drawn by Anna Situ and Vivian Fu.

Birdbrains in Big Bird Race 2006

by Tony Hung (ENS 2)

The Big Bird Race 2006 was held from 5 pm on Friday 3 March 2006 to 5 pm the following day. This year, our team - the Swire Birdbrains (Fig.1) was led by Dr. Billy Hau and our team members included Yu Yat Tung (ENS graduate), Tony Hung, Cindy Yuen, Vivian Fu, Vivian Lam, Hey Sung, Philip Yip and Gracie Liu (all ENS Year 2 students). The weather was perfect for birding - a cool, yet sunny, day.

Fig. 1.Swire Birdbrains finishing the Race at Mai Po.

We started at Tsim Bei Tsui, since Mai Po was closed this year due to the avian flu. We arrived at Tsim Bei Tsui earlier, at 3.30 pm, to check out the birds first. We started the race at 5 pm sharp and recorded a Grey Bushchat, which is new to all members except Tung and Billy. We were thrilled to have recorded 71 species in Tsim Bei Tsui and then continued with our "night journey", searching for nocturnal birds such as owls and nightjars. We stayed up until 11 pm without wanting to go back, as the feeling was one-of-a-kind - everything was pitch black and silent until we saw two big "light bulbs" flashing at us, which turned out to be birds! It was definitely worth it despite our weariness. We saw the species, a Savannah Nightjar and a Barred Owlet, several times, raising our count to 73 species on the first day. Although we failed to hear the calls of a Collared Scops Owl we saw it on the morning of the second day. We stayed over at Dr. Hau's place at Morrison Hall and got up at 5 am in the morning. We are immensely grateful to Dr. Hau, he got up earlier than the rest of us to prepare a scrumptious breakfast! The first stop was at the Peak at 6 am to listen for bird calls and then we went back to HKU where we saw our first bird of the day – the Brown Headed Thrush which we had seen every day for two weeks before the race. Then, we went to Tai Po Kau to look for forest birds. Birding at Tai Po Kau is always unpredictable and we were not so lucky this time - recording only 9 species in 2 hours! Undaunted by this setback, we then moved into full throttle at Lam Tsuen, Shek Kong, Long Valley, Nam Sang Wai, Kam Tin and Tam Kong Chau.

We ended up with 138 species which ranked us 6th amongst the 11 competing teams. We were also lucky to have recorded some unique species that other teams did not record in the race like Brown Headed Thrush, Mew Gull, Eyebrow Thrush, Hainan Blue Flycatcher and Hume's Leaf Warbler. Although Mai Po was closed this year, the winner had a total of 158 species which was more than last year's number when Mai Po was one of the observation areas! We raised more than HK$22,000 this year and had tremendous support from 133 sponsors (second highest number of sponsors). A big thank you to all the sponsors and to Professor Dudgeon for sending pledge forms out to staff in HKU. We had lots of ups and

downs during the bird race and enjoyed every single minute of it. As a bonus, each of us got "ticks" for spotting new bird species.

We would like to take this opportunity to show our greatest gratitude to Billy and Tung; Billy for giving us the opportunity to participate in this race and driving us, although he didn't have enough sleep before the race, and Tung for helping us to find so many birds through his amazing bird watching and listening skills! We all can't wait for the next BBR in 2007!

Kadoorie Farm & Botanic Garden - wildlife updates & sightings

by Gary Ades, Roger Kendrick, Amanda Haig, Tan Kit Sun, Peter Paul van Dijk & Captain Wong

General wildlife sightings were posted on the KFBG Wildlife Sightings Board on a fortnightly basis up to mid-April 2006, with records provided by staff and visitors. Many records were generated by the Security team on night shifts. From the middle of April, a new board was introduced at the New Reception, which is updated more frequently with regularly seen wildlife; more unusual sightings are now posted on the KFBG website (www.kfbg.org).

(1) The following sighting records from Kwun Yum Shan (KYS) and elsewhere in KFBG (see map in *Porcupine!* 33 for locations) were posted between October 2005 and May 2006:

October 05

- 2 October, an adult wild boar with 3 piglets behind the Conservation Building.
- 8 October, an adult masked palm civet with 5 young civets at the Apiary.
- 16 October, a Chinese cobra eating a frog below Kwun Yum Shan summit.
- 26 October, three Malayan porcupine at the Upper Canteen.

November 05

- 2 November, three young masked palm civets near the Heli-pad.
- 4 November, a wild boar with 5 piglets at the Parrot Sanctuary.
- 6 November, two masked palm civet at Magnolia Falls.
- 10 November, two wild boar at the Golden Pavilion.
- 15 November, a coral snake at the Apiary.
- 18 November, a masked palm civet near Orchid Haven.
- 25 November, three Malayan porcupine near the Upper Canteen.

December 05

- 2 December, two small wild boar at the heli-pad.
- 9 December, three wild boar at the Parrot Sanctuary.
- 13 December, two barking deer near the Post Office Pillars.
- 17 December, a mother wild boar & 5 piglets near Raptor Sanctuary; one masked palm civet in tree near road junction above Signpost Corner; one Malayan porcupine on the road halfway between Post Office Pillars and the Butterfly Garden; a small Indian (seven banded) civet near the Kadoorie Brothers Memorial Pavilion.
- 20 December, a mother wildboar with 5 piglets at parrot sanctuary at 00.30.

January 06

- 2 January, a masked palm civet at the T.S.Woo Pavilion.
- 10 January, three Malayan porcupine at the Apiary.
- 17 January, a leopard cat at Cock's Summer Camp.
- 22 January, a masked palm civet at the Heli-pad.
- 24 January, flowering trees near T.S.Woo Memorial Pavilion attracted an orange-bellied leafbird, a verditer flycatcher and a forktailed sunbird to feed (Fig. 1).

Fig. 1. Orange-bellied Leaf bird, Fortailed Sunbird and Verditer Flycatcher, at KFBG, 24 January, 2006.

- 26 January, a verditer flycatcher at the Old Deer Haven and Constructed Wetland
- 27 January, a wild boar with 5 piglets at Great Falls arch.

February 06

- 3 February, a mother wild boar with four piglets at the Administration Office.
- 8 February, a masked palm civet at Magnolia Falls.
- 13 February, three Malayan porcupine at Upper Canteen.
- 25 February, two Indian moon moths (*Actias selene*), one at Misha's Bungalow and one at the Butterfly Garden
- 26 February, a baby Mountain racer snake (Fig. 2) at the Chicken Houses; a juvenile red mountain racer was photographed in the early afternoon near the Norman Wright Chicken House.
- 27 February, a barking deer at Signpost Corner.
- 28 February, a mother wildboar with three piglets above the Raptor Sanctuary.

Fig. 2. A juvenile Red Mountain Racer (Photo: KFBG)

April 06

- 1 April, a Japanese pipistrelle bat; Butterfly Garden - visual and on call with detector; a Himalayan leaf nosed bat; west ridge close to post office pillars - visual and on call with detector; one adult wild boar crossing east ridge road near mandarin orchards; one Malayan porcupine entering rock caves on Western ridge (marked by tracking powder); several collared scops owls calling throughout the Farm; lesser spiny frog; calling in upper stream near Magnolia Reservoir; a Chinese water snake in the Lotus Pond; several Hong Kong newts in the Lotus Pond and lower stream and one masked palm civet on the Eastern ridge road between Orchid Haven and Signpost Corner.
- 3 April, a yellow-bellied weasel in the lower stream area was photographed by a KFBG visitor Mahler Ka – this is the first confirmed record of this mammal at KFBG and one of only a handful of sightings in Hong Kong (Fig. 3).

Fig. 3. A yellow-bellied Weasel (Photo: Mahler Ka)

- 14 April, an atlas Moth at the Lam Kam Road car park pick up / set down area wall.
- 23 April, a mountain stream snake in the lower stream near the Streamlife Display and an Anderson's stream snake in the Lotus Pond; several birdwing butterflies (*Troides helena*) were seen flying in the lower farm area.

May 06

- 7 May, a Chinese cobra near the Butterfly Garden.
- 10 May, a young Malayan porcupine was photographed at Orchid Haven.

In addition to the general sightings, Peter Paul van Dijk, Director of the Conservation International CABS Tortoise and Freshwater Turtle Conservation Program, visited KFBG in early March and made a couple of forays onto the hillside, noting the following:

4 March, 21.00-01.00

- Hong Kong Newt – at least four individuals seen in pool by Native Mammal Display. One modest-sized adult (male?) animal seen bending its tail forward and fanning towards another, larger animal.

- *Leptolalax* cf. *pelodytoides* – several calling animals heard in upper stream area. Group of three seen besides rock on sand right at water's edge; photographed. Another calling animal traced to a mud & tree root clump on top of large boulder in streambed (also photographed).

- Hong Kong Cascade Frog – well over a dozen animals seen on various cascade/waterslide sections in the upper stream, some photographed.

- *Paa paraspinosa / exilispinosa* – almost a dozen animals seen in the upper section of the stream. Magnificent eye shine, very wary, none could be easily approached to within photographing distance.

- Guenther's Frog – one small adult seen in stream by Native Mammal Display.

- *Polypedates* cf. *megacephalum* – Several distinctive tadpoles (olive, heavy-bodied, white nose spot) seen in a water lily bowl at the entrance to the Kadoorie Brothers Memorial Pavilion (600 m a.s.l.).

- Big-headed Turtle – three individuals seen in the upper Farm area.

- Small mammal, probably civet (based on eye shine, modest size, no hoof sounds but noisy scrambling up steep slope), as well as heard a larger mammal (barking deer? pig?) run off on a slope, and heard a barking deer run off in the orchards, barking several times when it was at a safe distance.

5 March, 20.00-21.00h.

- Hong Kong Newt – One seen at 14.45 walking on concrete walkway besides Streamlife Display, with a dozen ants crawling over it. Thin animal with regenerated toes on one foot. Removed ants, placed at streamside for photographs, it then walked & swam away into the pool. At night, one large animal seen in koi pond, missing left front foot. Photographed. A few more animals seen in same stream pool as 4 March 2006.

- Asiatic Common Toad – lots everywhere along the roads, drains, streamside, apparently mostly on the move towards breeding pools. A few calls heard at lower farm area.

- Hong Kong Cascade Frog – one large animal seen at upper part of stream section visited, on steep waterslide.

- Guenther's Frog - Several small individuals at Wildlife Pond, giving 'kwek' calls – very small animals for mature calling males – social calls?

(2) Fauna Conservation Department Project News:

The monthly moth survey [Roger Kendrick]

Light trap recording has taken place on seven evenings or nights between late October 2005 and mid May 2006. At least 440 species were recorded, not including data for the last two sessions awaiting analysis At least one macro moth species was recorded in Hong Kong for the first time: *Thinopteryx crocoptera* [Geometridae], in the Butterfly Garden on 26 November 2005. In addition, several older records have been verified, resulting in two new species to Hong Kong – *Scopula pulchellata* [Geometridae] from the Butterfly Garden on 24 April 2003 and *Marapana pulverata* [Noctuidae] also from the Butterfly Garden on 12 May 2001.

Wild Animal Rescue Centre (WARC) [Amanda Haig, Tan Kit Sun]

The number of birds admitted to the centre over the winter period was less than 1/3 of the usual intake. It is suspected that this may be due to the current Avian Influenza situation where birds are being routed directly to HK Govt animal holding facilities.

The construction of a long-awaited flight (Fig. 4) test cage was completed in late March. Its design, uniquely conceived by Fauna Conservation staff, comprises four recycled China Light Power wooden telephone poles, a cable-suspended soft netting structure and sand covered floor. The design prevents occupants from damaging themselves during flight-testing and can easily be taken down during times of inclement weather to prevent damage.

Fig. 4. New flight test enclosure and releasd Crested Serpent Eagle (Photo: KFBG)

As reported in the last edition of *Porcupine!,* the Crested Serpent Eagle *Spilornis cheela* that had suffered a hip fracture having been struck by a truck at Man Kam To made a full recovery and was released in late November 2005.

Animal rehoming to range country organisations involved in captive breeding & conservation projects for those species included:

34 critically endangered Vietnamese pond turtles (Fig. 5), *Mauremys annamensis*, which included two adults rescued from Hong Kong markets and 32 offspring born in captivity, were returned by Kadoorie Farm and Botanic Garden to Vietnam on 10 May. The returnees and their offspring were transferred to the Turtle Conservation Center (TCC) at Cuc Phuong National Park where the government runs a conservation program for critically endangered species, including the Vietnamese pond turtle. "Eventually, the turtles may be released in central Vietnam where they originated", says Bui Dang Phong, manager of the TCC for Cuc Phuong National Park. Mr. Phong says he is elated to see the turtles finally make it back to Vietnam. See the website link for further information.
http://www.asianturtlenetwork.org/library/ATCN_news/2006_articles/Press_release_Endemic_Vietnamese_Pond_turtles_come_home_05_06.html

One Large Malaysian Giant Turtle (Fig. 5) (*Orlitia borneensis*) to Taiping Zoo, Malaysia, where it joins other *Orlitia* in a large lake.

Fig. 5. Rehomed turtles: Malaysian Giant Turtle (left) and Vietnames Leaf Turtle (right).

Below is a list of some of the animals received by the WARC that have been successfully rehabilitated and subsequently released since mid-October 2005.

SPECIES	LOCATION FOUND	RELEASE DATE	RELEASE LOCATION
RAPTORS			
Crested Serpent Eagle *Spilornis cheela*	Man Kam To	25.11.05	KFBG
Crested Serpent Eagle *Spilornis cheela*	Sai Kung	29.11.05	KFBG
Crested Goshawk *Accipiter trivirgatus*	Deep Water Bay	29.12.05	KFBG
Common Buzzard *Buteo buteo*	Tsing Yi	29.12.05	Fanling
Asian Barred Owlet *Galucidium cuculoides*	Lam Tsuen	01.01.06	Lam Tsuen
Oriental Hawk	Kowloon Tong	03.01.06	KFBG

SPECIES	LOCATION FOUND	RELEASE DATE	RELEASE LOCATION
Owl *Ninox scutulata*			
Crested Goshawk *Accipiter trivirgatus*	Sai Wan Ho	18.01.06	Fanling
Common Buzzard *Buteo buteo*	KFBG	25.01.06	KFBG
Asian Barred Owlet *Galucidium cuculoides*	Yuen Long	07.02.06	Yuen Long
OTHER BIRDS			
Chinese Pond Heron *Ardeola bacchus*	Tsim Sha Tsui	21.10.05	Kam Tin
Chinese Pond Heron *Ardeola bacchus*	Wan Chai	21.10.05	Kam Tin
White-rumped Munia *Lonchura striata*	Ocean Park	02.11.05	Tai Po Kau
Chestnut Bittern *Ixobrychus cinnamomeu*	Causeway Bay	04.11.05	Kam Tin
Eurasian Woodcock *Scolopax rusticola*	Sau Ying Pun	11.11.05	Tai Po Kau
Spotted Dove *Streptopelia chinensis*	Ocean Park	11.04.06	KFBG
Cattle Egret Ardeola ibis	Sai Kung	11.05.06	Kam Tin
Red-whiskered Bulbul *Pycnonotus jocosus*	KFBG	18.05.06	KFBG
MAMMALS			
Asiatic Lesser Yellow House Bat *Scotophilus kuhlii*	Launtau	26.01.06	KFBG

(3) Other News

Lepidoptera Conservation Symposium (Roger Kendrick)

As reported in *Porcupine!* 33, KFBG will host the first South East Asian Lepidoptera Conservation Symposium between the 4 and 8 September 2006.

Key speakers include leaders in their field at the regional and global level. They include:

- Prof. Roger Kitching (Griffith University, Australia, a renowned invertebrate conservationist and tropic forest ecologist who has visited DEB in the past);
- Dr. J. Holloway (author of Moths of Borneo – the most complete documentation of moths in Asia and a proponent of using moths as biological indicators);
- Dr Li Hou Hun (author of Gelechiidae of China);
- Dr. Yen Shen-horn, National Sun Yat Sen University, Taiwan, a specialist in the moth families Crambidae and Zygaenidae, as well as supervising many projects of Lepidoptera taxonomy and conservation;
- Dr. Wang Min, South China Agricultural University, Guangzhou, China; Lycaenid expert and supervising students studying a range of lepidopterous conservation and taxonomic issues;
- Representatives of Penang Butterfly Farm, the foremost such business in S.E. Asia with a conservation remit.

Anyone interested in participating in the symposium should contact the Fauna Conservation Department at fauna@kfbg.org. Further information on the symposium is available on-line at

http://asia.geocities.com/hkmoths/SEALCS2006/.

Sham Chung –updates (Captain Wong)

The Sham Chung wetland (Fig. 6) was destroyed and converted into a golf-course turf area in 1997 (*Porcupine!* **19**). This wetland was regarded as one of the top five freshwater wetlands in Hong Kong in 1996 and it was identified as one of the 12 ecological hotspots in the New Hong Kong Nature Conservation Policy in 2004 [for related article, see p. 27].

Since its destruction in 1997, the lowland has been further trashed through mangrove cutting, unauthorized river training and further farmland destruction. However, no enforcement action has been undertaken, as most areas are designated private lands and no suspects have been observed during enforcement activities.

On 3 February 2006, a Development Permission Area (DPA) plan was gazetted. This offers statutory authorization for the Planning Department to undertake enforcement and prosecution in regard to unauthorized developments on private lands. The planning intention of Sham Chung, a pocket area surrounded by Sai Kung West Country Park, is to conserve the areas of high significance and rural character, as well as to maintain the unique landscape and cultural heritage of the area. According to this plan, Sham Chung will provide housing for 570 people.

In the DPA plan, Sham Chung is zoned as follows:

- "Conservation Area" (16.09 ha): hillside, a lowland stream in the southwest and farmlands on higher ground,
- "Green Belt" (2.67 ha): Villages at the foot of the hills at the boundary of the Country Park,
- "Agriculture" (8.33 ha): the turf area (previous freshwater wetland) in the south and some lowland streams,

- "Village Type Development" (V-zone, 2.64 ha): villages in the east; coastal wetland; abandoned fields in the north, and part of a lowland stream, and
- "Coastal Protection Area" (2.64 ha): mangrove and coastal wetland

Drawbacks

1. Inappropriate zoning of habitats

According to the findings of a KFBG site visit on 29 March 2006, the coastal wetland is zoned as "V-zone" and "Agriculture", while a lowland stream with mature riparian vegetation also falls within the boundary of "V-zone". Coastal wetland and lowland stream areas are not ideal places to build small houses.

2. The environmental "vandal" benefits

Most of the previous freshwater wetland area is zoned as "Agriculture". If it had not been converted to grow turf in 1997, no one could argue against the wetland being zoned as a "Conservation Area" due to its high ecological value. Areas zoned as "Agriculture" are often considered as 'landbanks' for further development.

3. Sham Chung - a small town?

Like similar planning forecasts in the rural NT, the projection of 570 residents at Sham Chung is unrealistic. No one is likely to build small houses at a place with no access road.
Taking the case of Tai Long Wan as an example, although the Planning Department's population projections dropped from 200 in October 2001 to 117 in 2006, the actual rural population is still less than 10! This indicates that demand for small house development in remote areas with poor access, i.e., no road, is very low, although land has already been reserved for them.

So, why do we need to reserve a large area for a population of 570 residents that does not and is unlikely to ever exist? Also, how many small houses and how much infrastructure should be built for housing this expected population? Is this a good use of taxpayers' money? Could the natural beauty, biological diversity and rural character of Sham Chung still be preserved if there are 570 residents?

4. Stream protection - buffer area

It is good to note that a lowland stream is zoned as a "Conservation Area" due to the presence of rare freshwater wildlife. However, as there is no buffer area to separate the stream from the nearby "Agriculture" area, any inappropriate agricultural activity could cause a direct impact on the aquatic wildlife in the stream.

Another side to the story

While green groups suggest keeping Sham Chung as natural as possible, the SCMP reported on 18 April that there is plan to include a helicopter landing pad (later denied by the planner), a holiday camp, a resort-style hotel, houses, a picnic area, a private club, a Catholic church, a recreation centre and sport centres at Sham Chung. These urbanization developments are claimed to be compatible with the area's rural setting, and amazingly with the recognition of Sham Chung as one of the 12 sites under the New Nature Conservation Policy. This seems completely illogical!

Recommendations

Apart from zoning the lowland habitats as green zones, the "V-zone" boundary could be much reduced as re-development of old houses at the original villages in land zoned proposed as Green Belt may meet the demand, if any. It is also suggested that the Town Planning Board should encourage wetland restoration at the previous freshwater wetland area by giving a 'green' zoning to this disturbed area.

Further Information

An in-depth article on this issue has been published in the April 2006 issue of Green Country (volume 59, pp 2-9).

Fig. 6. Shum Chung today.

WILD CORNER

Any sightings of civets, mongooses, ferret badgers, leopard cats, barking deer, pangolins and porcupines – live or dead – should be reported. Rare birds, reptiles, amphibians and fishes, or unusual behaviour by common species, are also of interest, as are rare or interesting invertebrates and plants. If you think it is interesting, our readers probably will! Please give dates, times and localities as accurately as possible

MAMMALS

Anton Webb reported the sighting of a large **Barking Deer** near his home in Sai Kung. He was driving along Tai Mong Tsai Road at approximately 10.30 pm on 25 May 2006 when he noticed what he initially thought was a large dog standing at the side of the road. He slowed down and as he drew nearer he realized that it was a Barking Deer. The deer remained quite still and he stopped the car 1.7 m from the deer. The deer was approximately 50-60 cm at the shoulder.

A Small **Indian Civet** *Viverricula indica* was seen by Bosco Chan foraging close to the 'barbecue restaurants' in the evening of 15 April 2006 at the mudflat of Tai Tam Harbour by the outflow of the Tai Tam Tuk Reservoir.

Janet Walker and Richard Brooks saw a **Masked Palm Civet** in Barker Road, The Peak, (near no. 28) on Wednesday 6 April 2006 at around 4 to 5 pm. It was estimated as at about 160-180 cm long from head to tail.

(Photo: Janet Walker)

On 11 January 2006, Dr. Lawrence Chau was undertaking a *Podocarpus* survey in Sai Kung when he came across a barking deer caught in a gin trap that subsequently had its hind quarters eaten by **Feral Dogs**. The WARC received photos from Mr Choi He Man of a barking deer that was killed by feral dogs in Lai Pin Road, Sha Tin, on 12 March 2006. Both events provide further documentary evidence of the impact of feral dogs on the native fauna.

Professor D. Helmeste, a visiting professor staying at Robert Black College, HKU, took a picture of this **Masked Palm Civet** visiting the nearby *Ficus variegata* var. *chlorocarpa* tree on 25 April 2006.

(Photo: D. Helmeste)

Fiona Somerville reported that the **Malayan Porcupine** population is alive and well on HK Island. Having seen a couple on Lugard Road in January 2005, she saw a large pair in the storm drain opposite Haking Mansions on Barker Road at around 9 pm. They were probably drinking out of the drain.

BIRDS

Bosco Chan saw a group of seven **Black-winged Stilt** *Himantopus himantopus* (including three subadults) in the afternoon of 15 April 2006 at the mudflat of Tai Tam Harbour by the outflow of the Tai Tam Tuk Reservoir; blurry photographs were taken. It is apparently the first Hong Kong Island record for this species.

Karen Barretto made the fourth observation in Hong Kong of the **Barred Cuckoo Dove** (*Macrophygia unchall)* on 25 April 2006 at Casa Pequena, Girassol, Tai Po Kau Headland, some 46 years after the first record of this species on 24 January, 1960, on Girassol Lane, by Cdr. Jim Humphreys. The other records were on 6, 7 & 12 December, 1989, at Hok Tau and on 5 May, 1998 at Cape D'Aguilar. These records may indicate the need for research on migratory birds utilising coastal and under-recorded locations. These data also illustrate the importance of long-term biological recording of wildlife conservation. The Tai Po Kau Headland Conservation Study & SSSI Proposal is nearing completion and will provide a mechanism for assessing sites requiring protection under the existing zoning legislation in Hong Kong. It will also extend the area of forest conserved in the Tai Po Kau area to include what is possibly the best remaining example of well-established coastal forest in Hong Kong.

Kwok Hon Kai saw two **Ancient Murrelets** *Synthliboramphus antiquus* in Port Shelter (near Yeung Chau) on 3 April 2006. He also saw a **Ferruginous Flycatcher** *Muscicapa ferruginea* in Tai Po Kau on 5 April 2006.

Amphibians and Reptiles

Guy d'Auriol spotted a **Python** in the Plover Cove Country Park, somewhere near Sam A Tsuen, in June 2006. The head was the size of a man's hand and the middle part of the body was distended, possibly because the unresponsive snake was digesting a large animal. The snake was over 20 cm in diameter and estimated to be over 5 metres long. Thanks to Markus Shaw for passing on this exciting report.

Recent Publications

Books, monographs etc.

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