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SWIMS tidings....

SWIMS tidings……

This December saw SWIMS celebrate its first anniversary since its reopening in 2003. It has been a hectic, but productive, year, now documented in our Annual Report (available in PDF format from our website www.hku.hk/ecology/swims/index.htm). To celebrate this event, staff and students enjoyed an extended Christmas party at which Dr Jonathon Stillman (University of Hawaii) gave a talk on the thermal physiology of Porcelain crabs, followed by traditional party fare! There was also an informal showing of a recent Pearl Report, TVB programme which focused on marine conservation. This programme went on air in early December and featured the research and teaching of SWIMS staff and students. Many of the students made cameo appearances but the real stars were Valerie Ho and Karen Lui who gave very polished and professional performances, highlighting their research and the importance of marine conservation. The party was also a good opportunity for the new higher degree students, Wallace Choi, Allen To, Anna Situ, Vivienne Bao Wei Wei and Kevin Kwok to join the SWIMS team and move into the institute. In mid-December we welcomed Olivia Starck from Oldendorf in Germany, who has joined SWIMS to conduct her MSc project. It has also been good to welcome back Drs Liu Min and Wai Tak Cheung who both returned in October to undertake Post Doctoral research at SWIMS. Over December, members of staff and students also participated in the Marine Biological Association of Hong Kong's Annual Meeting; presenting their work at the Scientific meeting, and joining colleagues from other institutions for the dinner afterwards.

The most exciting development has been the launch of a new partnership with Ocean Park Conservation Foundation (OPCF) to establish a University Internship Programme. Students from SWIMS and our Environmental Life Science programme had the opportunity to apply for this programme which sponsors them to work for 7-10 days on OPCF projects in the SE Asia region. Mr Timothy Ng coordinated the OPCF programme and, together with staff from SWIMS, held an introductory seminar and then conducted interviews to select the candidates. Competition was intense and 6 students were finally chosen: SWIMS postgrads Wallace Choi, Anna Situ and Kevin Kwok, and Environmental Life Science undergraduates Heidi Lau, Karen Chan and Katy Ho. These students joined projects establishing a marine mammal stranding network in Cambodia and working on the conservation of the Irrawaddy dolphin population in the Mekong River. They were formally presented with their internships at Ocean Park's Conservation Day in January, officiated by Prof Paul Tam (Pro Vice Chancellor, Research) representing HKU, Prof Nora Tam (City University) as the Trustee Chair of OPCF and the OPCF Ambassador Andy Lau! We are extremely grateful to OPCF for establishing this unique opportunity for our students. These students are just returning from their trips and are giving seminars on their experiences which I am sure will excite and enthuse others to apply for the programme next year! (See photo below.)

Gray A. Williams
Hon. Director SWIMS

MISCELLANY

"Reef Check 2004" a big splash at Sharp Island

by Allen To and Anna Situ

Just a month after the Big Fish Count in late June, commenced another local marine event, Reef Check Hong Kong 2004. Reef Check was originally developed as a way to monitor coral reefs around the world. This event is now carried out in over 60 countries and territories (Reef Check, 2004). The aim of the present annual event is to raise public awareness on marine protection. It also helps gather important information about marine life such as abundance of certain indicator fish species (e.g. wrasses, groupers, sweetlips), invertebrate species (e.g. cucumbers, crabs) and percent coverage of coral communities, and their health. We two, teaming up with Kenny Leung, Polly, Kiwi, Wai Tak Cheung, Jasmine, Karen Lui and a few HKU graduates, who are also interested in marine life, joined the event. Long Ke was our survey site on 28 Aug.

When our boat arrived at Long Ke in the morning, we were surprised by the colour of the water. It was totally brown or even red in some areas! As Dr Leung suggested, dinoflagellates of the species *Prorocentrum micans* had spread to this area and formed the red tide. A very large area

of the water was invaded by the red tide. As you may guess, none of us dared get into the water. Having reported this red tide sighting, our team eventually decided to move over to Sharp Island. This surge of red tide later spread throughout eastern waters.

Fig. 1. Team-scientist Wai Tak Cheung explaining details of our survey (Photo: Wong Yuen-Yee).

We divided ourselves into different teams, each responsible for a specific category of marine life as mentioned before. The survey was carried out along a 100 m transect line laid near the coast. The heavy rain of the few days before our survey had increased the turbidity of the water thus reducing visibility and making our survey difficult. This, combined with the rough water on that day, disturbed our survey substantially. Luckily, we all came back safe without getting injured, although some of us got seasick and… threw up overboard. Despite the poor water visibility, we were still able to record certain indicator species. For instance, over 40 wrasses (mostly *Halichoeres* spp.) were recorded. Also encountered during the survey, as reported by our teammates, were a juvenile painted sweetlips (*Diagramma pictum*) and a grouper (possibly *Epinephelus coioides* or *E. bleekeri*). Other marine fauna such as Clark's anemonefish (*Amphiprion clarkii*) (Fig. 2), cornetfish (*Fistularia commersonii*), cuttlefish eggs (Fig. 3), various kinds of starfish and cucumbers were also observed.

Although the Hong Kong government has made an effort to promote marine conservation and protection, for instance through the Big Fish Count and Reef Check, it is not uncommon to hear news about people stepping on corals, stealing corals and catching fish for aquaria. We saw signs of coral bleaching and damage during the Reef Check survey. The increasing frequency of red tides also deserves more attention. It is obvious that marine conservation entails long-term work, much more has to be done and learnt not only by the government, but also by the general public.

Fig. 2. The anemonefish, *Amphiprion clarkii* (Photo: Wong Yuen-Yee).

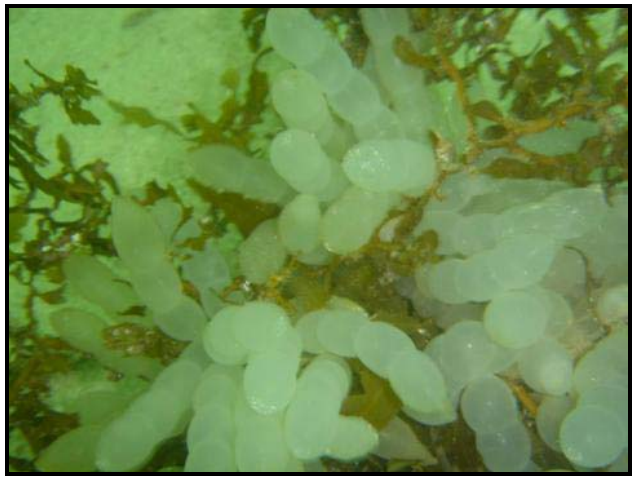

Fig. 3. Cuttlefish eggs observed during the survey (Photo: Wong Yuen-Yee).

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The Environmental Life Science Society

by Executive Committee, Environmental Life Science Society

The Environmental Life Science Society, SS, HKU Student Union, was established on the 2 March, 2005. A good start is half the way to success! No doubt the challenges of running a new society are overwhelming, but we, the executive committee, are determined to do our best to build a concrete foundation for our society and to work with sincerity and dedication.

The mission of the Environmental Life Science Society is focused on communication and promotion of the study of Environmental Life Science within the University. This year, our aims are in tune with our mission as a whole, that is, to foster the relationship between our society's members, and to raise the interest of students within the University in studying Environmental Life Science. In order to achieve these aims, we are going to organize different types of activities, such as "Capture the Wildlife" (Wildlife Photography Competition), in which all members within the University have the opportunity to experience the beauty of nature. This will be followed by the Super Pass Dinner in late April, which offers a valuable chance for our members to foster their relationships with one another. In August, there will once again be new students joining us. Therefore, through the Information Day and Orientation Series, we sincerely hope that they can meet and get to know each other in a friendly atmosphere.

Throughout this year, our electronic magazine, *Succession*, will be published every two months. The content of this magazine will include a review of our activities, upcoming events, interviews with Hong Kong environmentalists and comments from our members. Moreover, we will bring some current environmental issues to our members' attention.

We would like to give our heart-felt thanks for your support and to all those who have contributed to the establishment of our new society. We will continue to treasure your views and support. We look forward to seeing you in our activities!

Birdbrains in the Big Bird Race 2005

by Billy Hau

The Big Bird Race 2005 was held from 17.00 h on Friday 11 March 2005 to 17.00 h of the next day. Once again, I was honoured to be the leader of the DEB team – Swire Birdbrains. Team members included Yu Yat Tung (DEB BSc and MPhil graduate); Aidia Chan, Fion Cheung and Jackie Wang (DEB MPhil students); and Polly Chick, Vicky Yeung and Law King Wai (DEB graduates). Hit by a cool front during the race, temperature went below 10 degrees in the New Territories and it was raining most of the time. We were all soaking wet at the end of the race. Despite the appalling weather, the race was fun and we had a good start at Tsim Bei Tsui on Saturday with 45 species in less than two hours. However, our luck began to fall with the sunlight – we failed to get any owls! We arrived at the Kowloon Hill water catchment at 5.30 am the next morning looking for our bird of the day – the Forest Wagtail. We got 17 woodland birds there and, just before we gave up on the Forest Wagtail and were preparing move on to Tai Po Kau, I spotted one Forest Wagtail foraging down at the water catchment. Unlike other wagtails, in which the tail flips up and down while walking, the Forest Wagtail's tail swings horizontally. Our luck fell again at Tai Po Kau when the rain became stronger. We missed many of the "must see" species, such as the minivets, despite our strong determination in the rain. The rest of the day was depressing. We only managed to get 122 species which made us the 9th amongst the 13 teams. The winning team had 145 species. However, we did very well this year in fund-raising. Birdbrains (see photo below) raised nearly 20,000 dollars on top of the corporate sponsorship from Swire. I must thank David for agreeing to send the pledge forms out to colleagues in HKU under his capacity as the Head of Department. It surely worked! With the help of the HK Bird-Watching Society, I am currently running a bird-watching course for around 30 year 1 and 2 Environmental Life Science students and hope that some of them will form the Birdbrains Team in 2006.

Rocky shore envy: observations *vs.* experiments in ecological research

by Richard T. Corlett

Most scientific research involves manipulative experiments in which the investigator assigns treatments to groups of whatever is being studied. In ecology, the treatments are things like the exclusion of predators, the addition of nutrients, or the artificial pollination of flowers. Normally the treatments are assigned randomly to each experimental unit: for example, one could flip a coin to decide if a particular plant (or vegetation plot) is to be fertilized (or cut or burned) or not. The advantage of such a randomized experiment is that we can be sure that the differences between the groups are either the result of the treatment or a result of chance, and standard statistics are very good at telling us which of these is most likely.

Randomized experiments are relatively easy to do when the relevant spatial and time scales are small, but are much more difficult when we are looking at processes that happen on very large spatial scales or over very long time periods. In such cases we are often forced to rely on observational studies or so-called "natural experiments", where we take advantage of natural variation in the factor of interest (e.g. soil fertility). These studies produce data that looks *exactly the same* as the data produced by randomized manipulative experiments, so it is therefore tempting to analyze and interpret it in exactly the same way. However, with observational studies - including

natural experiments - the units are already in treatment groups and the investigator has no control over this. An example would be comparing plant growth on naturally nutrient-rich and nutrient-poor sites.

Fig. 1. Setting up controlled study on a rocky shore.

The problem with this approach is that the differences between groups could be the result of the treatment or of chance – as in a randomized experiment - or the result of some other confounding variable. With our plant growth example, for instance, any observed differences could be the result of other, unmeasured, ways in which naturally nutrient-rich and nutrient-poor soils differ, such as aeration or drainage. The possibility that the observed differences between groups are not the result of the variable of interest means that we cannot use observational studies alone to establish a causal connection. Our plants may grow faster on the nutrient-rich soil because it also has a better water supply. In contrast, in a randomized manipulative study we would assign the nutrient treatment at random to our plants so, even if water supply varied betweens sites, the fertilized and unfertilized plants would have an equal chance of being on a site with a good water supply. (Note, however, that confounding variables can be a problem in randomized experiments if they are an unintended consequence of the treatment: for example the increase in humidity that results from bagging flowers to exclude pollinators.)

Another alternative, which at first sight blurs the distinction between experimental and observational studies, is to make use of "unplanned experiments", i.e. manipulations carried out by people for reasons that have nothing to do with ecological research. If we want to look at the long-term impacts of rainforest fragmentation, for example, we can find fragments that have already been isolated for decades, which is a lot easier than creating new fragments and waiting for decades to see what happens. Comparisons between channelized and natural streams or polluted and unpolluted lakes are other examples of this approach. Unfortunately, such studies are no different from the observational studies discussed above unless we have good reason to assume that the "treatments" were applied randomly. In the great majority of cases this assumption is unlikely to be true. Human impacts, such as rainforest fragmentation, stream channelization, pollution and hill fires, do not occur at random, so there will almost always be confounding variables in comparisons with unaltered sites.

None of this will be news to rocky shore ecologists, for whom the random assignment of treatments is second nature. If a rocky shore ecologist holds a dinner party, the seats are positioned at random coordinates, the guests are seated randomly, and meals are then assigned to them randomly. Terrestrial ecologists, in contrast, sit with their friends and eat what they like – a hopelessly confounded design. But – seriously – if only fully replicated and randomized manipulative experiments are allowed, then terrestrial ecology would be limited to the small spatial scales (centimeters to metres) and time scales (days or weeks) that characterize most research on rocky shores. The great majority of interesting terrestrial phenomena - with spatial scales of kilometers or more and time scales of decades or centuries - would be forever beyond our reach.

The answer is not to abandon observational studies but to lower our expectations of statistics. We cannot avoid using (un)natural (non)experiments when looking at large spatial and time scales - the scales that are often most relevant to conservation problems - but we have to realize their limitations. With a fully replicated and randomized manipulative experiment, confidence in the conclusions is based largely on the results of the statistical analysis – the effect size and p-value. This can never be true for observational studies, including natural and unplanned experiments. In these cases, confidence in the conclusions depends at least as much on the additional information (usually from additional studies or the literature) that allows us to separate the effects of interest from the influence of possible confounding variables. The results will never look as neat as they would be if we simply pretended that we had done an experiment, but they will be nearer the truth. It should also be noted that, while ecologists are typically most interested in the causes of differences, in many practical applications of ecological research (e.g. conservation, forestry and fisheries) the magnitude of the difference is more important than its precise cause. Foresters, for instance, want to know where their trees will grow best, while teasing apart the various factors responsible for differences in growth has a lower priority.

Fig. 2. Experimental units on intertidal area.

I will end by touching on another issue, that of the independence or non-independence of the replicates, because it interacts with the problems discussed above. Most statistical tests require that replicates are independent of one another:

that is, they require that what happens to one replicate is not influenced by what happens to the others. In practice, independence can usually be ensured in ecological experiments by separating the replicates by enough space (or, in some cases, enough time) so that they are unlikely to affect each other. Non-independence is less likely to be a problem with randomized experiments, because the spacing between replicates will be variable and so less likely to consistently bias the results in one direction. Non-independence can, however, be a huge problem with non-randomized or non-experimental studies, particularly if we either do not know how much separation is enough or – and this is very common in terrestrial ecology – adequate separation is impractical. As part of his PhD study, Kwok Hon Kai compared the bird communities in a natural secondary forest and an exotic plantation. He sampled birds at four points in each forest type, but the points in each type were inside the same forest patch and only 80 metres apart. Clearly these points are not independent and cannot be considered as true replicates. He therefore published the study without any statistical comparison between the forest types, but with additional information from other studies about the ecology of the bird species for which densities differed between forest types (Kwok & Corlett, 2000). The alternative would have been to leave this important question unstudied, since there are not enough similar forest patches in Hong Kong for truly independent replicates and, even if there were, it would be logistically impossible to visit widely separated sites the sixty or more times needed to get an adequate estimate of bird densities.

To summarize: randomized experiments with independent replicates allow you to make full use of the power of statistics to separate the effects of the treatment from chance variation. Observational studies – including natural and unplanned experiments – are more difficult to analyze, since additional information is needed to account for the effects of confounding variables. Careful sampling design and the use of multivariate methods can mitigate, but never eliminate, this problem. Known confounding variables can be measured and accounted for statistically, but situations in which all potential confounding variables are known and can be measured are rare in ecology, if they occur at all. However, observational studies are the only realistic way of investigating a whole host of interesting ecological questions, including most of those of practical importance. We need more and better observational studies in ecology, but we must not pretend that they are experiments.

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Kadoorie Farm & Botanic Garden - Wildlife Updates & Sightings

by Gary Ades, Roger Kendrick, Paul Crow, Amanda Haig & Louis Cheung

Wildlife recording, surveys and rehabilitation at Kadoorie Farm & Botanic Garden (KFBG) have produced a number of interesting and unusual records since May 2004. In this report, KFBG Fauna staff provide some of the highlights of their findings.

General wildlife sightings are posted on the KFBG Wildlife Sightings Board on a fortnightly basis, with records provided by staff and visitors. Many records are generated by the Security team on night shifts.

(1) The following notable sighting records from Kwun Yum Shan (KYS) were posted between May 2004 and January 2005:

May 2004

9 May, Masked Palm Civet near Twin Pavilion.

13 May, two Barking Deer at Sign Post Corner.

16 May, three Fruit Bats at Administrative Office.

21 May, two Malayan Porcupines near Upper Canteen.

26 May, Wild Boar at Magnolia Falls.

July 04

28 July, two Velvet Fronted Nuthatch outside Conservation Building.

31July, Himalayan Leaf-nosed Bat, Chestnut Spiny Rat, HK Newt & Fireflies at Magnolia Reservoir; Collared Scops Owl calling at Post Office Pillars & Misha's Bungalow.

August 04

24 August, Birdwing Butterfly at Reception & Conservation Bldg; Indian Fritillary at Amenities Bldg; Tawny Rajah at Upper Canteen.

28 August, Malayan Porcupine at TS Woo Memorial Pavilion; Green Cascade Frog seen below Apiary; Chinese Cobra near Rainbow Pavilion.

September 04

5 September, Leopard Cat, Ferret Badger at West Prospect & Kwun Yum Shan.

7 September, Birdwing Butterfly at Organic Terrace.

8 September, Birdwing Butterflies at Butterfly Garden.

13 September, Anderson's Stream Snake & Big Headed Turtle above Magnolia Reservoir.

15 September, Eurasian Woodcock near Post Office Pillars.

17 September, Wild Boar at Bridge by Convent Garden; Dollarbird at Butterfly Garden.

19 September, Black-naped Oriole at T.S.Wu Pavilion; Striated Heron at Magnolia Falls.

21 September, two Barking Deer below Upper Canteen.

24 September, Rhesus Macaque near Orchid Haven.

26 September, Bonelli's Eagle flying near Kwun Yum Shan.

28 September, Wild Boar with five Piglets at KARC Road.

October 04

6 October, Lanceolated Warbler near Main Gate; King Cobra beside Conservation Building.

11 October, Great Barbet below the summit of Kwun Yum Shan; Emerald Dove near Conservation Building.

16 October, King Cobra near no 3 Reservoir; Barking Deer on the slope opposite signpost corner; Malayan Porcupine between Upper Canteen & Post Office Pillars.

18 October, Malayan Porcupine nearby Magnolia Reservoir.

23 October, Mountain Water Snake near Great Falls.

26 October, Juvenile Malayan Porcupine near Misha's Bungalow.

29 & 30 October, three Malayan Porcupine between Fern Walk & Butterfly Garden.

30 October, Fire Flies (50~100) main stream between Fern Walk & Convent Garden.

November 04

1 November, Chinese Cobra at Lower Farm Bridge.

4 November, Barking Deer at Post Office Pillars.

11 November, Pallas' Squirrel near Wild Boar Enclosure.

13 November, Malayan Porcupine at Misha's Bungalow.

17 November, three HK Newts at Lotus Pond.

23 November, Glassy Tiger, Common Indian Crow, Staff Sergeant, Common Grass yellow, Indian Cabbage White, Painted Jezebel & Chinese Peacock (Butterflies) at Lower Farm.

27 November, two Malayan Porcupines at Orchid Haven.

January 05

10 January, Chestnut-bellied Rock Thrush *Monticola rufiventris* at Conservation Bldg (present to at least 20 Feb);
29th Golden Emperor Moth at Butterfly Garden; *Athetis bispurca* (HK endemic moth) at Misha's & Butterfly Garden; Malayan Porcupine at Upper Canteen; Barking Deer at Great Falls; Collared Scops Owl at Orchid Haven.

February 05

15 February, Mountain Pit Viper near Fern Walk - at 11.30 am KFBG Fauna volunteers Kris Watson and Ben Seebohm, conducting routine turtle survey work, came across the Farm's third known record of a Mountain Pit Viper. It was out in daylight when the air temperature was only 18°C. It was at a fairly low altitude (~350m a.s.l.) with the animal being discovered along the stream course in the area of Fern walk.

26 February, three Malayan Porcupine between Upper Canteen and Post Office Pillars, and one more by the Raptor Sanctury.

Fig. 1. Mountain Pit Viper at KFBG's Fern Walk, 15 Feb. 2005. (Photo: Kris Watson)

(2) Fauna Conservation Department Project News:

The monthly moth survey [RK] has continued unabated. Between July 2004 and December 2004 a rather low total of 492 species was recorded. Results from 29 January 2005 have not been fully processed yet. None the less, a good night's

recording yielded an estimated 150 species, including: *Biston marginata* (Geometridae, Ennominae), new to Hong Kong; the second Hong Kong record of *Acrodontis hunana* (Geometridae, Ennominae), the third HK record of *Sugitania lepida* (Noctuidae, Cuculliinae) and the first record since 1998 of *Athetis bispurca* Galsworthy, 1997 (Noctuidae, Hadeninae), a species endemic to Hong Kong and only previously recorded from Kadoorie Agricultural Research Centre and once each from KFBG and Shan Liu Road, Plover Cove. The species reported in the last *Porcupine!* (Ades *et al*., 2004) as new to Hong Kong, *Tirathaba ruptilinea*, was a mis-identification of *Tirathaba mundella* Walker, 1864 (M.J. Sterling, pers. comm.).

Romer's Tree Frog [LC]
The monthly nocturnal survey on KFBG's hillside continues. From March to October 2003, a total of 513 tadpoles were counted in the different breeding pots. But from June to September 2004, only 68 tadpoles were spotted. In addition, there were no eggs found in the 2004 surveys but the presence of tadpoles showed breeding activity is still happening. Most breeding pots and the habitats around were found to have naturally dried out by September 2004; one artificial breeding pot was found totally dried out in July 2004. July was the peak breeding time in 2003, and in September 2003 male frogs were still actively calling next to the breeding pots for courtship. But in September 2004, we couldn't spot any adult frogs or hear any calls. Long periods of low rainfall from July may explain why there was so little activity later in the wet season.

Unfortunately, several breeding pots were found upside down in July, possibly because someone thought the pots were utilised by mosquito larvae that might spread Dengue Fever. (The Hong Kong Government started promoting the prevention programme on mosquito to prevent the spread of the fever during that period). The human disturbance and low rainfall during the breeding season may have contributed to the lower number of offspring observed in 2004.

(3) Wild Animal Rescue Centre (WARC) – update

The last eight months saw a decrease in the overall number of birds received at the WARC. This is a first since the set-up of the centre in 1994. It is suspected the generally 'mild' favourable weather this year (to early February) is a contributing factor.

However, as usual, we have been busy with a number of reptile related issues including confiscations, relocation & captive breeding.

The famous Yuen Long Crocodile, "Pui Pui", finished her quarantine and was moved to the large outdoor enclosure, where her anxious public could see her. She has since returned to her warm indoor environment to wait out the cold weather.

In late April 2004, 851 head of mixed species including Black Marsh Turtle (*Siebenrockiella crassicollis*), Malaysian Giant Turtle (*Orlitia borneensis*) & Malayan Flat-shelled Turtle (*Notochelys platynota*) were confiscated and received at the WARC. In mid October, 360 head of Fly River turtle (*Carettochelys insulpta*) were received.

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

110 confiscated turtles sent to the Turtle Survival Alliance (TSA) USA & Europe collections.

201 Fly River Turtles (*Carettochelys insulpta*) were returned to their range country to Taman Akuarium, Indonesia.

2 African Spur Tortoises (*Geochelone sulcata*) and 1 Aldabra Tortoise (*Geochelone gigantea*) were sent to Singapore Zoological Garden for education and conservation purposes.

Captive breeding of the Three Banded Box Terrapin (*Cuora trifasciata*) & Vietnamese Leaf Turtle (*Mauremys annamensis*) continues. The chelonian conservation project achieved a major landmark on the 27 October, when the first ever *Cuora trifasciata* of wild HK parentage hatched.

Fig. 2. The first ever *Cuora trifasciata* of wild HK parentage successfully hatched in captivity. (Photo: Paul Crow)

Below is a list of some of the animals received since May 2004 that have been successfully rehabilitated and subsequently released.

SPECIES	LOCATION FOUND	RELEASE DATE	RELEASE LOCATION
RAPTORS			
Collared Scops Owl (*Otus lempiji*)	Chai Wan	08.06.04	KFBG
Black-eared Kite (*Milvus migrans*)	Victoria Harbour	18.06.04	KFBG
Black-eared Kite (*Milvus migrans*)	North Point	18.06.04	KFBG
Black-eared Kite (*Milvus migrans*)		12.07.04	KFBG
Crested Goshawk *(Accipiter trivirgatus)*	Tai Po Road	03.08.04	Tai Po Road
Crested Goshawk	Tai Hang Road	05.08.04	Tai Po Road

(Accipiter trivirgatus)			
Crested Goshawk *(Accipiter trivirgatus)*	Stanley	09.08.04	Tai Po Road
Black-eared Kite (*Milvus migrans*)		07.09.04	KFBG
Oriental Scops Owl *(Otus sunia)*	Mong Kok	04.11.04	
Brown Hawk Owl *(Ninox scutulata)*	Lai King	04.11.04	
Crested Goshawk *(Accipiter trivirgatus)*	Fortress Hill	09.11.04	
Collared Scops Owl (*Otus lempiji*)	Tai Po	13.11.04	KFBG
Black-eared Kite (*Milvus migrans*)	Tsim Sha Tsui	25.11.04	Sheung Shui
Asian Barred Owlet *(Glaucidium cuculoides)* x 2		06.12.04	KFBG
Collared Scops Owl (*Otus lempiji*)	Repulse Bay	08.12.04	Tai Po Kau
Common Buzzard *(Buteo buteo)*	Stubbs Road	21.01.05	Mai Po
OTHER BIRDS			
Emerald Dove *(Chalcophaps indica)*	KFBG	05.06.04	KFBG
Greater Coucal *(Centropus sinensis)*	Tin Shui Wai	20.08.04	Kam Tin
Little Egret *(Egretta garzetta)*	Sha Tin	13.09.04	Mai Po
Woodcock *(Scolopax rusticola)*	Pok Fu Lam	29.10.04	KFBG
Banded Rail *(Gallirallus striatus)*	Ho Man Tin	29.10.04	Mai Po
Chinese Pond Heron *(Ardeola bacchus)*	Admiralty	05.11.04	Lam Tsuen
Emerald Dove *(Chalcophaps indica)*	Mei Foo	05.11.04	KFBG
Little Swift *(Apus affinis)*	Fanling	23.11.04	KFBG
Blackbird *(Turdus merula)*	Tai Po Road	03.12.04	Tai Po Road
Savanna Nightjar *(Caprimulgus affinis)*	Sheung Shui	08.12.04	Kam Tin
Olive Backed Pipit *(Anthus hodgsoni)*	KFBG	14.01.05	KFBG
MAMMALS			
Noctule Bat *(Nyctalus noctula)*	KFBG	07.06.04	KFBG
Japanese Pipistrelle Bat *(Pipistrellus abramus)*	Mong Kok	12.06.04	KFBG
Malayan Porcupine *(Hystrix brachyura)*	Shek O	17.11.04	KFBG
Wrinkle Lipped Free Tailed Bat *(Chaerephon plicata)*	Ma On Shan	08.12.04	KFBG
Wrinkle Lipped Free Tailed Bat *(Chaerephon plicata)*		10.12.04	KFBG

(4) Feral Dogs & Native Wildlife – further news

On 3rd February 2005 a 17.1 kg female adult barking deer was found dead at KFBG Apiary. Approximately 70% of tissue was missing from the rear legs. The deer was not pregnant. It had a severe eye ulcer, which may have been part of the reason it was caught in the first place. There was a resting site in the open nearby, with half eaten mandarin orange. There was blood around the resting site and the deer was 2-3 meters away. It appears the deer was weak, possibly suffering and unable to choose a good resting site, with fatal consequences. The style of attack and flesh removal is similar to the previously recorded instances of feral dogs killing barking deer at KFBG (Ades *et al*., 2004). A flesh sample was taken from the deer and stored for future DNA work.

A stomach content analysis revealed the deer had been feeding on Farm produce – macadamia nuts and mandarins. There were also ferns in the stomach contents.

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Fig. 3. Barking deer carcass from feral dog kill at KFBG's Apiary, 3 Feb. 2005.

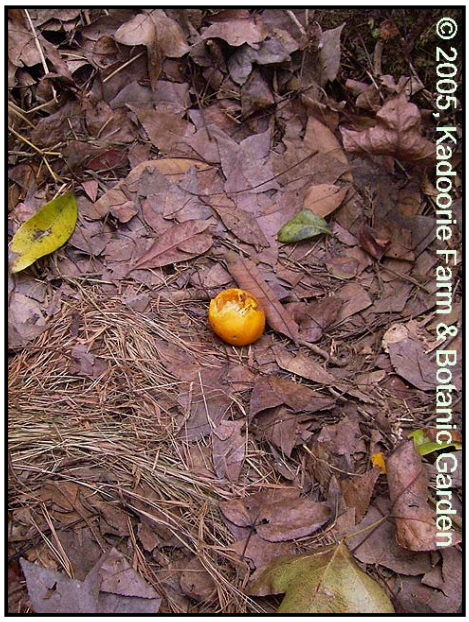
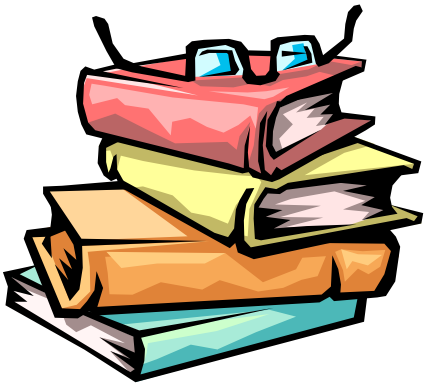


Fig. 4. Deer's resting site, with food item,

Fig. 5. Severe ulcer in eye – a possible reason why this animal was predated. (Photos: Paul Crow)



BOOK REVIEWS

Field Guide to the Dragonflies of Hong Kong 2nd Edition

by Keith D.P. Wilson, 383 pages, softcover. Cosmos Books Ltd, Hong Kong, 2004

The first edition of this landmark field guide, which appeared in the shops late last year, went completely unremarked in *Porcupine!* That is unfortunate, since this book, now in its second edition, has set a new standard for field guides of the local fauna.

The author, Keith Wilson, worked in Hong Kong for the Agriculture, Conservation and Fisheries Department from 1991 until 2003, and it is under the auspices of AFCD that this fine field guide has been published. The book was written in collaboration with AFCD's Dragonfly Working Group, whose survey work has resulted in four new species records for Hong Kong, including one undescribed gomphid, since its establishment in 2001. However, no-one should be under any doubt that this book is first and foremost the result of one man's efforts.

Wilson's first book on the subject (*Hong Kong Dragonflies*) was published in 1995 and listed 102 species for the territory. It was a truly ground-breaking work, with no local antecedents, but its large, floppy landscape format, coupled with the fact that species descriptions rarely appeared on the same page as their photographs, made it confoundedly unwieldy, and hopeless as a field guide. This was followed in 2002 by the mystifyingly pointless *Hong Kong Flying Colour: Dragonflies* booklet - another AFCD collaboration (and I beseech them not to repeat it) - which contained photographs of most Hong Kong species, but no text. The peril of producing this kind of anti-information, with no clues on habitat associations or diagnostic features of particular species, was brought sharply into relief for me when I reviewed the results of a dragonfly survey conducted in a disturbed lowland pond and marsh mosaic by an environmental consultant who had made his identifications from the photographs in *Flying Colour*: many dragonflies look superficially similar, and the hapless consultant had included several stream specialists and many other highly