

MISCELLANY

Indiana Jones?! Safety issues on exploration of underground water channels in Hong Kong

by Sze-man Cheung and Rita S.W. Yam

As a relatively unexplored habitat, underground water channels have aroused not only the interest of researchers (*Porcupine!* 27 p. 18-19) but also the curiosity of the general public, e.g. a man, and a group of naughty children were reported getting lost in underground water channels on 20 November, 2002 (Wen Wei Pao), and 12 January, 2003 (Sing Tao Daily) respectively. Although the biodiversity in some underground water channels is high and there might be plenty new to find such habitats (*Porcupine!* 27 p. 18-19), exploration in the underground water channels could become highly dangerous if necessary safety precautions are not taken seriously.

Underground water channels are an oxygen deficient environment and sudden increases in the level of harmful, toxic and explosive gases may occur at any time. Flooding may happen when huge volumes of water drain into these channels over a short period of time, especially during or shortly after rainstorms. Some channel systems resemble a maze, people get lost easily, as in the cases of the man and young children in the news reports mentioned above.

According to the Factories and Industrial Undertakings (Confined Space) Regulation, underground water channels are defined as a type of 'confined space'. Though ecological surveys are not considered to be 'industrial undertakings' (for precise definitions of 'confined space' and 'industrial undertaking' check the 'Bilingual Laws Information System' web site in Bibliography), the precautions and procedures in the 'Factories and Industrial Undertakings (Confined Space) Regulation, Cap. 59AE' are a good reference for researchers preparing to investigate underground channels.

Before planning the trip to enter underground water channels, think thoroughly whether you really need to go into such dangerous habitats. It is highly recommended that the persons involved in channel surveys attend a safety training course, approved by the Labour Department of Hong Kong Government, for confined space work and hold a relevant certificate. If you must go, never visit these channels during or shortly after rainstorms, otherwise you may be washed away when sudden flooding comes. Study the site maps carefully and properly plan the visit. Tell reliable friends where and

when you are going. In this way they can call for rescue if you do not turn up by the stated time. The water and gas quantities should be assessed to be at acceptable levels before entry. At least some members must stay at the channel opening and keep close contact with the people inside. If possible, wear appropriate breathing apparatus and suitable safety harness with a life line held by a person outside the channel. Remember to bring powerful torches with back-up batteries in order to walk in total darkness. Put a light stick on the channel wall at each junction to prevent getting lost in these underground mazes. Always stay alert and prepare to retreat if any sudden change in body conditions and environment occurs. For details on safety matters related to working in confined space, check the bibliography or contact the Occupational Safety & Health Branch of Labour Department.

In addition to personal safety, researchers should bear in mind that collection of any animals in underground water channels within the Country Park Area and capture of protected animals under the 'Wild Animals Protection Ordinance, Cap. 170' requires permits from the Agriculture & Fisheries & Conservation Department.

Although ecological surveys conducted in these water channels allow us to explore a little-unknown habitat, these should be properly planned and attention should be paid to all safety precautions. Like the 'Indiana Jones adventure series', exploration in underground water channels can be exciting but also full of life-risking dangers and we strongly discourage the general public from visiting these channels unprepared.

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BBR ----- More than a race!

by Fion Cheung
Environmental Life Science Year 2 student

To most people in Hong Kong, the 22nd of February 2003 was just an ordinary Saturday. To us, a group of 9 Environmental Life Science students, it was a big day. After learning bird-watching for about 4 months, it was the time to test our birding skill in the Big Bird Race.

The schedule on that day was quite tight. Starting at 6 a.m. at the Kadoorie Farm and Botanic Garden, we visited Tai Po

Kau, Long valley, Mai Po, Kam Tin, Tai Mo Shan and finally went back to Mai Po at 5:00 pm. Breakfast and lunch were bread and water on the coach while traveling from one site to another. Despite the tiredness, we enjoyed the race very much. Every time we arrived at a site, we took the binoculars out immediately and started looking for birds. We had to keep very quiet most of the time, which was very unusual behaviour for us. Apart from those birds we had seen before on training trips, we saw many species new to us such as the European Spoonbill and Oriental Pratincole. Our “Bird of the Day” was a Common Starling, which is, in fact, uncommon in Hong Kong. We saw it amongst the water buffaloes at Kam Tin.



Fig.1. The “Pokfulam tree sparrows” looking for forest birds at Tai Po Kau in the early morning.

In the end, we recorded 136 species and came sixth amongst all teams. For a group of bird-watching beginners, this result was really encouraging. Many thanks to Lee Kwok-shing, our trainer and the star of our team. Aside from the outcome, what delighted us most was the valuable experience we had in the BBR. Now, we have seen many more bird species than the common ones such as swallows, sparrows, black kites and feral pigeons that we were already familiar with. What is more, my parents have begun to appreciate nature and wildlife since I have started pointing out birds to them with my new skill when we go to parks. This shows how we can change peoples’ minds with just a little effort. To me, the BBR is not just a race but a real life lesson.

Finally, I sincerely appreciate Dr. Hau’s effort in putting together such a meaningful activity for us. I am also very grateful to Lee Kwok-shing who spent so much time teaching us bird-watching skills. We have decided to continue birding so as to prepare for the next year BBR and I hope that more ELS students will be interested in this kind of activity besides studying.

BBR—A special experience in HK

by Wang Jing (Jackie)

Environmental Life Science Year II student

I come from north China, a rather different place from Hong Kong. In Hong Kong, I can see eagles circling around in the blue sky. I can smell the fragrance of flowers when walking in the campus. I can see wild monkeys walking with people leisurely. All of these make me feel the harmony between human and nature. I want to learn more about the natural environment in Hong Kong during my limited study time here.

Fortunately, the Big Bird Race (BBR) gave me the chance. During our training trips, we visited many nature reserves and country parks, where I had not been before. If I had not joined this activity, I might have had no other opportunities to visit these places. During our trips, I saw many beautiful birds that I used to think I could only see in a zoo or in pictures. But they are real, alive, freely flying in the sky or happily singing in the trees. Through this experience in the BBR I have learnt how to identify birds from their morphology, habitat, or even their songs. Many thanks to our skilled coach, who has taught us a lot about field identification of birds. The Big Bird Race appears more as a gathering than a race. It is a gathering for people who love birds, nature and life. Through this activity, I have come to appreciate the beauty of nature even more. It is really a special experience for me in Hong Kong.



Fig. 2. Quite a lot of Pied Avocets were busy feeding on the Deep Bay mudflat on the BBR day.

A meaningful way for Environmental Life Science Students to spend the summer holiday

by Damgy H. L. Chan
Environmental Life Science Year III Student

It is always a headache for students to decide what to do during their three-month long summer holiday. Some students spend their time traveling abroad, some do summer jobs, some play around, and some do nothing at all! I used to be one of latter students, but in my last summer holiday I found a very meaningful way to utilize these three months' time – to be a summer research assistant in DEB!

Although being educated in our department, it is unfortunate that most Environmental Life Science students know little about DEB or about practical aspects of conducting researches. I was glad to be given a chance to work as a summer research assistant in our department last summer holiday. During this period, I learnt many things and gained much work experience. I would like to take this opportunity to share this wonderful experience with you.

Being a summer research assistant supervised by Dr. Benny Chan, I was assigned to work in two major areas: the Museum of the Swire Institute of Marine Science (SWIMS; see *Porcupine!* 26) and in a research project undertaking laboratory and field programmes of potential indicators for monitoring marine pollution supervised by Dr. Benny Chan and Dr. Kenneth Leung.

The first part of my work included rearranging and labelling specimens of the SWIMS museum, along with updating their database. Given that the previous update of the database was done 10 years ago, it was not an easy task to deal with! Nonetheless, I improved my organization, time management and computer skills. Besides, I learnt numerous scientific names and made contact with nearly a thousand species of specimens, many of them new to me! But most importantly, I worked in such a beautiful environment at Cape d'Aguilar and got to know the staff and postgraduate students at SWIMS; not many students have ever visited there.

The second part of my work included studying the distribution pattern and abundance of barnacles (*Tetraclita squamosa*, *Tetraclita japonica* and *Balanus amphitrite*) and limpets (*Cellana grata* and *Patelloida pygmaea*) in 60 sites, trawling fishes for histopathology studies and taking photographs of crab specimens. Whenever the weather was fine and the tide was low enough, my colleagues and I did field work intensively. Although we were born and grew up in Hong Kong, we had never been to most of the sites before and would probably not visit some of the sites in the rest of our lives again. Thus, we regarded the field trips as eco-tours, and

we all enjoyed ourselves and learnt much about field transect sampling techniques.

Most of the sites we visited for the limpet survey were rocky shores, but some were artificial vertical seawalls in Victoria Harbour which were difficult to access. For that reason, we reached those sites by 'Kai To' (i.e. a small boat that sails you anywhere you want, acts as an aquatic taxi). Working on a Kai To was quite troublesome because the sea was not calm enough to maintain our balance. I even got seasick when everyone was busy in collecting the samples! Fortunately, my colleagues shared my workload and let me take some rest, so that we could finish the fieldwork by the end of the day.

Another part of the research involved trawling. That was the first time I worked on a shrimp trawler. Luckily, the trawler was not as smelly as I thought, so that the working environment was quite nice. Every time the fishing net was pulled out of water, we felt surprised because none of us could predict what we could find in it. Apart from the target species we needed, we also got crabs, shrimps, squids, rays, sharks, corals, sea pens, sea fans, brittle stars and different types of rubbish. Once we had sorted out our target species, my colleagues and I started to check their histopathology and dissect their livers on the board and store the livers in liquid nitrogen. Doing dissection on a trawler was a great experience as my colleagues needed to cut the livers out precisely and also needed to avoid cutting their fingers in a vibrating environment! When we finished our work, we rested on the roof of the trawler from where we could see Chinese White Dolphins, jellyfishes and egrets! But the most impressive thing during trawling was eating lunch that was cooked by the fishermen who cooked our by-catches (e.g. shrimps and mantis shrimps). The food was so fresh and was filled with our hard work; hence we thought the food was very delicious.

After trawling, I was asked to take photographs for the crab specimens being caught. Well, I used to know nothing about photography, but after training, I learnt this skill! I was also taught how to improve the quality of the photographs by using computer software such as Photoshop. I am grateful to the staff in the Virtual School of Biodiversity (VSB) for teaching me the techniques in editing and handling digital images.

To cut a long story short, even though the work for a summer research assistant in our department was quite tough and challenging, I think it was very worthwhile. I have learnt many things that will be beneficial to my studies especially in my final year project (e.g. sampling techniques, ecological experimental design and species identification) and had many unforgettable experiences last summer holiday. In addition, I developed a sense of belonging to our department because I understand it more than I did before. Last, but not least, I would like to say a big thank to Dr. Benny Chan for giving me the chance to be his summer research assistant and granting me so much knowledge on barnacles, dissection, species identification and photography.