

Bibliography

Cai, Y. & Ng, N.K. (1999). A revision of the *Caridina serrata* species group, with descriptions of five new species (Crustacea: Decapoda: Caridea: Atyidae). *Journal of Natural History* 33: 1606-1638.

Dudgeon, D. (1985). The population dynamics of some freshwater carideans (Crustacea: Decapoda) in Hong Kong, with special reference to *Neocaridina serrata* (Atyidae). *Hydrobiologia* 120: 141-149.

Dudgeon, D. (1987). The larval development of *Neocaridina serrata* (Stimpson) (Crustacea: Decapoda: Caridea: Atyidae). *Archiv für Hydrobiologie* 110: 339-355.

Hart, R.C. (1981). Population dynamics and production of the tropical freshwater shrimp *Caridina nilotica* (Decapoda: Atyidae) in the littoral of Lake Sibaya. *Freshwater Biology* 11: 531-547.

Pringle, C.M., Blake, G.A., Covich, A.P., Buzby, K.M., Finley, A. (1993). Effects of omnivorous shrimp in a montane tropical stream: sediment removal, disturbance of sessile invertebrates and enhancement of understory algal biomass. *Oecologia* 93: 1-11.

Yam, R.S.W. & Cai, Y. (in press). *Caridina trifasciata*, a new species of freshwater shrimp (Decapoda: Atyidae) From Hong Kong. *The Raffles Bulletin of Zoology*.



Fig.3. "*Caridina cantonensis*"



Nature outlook: consultation document - review of nature conservation policy

by Billy Hau

The long-awaited Hong Kong conservation policy review paper was put out for public consultation on 17 July 2003 for 3 months. No matter whether you are a conservationist, ecologist, naturalist or just a nature lover, you should submit your comments and opinions on this policy paper to the

government. The document is available at <http://www.etwb.gov.hk> and the deadline for submission is 18 October 2003.

For those who have yet to go through the document, please don't be misled by its name. I have to say this consultation document is not a full review of the conservation policy. There is neither an overall policy objective nor anything about marine conservation. Though there is a review in Chapter 2 of the achievements and inadequacies of the existing conservation policy and measures on the terrestrial system, this paper focuses only on private land with high conservation value. The two new items that this consultation paper is seeking for public opinions i.e. the scoring system for objective assessment of the relative ecological importance of sites and the various options to protect important sites are concerned primarily about private lands.

As far as I understand, the scoring system has two main goals. Firstly, it is intended to be an objective assessment system and secondly, it assigns priorities to sites (private lands) that need action. Unlike other conservation prioritisation methods where diversity and the presence of rare or endemic species are the most commonly used criteria for selecting sites for conservation such as nature reserves (Prendergast *et al.*, 1993) and larger scale biogeographic units such as hotspots (Myers *at al.* 2000) and ecoregions (Olson *et al.*, 2001), the proposed scoring system, however, gives "habitat" criteria a higher rating (total 60%) than "species" criteria (total 40%). If you apply this system to many of the small biodiversity hotspots in Hong Kong e.g. a 0.5 ha Romer's Tree Frog marsh in So Kwu Wan, Lamma Island the score will be very low. In recent consultation meetings with the Environment, Transport and Works Bureau, it was clarified that the proposed scoring system would apply to private land only. Clearly, there is a need for making known the detailed conditions under which the scoring system will be applied.

It is rather obvious that this system is designed to protect those ecologically "important" private lands such as Long Valley and Sha Lo Tung (Note: site names are not mentioned in the whole document) which are relatively large in size in the local context. Even so, the species criteria (1. Diversity & richness. 2. Rarity & endemism) should be rated higher than the habitat criteria (I propose 30 % each rather than 20 %). There are several reasons. Firstly, species diversity, richness, rarity and endemism can be more objectively determined than many of the habitat criteria. Secondly, the ultimate aim of the scoring system is to protect sites with relatively better biodiversity but not sites that are natural or can be recreated. On the other hand, the habitat criteria (altogether 5) should be further refined. The "Naturalness" of a site is given 15% but many of the unnatural habitats in Hong Kong such as Gei Wai and fish pond support rich biodiversity. Thus, naturalness should be cancelled or given very low weighting e.g. 5 %. The "Habitat diversity" weighting (15 %) is fine. The "Size" (10 %) should be the size of the major habitats of a site but not the size of the site. "Non-recreatability" (10%) and "Degree of disturbance" (10%) are rather arbitrary. If they have to be included, their weighting should be reduced (to say, 5 % each)

to achieve a more "objective" system. Some other important elements are not included in the proposed scoring system. For example, the rarity or uniqueness of habitat types in Hong Kong; the importance of a site as feeding ground, nursery ground or corridor for the neighbouring habitats.

Two options to better protect ecologically important sites under private ownership are proposed. In the first option, the government will encourage NGOs to enter into agreements with landowners of those ecologically important private lands to manage the lands for conservation, education or ecotourism with or without government subsidies. This option is fine but it may not be applicable to many sites especially those with hundreds of different land owners. The second option is more attractive, especially to developers who have such lands in their reserve. This "Private-public partnership" option will enable developers to develop the less sensitive part of their sites under the condition that they will manage the remaining part for conservation on long-term basis. This option should be practical as there is already such a case in Fung Lok Wai, Tsim Bei Tsui. In the consultation document, many other options are considered impracticable. However, I believe that the government should keep some of these options open. For example, whilst it is not possible to resume or exchange lands for conservation for all ecologically important private lands, it may be possible for selected sites. Finally, the concept of setting up a conservation trust fund as proposed by NGOs such as the Conservancy Association is unfortunately not included in this review.

In summary, I definitely welcome the release of this review paper and appreciate the efforts put by the relevant officials involved. However, this should only be taken as the first stage of the conservation policy review. Hong Kong still needs a comprehensive review of the nature conservation policy, taking into account the inadequacies of the current policy and measures from biodiversity inventory to the conservation of existing biodiversity and ecological restoration of degraded habitats. The Convention on Biological Diversity has well planned templates for any administration to follow in formulating its conservation policy.

Bibliography

Myers, N. *et al.* (2000). Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.

Olson, D.M. *et al.* (2001). Terrestrial ecoregions of the world: a new map of life on Earth. *BioScience* 51: 933-938.

Prendergast, R. *et al.* (1993). Rare species, the coincidence of diversity hotspots and conservation strategies. *Nature* 365: 335-337.



Conservation policy in Hong Kong – marine matters

by Yvonne Sadovy

A public consultation on nature conservation policy in Hong Kong is underway (www.etwb.gov.hk) (see the previous article by Billy for more details). As a first step, this initiative is to be welcomed but, in focusing with private land (and only terrestrial) issues, it falls far short of what is needed in Hong Kong. For example, it barely grazes the marine environment, excluded on the basis that, in Hong Kong, terrestrial conservation is the centre of debates and criticisms. This ignores significant concern and years of commentary and work by many on and in the local marine environment.

Is the marine realm so unimportant? The marine environment covers a comparable area to the terrestrial one, contains over 1,000 vertebrate species and thousands of invertebrates, is arguably more threatened and is afforded virtually no conservation at all. Our single tiny marine reserve at Cape d'Aguilar is the only protected marine area (other than those off limits for security or other purposes) (see *Porcupine!* 28, p. 1). With very few exceptions marine species are not protected; most would not be included under the Wild Animals Protection Ordinance (CAP 170), in which "animal" means any form of animal life *other than fish and marine invertebrates*. The latter fall under the Fisheries Protection Ordinance (CAP 171). This separation of fish and wildlife is not unusual, and is found elsewhere. However, it typically presupposes that 'fish' (all forms of aquatic life and turtles under CAP 171), commercial species at least, are appropriately managed under fisheries regulations, of which virtually none occur in practice in Hong Kong.

So, neither marine habitats nor the overwhelming majority of marine species have any protection at all in Hong Kong, nor are they likely to have any in the near future. From a conservation perspective, this is a serious shortcoming of the Nature Conservancy Policy; marine habitats are being degraded and many species of fish have virtually disappeared from Hong Kong's waters with at least one, the Chinese bahaba, *Bahaba taipingensis*, very probably close to extinction (Sadovy & Cheung, 2003). This species is protected in mainland China, but not locally.

There is clearly not only a need for a full review of the conservation policy but a much greater emphasis on marine issues. The opportunity to comment on this shortcoming in the current consultation exercise should be taken. In the longer term, we must work towards developing a comprehensive listing of marine species of conservation concern, and practical but effective approaches to marine conservation. Comments on the consultation should be submitted by the October 18th deadline. Please participate in this process.