INVERTEBRATES

Mantis Shrimps found in Hong Kong waters — A brief look at the Stomatopoda

by Wolfie Chien-Houng Lai and Kenny Leung

Where Hong Kong's culinary culture is concerned, the mantis shrimp is quite a familiar sight, and for that matter, quite an important commercial species. However, the Stomatopoda fauna of Hong Kong waters, or Chinese coasts has received relatively little scientific attention. Recently, we have conducted a trawling survey to look into the diversity and abundance of mantis shrimps in sub-tidal marine environments of Hong Kong. This short communication serves to report on the stomatopod species found in this survey.

The stomatopod specimens were collected by trawling between December 2002 and February 2003 from Hong Kong waters (see Fig 1). Sampling was carried out using a shrimp trawler with 10 replicate trawl nets (beam length: 2m, cod end mesh size: 2 cm stretched). The total duration of each trawl was 30 minutes, and a U-turn was made 15 minutes after the start of the trawl. GPS positions for the starting point, U-turn point and end point of each trawl were noted.

A total of ten trawling stations were surveyed: four in Tolo harbour waters (Stations 1 to 4), three off the Southern coast of Hong Kong island (Stations 5 to 7) and three in the waters around Lantau Island (Stations 8 to 10). No mantis shrimps were obtained from stations 1 and 9.

Eight different species of mantis shrimp was identified. Table 1 shows the distribution and relative abundance of the stomatopod species collected. Of the eight, *Harpiosquilla harpax* was found in all surveyed stations. When occurring, *Oratosquillina interrupta* has the highest abundance in species composition for sites surveyed, followed by *O. oratoria*. An interesting find was the discovery of two specimens of *Clorida decorata* in Station 8; this species was not found in any other trawling stations. *Erugosquilla woodmasoni* was equally interesting with its blue tinged uropod protopod, although only a few specimens were collected off Station 4 and in the southern waters of Hong Kong island (Stations 5 and 6). Pictures of these mantis shrimps can be accessed by visiting http://www.hk-fish.net/eng/database/mantis/common.htm (AFCD website). Some of the specimens featured on the web page came from our trawling surveys.

Where species richness is concerned, both Station 2 (Tolo harbour) and Station 8 (Lantau Island) have the highest mantis shrimp diversity. Conversely, Station 3 in Tolo harbour yielded just two species of stomatopod. Generally, all surveyed sites showed similar patterns with *Oratosquilla interrupta*, *O. oratoria* and *H. harpax* making up the bulk of the species composition, except for Stations 3 and 4 where *H. harpax* dominated.

While most surveyed stations showed a higher species richness near open waters, it is interesting to note a departure from this observed pattern in Tolo Harbour waters. Although no mantis shrimps were obtained from the innermost station along the channel (Station 1) high species richness and abundance of mantis shrimps were observed in Station 2. Station 3 near the mouth of the channel exhibited low species richness but high abundance while Station 4 has a species richness comparable to the other survey stations despite the absence of *Oratosquillina interrupta*.

More monitoring surveys will be conducted in the future to study the population dynamics and ecology of these mantis shrimps in Hong Kong.

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Table 1. Relative abundance of mantis shrimps obtained from the eight trawling stations. No stomatopod was obtained from Stations 1 and 9.

	Stations							
Species	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**10**
Miyakea nepa	+	++	++	0	0	0	++	0
Oratosquilla oratoria	+++	0	+	+++	++	+	++	+
Oratosquillina interrupta	+++++	0	0	++	++++	+	+++++	+++++
Dictyosquilla foveolata	+	0	0	0	0	0	+	+
Clorida decorata	0	0	0	0	0	0	+	0
Harpiosquilla harpax	++	+++	++++	+	+	+	+++	+++
Anchisquilla fasciata	+	0	0	0	+	0	0	0
Erugosquilla woodmasoni	0	0	+	+	+	0	0	0

\+ : *N* less than 10% (occurrence in the Stomatopoda assemblage)
++ : *N* between 30% and 10%
+++ : *N* between 50% and 30%
++++ : *N* between 60% and 50%
+++++ : *N* more than 60%

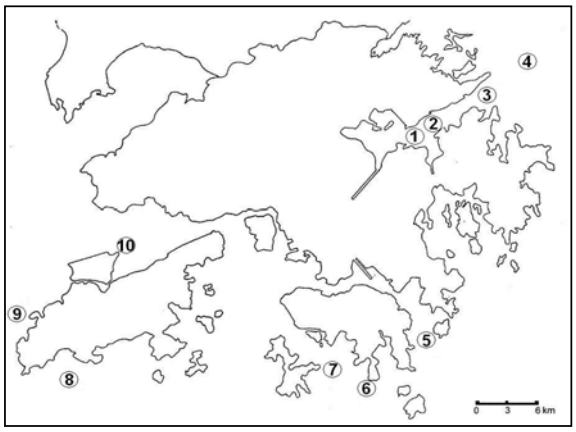

Fig 1. Map showing the trawling stations surveyed

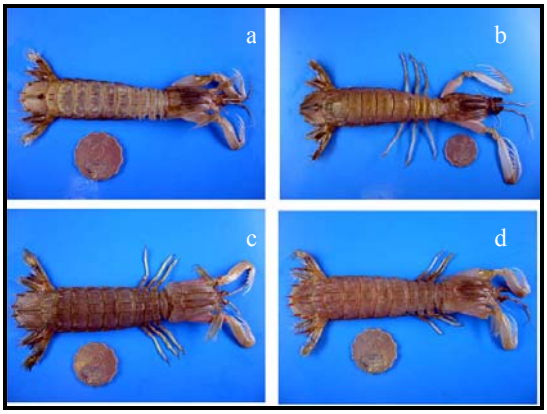

Fig. 2. Four most abundant stomatopod species found in this study (a) *Oratosquillina interrupta*, (b) *Harpiosquilla harpax*, (c) *Oratosquilla oratoria* and (d) *Miyakea nepa.*

Endemic skipper described

by G. T. Reels

A butterfly collected in October 1996 by staff of the DEB, as part of the Hong Biodiversity Survey, has recently been described as a new taxon by Dr. Alexey Devyatkin (*Atalanta* 33 (1/2): 131). *Halpe paupera* (Hesperiidae: Hesperiinae) is currently known from a small number of specimens from Vietnam, and from the single Hong Kong female, which was collected on Ma On Shan. The Hong Kong specimen has been tentatively named as a separate subspecies, *Halpe paupera walthewi*, after George Walthew, who made a large contribution to the study of butterflies in Hong Kong (much of it published in *Porcupine!*), during the 1990s. The skipper is Hong Kong's only endemic butterfly subspecies.

VERTEBRATES

Bats in an underground water channel

by Sze-man Cheung

Bats were sighted during an exploration to an underground water channel in the northern New Territories in December 2002 by Dr. Benny Chan, Rita Yam and the author (see *Porcupine!* 27 p. 18-19). After examination of some close-up photos, some of the bats were identified as Bi-colored round-leaf bat (*Hipposideros pomona*).

The bodies of the bats ranged from 4 to 6 cm and had a brownish yellow coat and grey belly. The presence of a pink non-pointed leaf nose and disproportionately large ears distinguished them from the Great round-leaf bat (*Hipposideros armiger*) (Ades, 1990; Ades *et al.*, 2002). The bats roosted in a dark humid underground water channel which is a part of a water network conducting hill stream water to Plover Cove Reservoir. Water channels are typical preferred habitat of *H. pomona* (Ades, 1994, 1999; Ades *et al.*, 2002). They are used as roost sites by many bat species in Hong Kong (Ades, 1999). Although *H. pomona* is insectivorous (Ades, 1990, 1994, 1999; Ades *et al.*, 2002), it is unknown whether the moth fragments and dead 'headless' fish found within the channel (see *Porcupine!* 27 p. 18-19) were food remains of the bats.

Previous studies had shown that *H. pomona* is a species with a moderate colony size of up to 1000 individuals (Ades, 1994, 1999; Lin & Chen, 2002). We observed over 200 bats in approximately 300 m of the channel well within the range of a normal colony size for *H. pomona*.

Disturbance to the bat colony is one of the major threats to bats in Hong Kong, in addition to filling of tunnels and habitat destruction (Ades, 1990). It should be stressed that all bats are protected locally under Wild Animals Protection Ordinance, Cap. 170. No person can collect any bat unless under a special permit obtained from the Agriculture, Fisheries and Conservation Department.

Bibliography

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