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關於野外橙紅陸寄居蟹的論文

原文: <http://www.wretch.cc/blog/coenobita/23321479>

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自參考外國蟹友的意見後，也認同橙紅陸寄居蟹海水需求度高，而且應該和牠們棲身於較近海邊，經常出沒海邊有關，可是一直未找到更多的相關資料，例如學者的研究論文。

近日在討論區有蟹友討論橙紅陸寄居蟹的另類飼養方法(用淺海水飼養)，也談及牠們的野外實際環境及海水需求度。
<http://www.tonycoenobita.com/discuz/viewthread.php?tid=1143&extra=page%3D1>

終於在前天在網上找到三篇關於野外橙紅陸寄居蟹的文獻，可以有多一點的資料去了解牠們的野外生態，攝取較多海水的原因，及進食活動。

以下我把重點的資料和大家分享(依論文推出年度)：

*欲看完整論文請到 <http://www.tonycoenobita.com/article.htm>

WATER BALANCE IN ANOMURAN LAND CRABS ON A DRY ATOLL (1964)

Gross (1955) demonstrated in laboratory experinients that the anomuran cocconut crab, *Birgus latro*, can control its blood concentration by selecting water of appropriate salinity, and when given a choice it willvisit fresh water more often than sea water. Gross and Holland (1960) , on theother hand, demonstrated a similar behavioral mechanism in the hermit crab,*Coenobita perlatus*, but this species showed a definite preference for sea water overfresh water when offered a choice.

Coenobita perlatus is more common and less discriminating than the other two species in its choice of habitat. It is found in such extremes as exposed positions at the edge of the lagoon and protected conditions, such as the interior of piles of cocoanuts in wooded areas.

Serum osmotic concentrations for *C. perlatus* taken in the field were usually hypertonic to the available sea water and ranged from 102% sea water (cocoanut piles) to 150% sea water (active at night in forest).

Coenobita perlatus was observed to enter sea water and brackish water at night; this resulted in filling their adopted shells with water.

Distribution Patterns of Terrestrial Hermit Crabs at Enewetak Atoll, Marshall Islands (1982)

Coenobita perlatus were much more abundant than *C. rugosus* on the beach (Table 1a).

Small individuals (< 8.0 mm CL, white in coloration with dark bands on the legs) were found not only under debris in the wrackzone, but frequently withdrawn into their shells exposed to the direct sun. During the night, large *C. perlatus* (20-25 mm CL, red in color) were also present on the beach. Medium-size *C. perlatus* (8-19 mm CL, varying in color from white to red) were much less numerous than small and large crabs.

The number of shell species used decreased dramatically with increasing crab size so that virtually 100 percent of the *C. perlatus* individuals > 12 mm CL were either in *Turbo setosus* 圓蝶螺 or *T. argyrostomus* shells 銀口蝶螺.

The smallest crabs were closest to the beach, while large individuals were present on the beach as well as in the interior. The association of the small *C. perlatus* primarily with beach and nearshore habitat may be linked with the shell water requirements of this species. *Coenobita perlatus* prefers seawater over fresh water when filling its shell (Gross and Holland 1960) and usually has field blood serum concentrations hypertonic to seawater (Gross 1964). Two explanations for their distribution appear possible: (1) small individuals may need to replenish their shell water from the lagoon more frequently than medium and large individuals; and (2) small crabs possess more rigid osmoregulatory 調控滲透壓的 requirements than large individuals, utilizing only seawater to fill their shells.

Feeding Activity Patterns and Carrion Removal by Terrestrial Hermit Crabs at Enewetak Atoll, Marshall Islands! (1983)

Large *C. perlatus* fed only at night and had the greatest impact on the carrion. Although small *Coenobita* had little effect on the carrion, their feeding activity did reduce the number of fly maggots in the carrion.

Coenobita c. perlatus and *C. rugosus* were observed eating *Scaevola* fruit 草海桐果實, *Morinda* fruit 雞眼藤果實, coconut meat, coconut husks, and the insides of a fallen coconut tree. Hermit crabs also fed on organic material that washed up on the beach. This included *Laurencia* sp. (a small tufted red alga 紅海藻), *Halimeda* sp. (coralline alga 鈣化藻), a dead subtidal brachyuran crab, and a dead coconut crab, *Birgus latro*. Small *Coenobita* individuals were also observed feeding on bird feces.

Throughout the night large *Coenobita perlatus* fed on the bird, and by the next morning only feathers and bone remained.