

トゲクリガニ *Telmessus acutidens* の血リンパ浸透圧及びイオン調節

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(SHORT REPORT)**Osmotic and Ionic Regulation of Hemolymph in *Telmessus acutidens* (Atelecyclidae, Brachyura)***

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Crabs inhabiting different salinity environments exhibit various regulatory patterns of hemolymph osmotic and ionic concentrations. *Telmessus acutidens* is a species found in coastal and sub-littoral zones in northern Japan. The regulatory patterns of osmotic, sodium and chloride concentrations of hemolymph in *T. acutidens* were investigated.

Crabs were collected from Hakodate Bay, Hokkaido, and maintained in natural seawater (100% SW) at 10°C for at least two weeks. Four to six intermoult crabs of 56-175g were transferred to 50 or 150% artificial seawater. After acclimation for 10 days, hemolymph was collected and serum was separated by centrifugation at 3000×g for 10 min. The osmotic, sodium and chloride concentrations of the hemolymph and the experimental medium were determined as previously reported¹⁾.

The hemolymph was essentially isosmotic to that of the medium over the range of 50-150% SW (Table 1). Similar correlations were also observed of the sodium and the chloride concentrations. These results indicate that *T. acutidens* is an osmoconformer.

Table 1. Osmotic, sodium and chloride concentrations of hemolymph in *T. acutidens* acclimated to different media.

	O. conc. (mOsm/kg)	Na conc. (mEq/l)	Cl conc. (mEq/l)
50% SW			
Hemolymph	534 ± 4	253 ± 4	255 ± 4
Medium	520	237	280
100% SW			
Hemolymph	1096 ± 3	493 ± 10	588 ± 19
Medium	1098	497	580
150% SW			
Hemolymph	1552 ± 14	724 ± 13	809 ± 12
Medium	1571	746	824

(Mean ± S.D., n = 4-6)

Many crab species which inhabit the coastal or the littoral zone, where the salinity fluctuation is relatively in a small range, have been shown to be osmoconformers²⁾. The osmoconformity in *T. acutidens* and other coastal or littoral crabs is probably related to the salinity environment of their habitat.

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Literature

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