

A RECORD OF THE INTERTIDAL
MALACOFUNA OF CAPE BANSHO,
WAKAYAMA, JAPAN,
FROM 1985 TO 2010

Published by the
Seto Marine Biological Laboratory
Field Science Education and Research Center
Kyoto University
November 2011

**PUBLICATIONS OF THE SETO MARINE BIOLOGICAL LABORATORY,
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- Vol. XI. A Record of the Intertidal Malacofauna of Cape Bansho, Wakayama, Japan, from 1985 to 2010. 2011.

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KYOTO UNIVERSITY
PUBLICATOINS OF THE SETO MARINE BIOLOGICAL LABORATORY
SPECIAL PUBLICATION SERIES
VOLUME XI

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With 2 Photographs, 4 Figures, and 9 Tables

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Preface

In 1985, a long-term research project on shore fauna initiated at Cape Bansho, Wakayama Prefecture, central Japan. From 1985 to 2010, the species composition of mollusks on a rocky intertidal platform was recorded once a year. Here, we present the data covering this 25-year research period.

Cape Bansho is situated on the southern Pacific coast of Japan (Fig. 1), and is under the predominant influence of the Kuroshio Current. The Kuroshio Current provides the area around the cape with juveniles and propagules of tropical species as well as warm oceanic waters that enhances their survival (Kuwamura 1980, Takeuchi 2005). Thus, the marine biota of the cape abounds in tropical Indo-Pacific species (NACS-J 1966, Ohgaki 2011a), and is likely to be affected by oceanographic and climatic processes, such as the flow patterns of the Kuroshio Current and occasional hits of cold waves (Tokioka 1963, Yamaguchi 1986). Recently, regional and global scale climatic fluctuations, such as El Niño, the North Atlantic Oscillation, and global warming have been suggested to cause changes in marine communities (e.g., Hughes 2000, Walther et al. 2002). For such studies, wide-scale synthesis of long-term datasets under a constant regime is necessary, within which the data from the present study may contribute a representative sample. The present data may also be useful for the researchers who are studying mollusk species included in this report at other localities.

Part of our study results were reported by Ohgaki & Takenouchi (1986, 1987), who recorded 111 species in 1985 and 1986 including a preliminary analysis on species distributions. Subsequently, Ohgaki et al. (1999) analyzed the data from 1985 to 1994, and demonstrated an increasing abundance of the species with southern distribution in correlation to rising water temperature. This trend is also noted, viewing the raw data of the year-to-year changes in individual species in the following sections (Figure 2, Table 2). Further comprehensive analysis is planned in near future, based on the data presented in this report.

The authors thank following organizations and individuals for their assistance with the present study: Takara Shuzo Co. Ltd. for funding (1994–1995), and T. Kurozumi, T.

Sasaki, K. Torigoe and the members of the Kuroshio Shell Club of Wakayama for the identification of species. The field surveys were performed by many participants whose names are listed in Section 8.

October 10, 2011

Shun-ichi Ohgaki



Photographs

Top: The overview of the study area at low tide on May 25, 1985. The area between the white lines (the length of the left line is 56 m) was investigated.

Bottom: A view from the north-east corner of the study area at low tide on April 20, 2011.

In the seaward direction, the sheltered area with high coverage with pools and green algae, notches, the elevated zone that extends from the northeast (left) to the southwest (right), and the exposed tip of the platform are seen in this order.

平成23年11月10日印刷

平成23年11月15日発行

編集・発行 京都大学フィールド科学教育研究センター
瀬戸臨海実験所内

〒649-2211 和歌山県西牟婁郡白浜町459

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