

WWF Japan Press Release 25 November 2009

Ooura Bay, Okinawa Island – Thirty-six (36) New Species of Crustaceans Confirmed

(Tokyo) A new study of the coastal area of Ooura Bay in Nago City on the east coast of Okinawa Island, Okinawa Prefecture has confirmed the presence of at least 36 new (not yet described) species of decapod crustaceans (crabs, shrimps, etc.), as well as the first recorded sighting in Japan of 25 other deecapods. These discoveries were made by a team of researchers represented by Dr. Yoshihisa Fujita of the Marine Learning Center and the University of the Ryukyus, and was carried out as part of the World Wide Fund for Nature – Japan’s (WWF-Japan) Nansei Shoto Biodiversity Evaluation Project. Details of the survey’s results were presented at a meeting of the Japanese Coral Reef Society held in [Motobu City] 27-29 November 2009. WWF-JAPAN is now strongly advocating the creation of a “Nansei Shoto Regional Biodiversity Strategy” founded on protection and sustainable use of the regional biodiversity of the Nansei Archipelago.

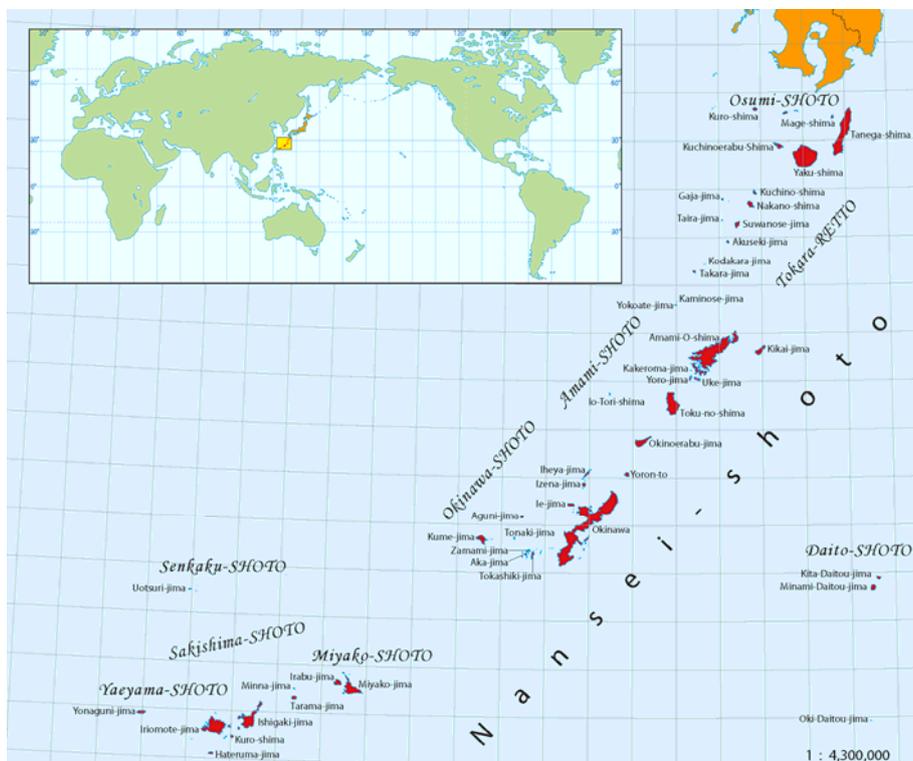


Fig. 0. Location of the Nansei Shoto, Japan.

Compared to its west coast, Okinawa Island's east coast has more areas with special characteristics such as gently sloping, inner-bay environments. In particular, large-scale tidal flats, seagrass beds, areas of muddy/sandy sea floor and other specialized environments have developed in Oura Bay, Kin Bay and Nakagusuku Bay. Members of the present survey's team have discovered undescribed decapod species along the coasts of Kin Bay and Oura Bay over the last few years. Very recently, one of the largest colonies of blue coral (*Heliopora coerulea*) in Japan has also been found in Oura Bay, attracting increasing attention to the singular biological communities inhabiting these inner-bay environments.

However, at the same time, these environments are vulnerable to impacts from human activity and human society such as landfill construction and water pollution, and in recent years have been degrading without having ever been sufficiently studied. Although these environments are expected to continue yielding more important scientific discoveries including more new species, inclusive research of decapod fauna in these bays has not yet been carried out.

Original plans for this survey aimed to clarify the fauna of decapod crustaceans in Kin Bay and Oura Bay, where sufficient surveys had not been done. However, because of the limited time during which the survey team could be brought together, activities were concentrated in Oura Bay, as Kin Bay is too large in scale to be studied over such a short time.

Survey to clarify decapod fauna along the coast of Oura Bay

After 3 days of preparatory work, members of the survey to clarify the fauna of decapod crustaceans along the coast of Oura Bay, Okinawa Island, collected samples from the 19th to the 25th of June, 2009. Samples were collected from river estuaries and from the inter-tidal zone to a depth of about 60 meters (see Fig. 2). Samples were collected by hand, in nets, and by using traps and "Yabby Pumps" (see Fig. 3).

This survey was carried out as one of the on-site surveys being done for WWF-JAPAN's "Nansei Shoto Biodiversity Evaluation Project."

During the 10 days of the survey, 496 species of 241 genera belonging to 62 families of decapod crustaceans were found. At least 36 of these have not yet been described, and another 25 represented the first record for the species in Japan. In addition, of the mantis shrimp (order Stomatopoda) recorded, there were 14 species of 8 genera belonging to 4 families (of these, 3 species have not yet been described and 4 were the first record in Japan). However, because of the shortness of time and the fact that the survey environments were not typical coral reef environments – the main subject of the survey team's regular research – it is reasonable to expect that additional surveys will raise these numbers.

Of the decapod species found, confirmation of new species status has been completed for one

species and a scientific paper published (see Appendix). Successive publications confirming new species status for the rest of the species found are now being planned. However, because the process of naming a new species normally takes several months or even several years, a detailed compilation of all the decapods collected in this survey will take additional time.

A consideration of survey results and future action

Results of this survey show that Oura Bay has a high level of decapod crustacean diversity. However, sufficient care must be taken to note that immediate assumptions about the particular nature of Oura Bay's natural environment cannot be made on this basis. This is because, although a correct understanding of the biological community is absolutely essential for protecting and sustainably using biological diversity, there is a shortage of taxonomy specialists needed to achieve such an understanding, and also because team research headed by taxonomy specialists such as in the present survey has been carried out very rarely so far. Unfortunately, this situation has been recognized at very few sites where biodiversity protection activities are going on.

To enable scientific discussion of the "true value" of Oura Bay's biological diversity, taxonomy-based considerations of biological communities are needed for coastal areas other than Oura Bay and for terrestrial areas as well. Also, a platform for systematically gathering, integrating and updating such information (e.g. a "Wildlife Database") needs to be built. To achieve this, cooperation among scientists, government, local non-profit organizations (NPOs), and so on will be essential. An effective way to guarantee such cooperation would be the creation of a "Nansei Shoto Regional Biodiversity Strategy."

Japan's Basic Law on Biological Diversity, which came into effect in June last year (2008), requires effort to be expended on setting up regional biodiversity strategies. Promoting the establishment of reserves and other measures for the protection and sustainable use of biological diversity are required for such strategies, but important prerequisites will include appropriate management of such measures and the existence of a wildlife database that will be put into practical use. At the present time, not a single local government in the Nansei Archipelago region has set up such a strategy. WWF-Japan will be strongly advocating the construction of a database and the establishment of strategies that will serve as a foundation for the protection and sustainable use of biological diversity in this region.



Figure 1 Shrimp and crab species discovered by the present survey and thought to be undescribed species. Photo by Y. Fujita

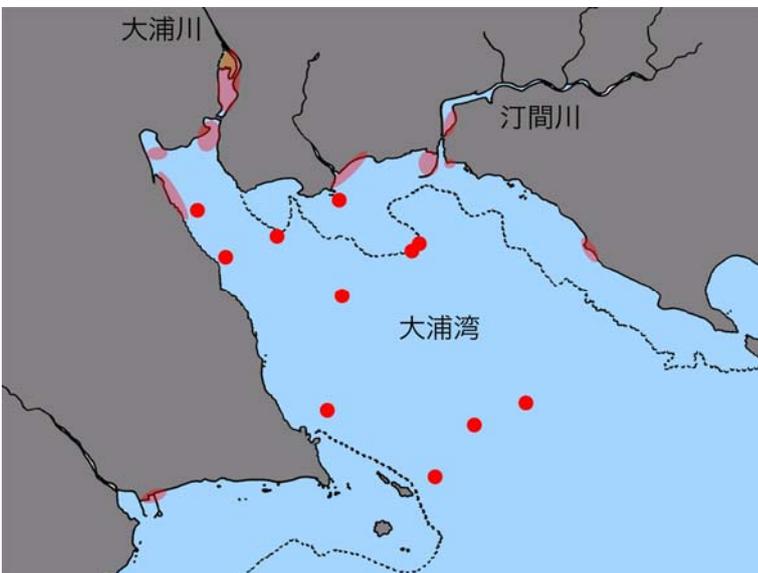


Figure 2 Survey area (Oura Bay, Okinawa Island)



Figure 3 Collection of shrimp and crab species using a trap (above) and a *yabby* pump (below). Photos by Y. Fujita

Inquiries regarding this press release and related documents should be directed to WWF– Japan (World Wide Fund For Nature Japan (WWF is also known as World Wildlife Fund)).

* About the Nansei Shoto Biological Diversity Evaluation Project (also known as the WWF Nansei Shoto Wildlife Mapping Project)

This project was started in October 2006 with the support of SoftBank Mobile, which donated funds from recycling mobile telephones. Over the last three years, the project has worked to inclusively describe the natural environments of the Nansei Archipelago. Its aims are to survey the status of the abundant biological diversity of the archipelago, which is now being lost at an accelerated pace, and identify the conservation measures needed. Specifically, it is working to draw up maps showing high priority areas needing protection, share these “Wildlife Maps” among all entities involved, including WWF, and to put them to use as data for planning specific protection measures. WWF-Japan is supporting this survey and previous on-site surveys as a part of this biodiversity evaluation project.

Details in Japanese available at <http://www.wwf.or.jp/activities/nature/cat1186/wwf/>

■ Information appended:

Naruse, T., Fujita, Y., & Ng, P.K.L., 2009. A new genus and new species of symbiotic crab (Crustacea: Brachyura: Pinnotheroidea) from Okinawa, Japan. *Zootaxa*, 2053: 59-68.

■ Contacts

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