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[Keynote] Introduction to French Polynesian Islands and Coral Reefs: Comparison with Ryukyus Islands

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S1-A Keynote

Introduction to French Polynesian Islands and Coral Reefs: Comparison with Ryukyus Islands

Bernard Salvat

CRIOBE-EPHE-CNRS, Université de Perpignan Via Domitia, Perpignan, France

French Polynesian volcanic and coral low islands will be compared with those from Ryukyus. This approach will enable participants to learn more about land and coral reefs habitats in another hemisphere and the environmental problems faced by their colleagues.

French Polynesia is in the tropical zone of the southern hemisphere and is situated far from any continent. Ryukyus islands lie in the subtropical zone of the northern hemisphere near the Asiatic continent. But these two groups of islands are at the latitudinal limits of intertropical fauna and flora species, both on land and at sea (coral reefs).

The origins of the islands and their ages are very different. Most of the Ryukyus are continental islands that have had land bridges with Asia in the past, during times of low sea levels. Polynesian islands are all oceanic and more recent. The geomorphology of these two groups of islands and their coral reefs ecosystems show more differences than similarities.

Human settlement and their cultures are very different and are related to uses and practices of resource exploitation as well as space management, either land, coastal or marine. The total land surface area of Ryukyus is twice that of French Polynesia, but population size is 6 times greater. A lot of islands are uninhabited in both groups.

French Polynesia has greater flora biodiversity than Ryukyus, for native, endemic and introduced terrestrial plants. However the opposite is the case for land fauna, as some vertebrate groups are totally absent in French Polynesia. Mangroves occur naturally only in Ryukyus. Corals and other coral reefs organisms are much more diverse in Ryukyus than in French Polynesia.

Natural catastrophic events, such as typhoons that have important consequences on coral reefs, are known to occur in Ryukyus, but are rare in French Polynesia. Acanthaster outbreaks occur in both groups of islands, as well as bleaching events, but with more severity in Ryukyus than in French Polynesia. Some islands in both groups, but not the remote and uninhabited ones, are affected by anthropogenic disturbances, mainly from the terrestrial inflow of soil and nutrients. Coral reef restoration projects have been set up in the Ryukyus, such as the large programme in Sekisei lagoon, according to a specific law established in 2002.

Fisheries will be compared between the island groups: There is a high ratio of subsistence fishing compared to commercial fishing in both island groups, but subsistence fishing is lower on the two largest islands of Okinawa and Tahiti. Coral reef protected areas are more numerous in Ryukyus compared to French Polynesia. The tourism industry, which is mostly oriented towards coral reefs, is one of the major incomes of both island groups, but there are 20 times more tourists in Ryukyus than in French Polynesia.

It is also important to note that there are Research centers at both island groups: Sesoko Marine Station Tropical Biosphere Research Center as well as CRIOBE and GUMP centers. Both island groups are involved in GCRMN-ICRI with regional monitoring centers (Ishigaki Tropical Station for East Asian Sea Region and Moorea-CRIOBE for South East Pacific countries, « Polynesia mana »). Both Japan and France have national coral reef societies (JCRS and ACOR) and have been active members of ICRI since its launch in 1994,

both operating as secretariats of the International Coral Reef Initiative (1999-2000 for France and 2004-2006 for Japan), The two countries have also developed national biodiversity strategies which include coral reefs such as the 21st Center of Excellence University of Ryukyus and the French Coral Reef Initiative (IFRECOR). Both countries have provided funding to increase knowledge and improve reef resources management in Pacific countries in the form of either the International Coral Reef Center in Palau by Japan or the Initiative for Coral reefs in the Pacific (CRISP project) by France.
