

Pole national Education au développement durable du réseau Scérén

CRDP de l'académie d'Amiens

Transcription de l'interview video du Professeur Harrison donnée à l'Aquarium de la Porte dorée en décembre 2012 <http://crdp-amiens.fr/96ldq>



Dominique Lefevre: Peter Harrison, good morning. You are director of marine studies at SCU. What do we know about coral ?

The interesting things about corals is that they are the key to the reef environment but after so many decades and in fact some hundreds of years of study, we are still uncertain about quite a lot about corals. For example, we don't fully understand how corals grow and calcify. We know something about the reproduction of about 400 species of corals but there are still about 1300 species of corals about which we know nothing about their reproduction. So there are still lots of really important unanswered questions about corals.

DL: Why do you study corals?

PH: The reason that people study corals is that they are fundamentally important to the development and maintenance of coral reefs. If you don't have living, healthy corals, you simply don't have the environment created for the many hundreds of thousands and possibly millions of other species that exist on coral reefs. So corals are the foundation species that create the environment in which all the other creatures need to live.

DL :What are the most important problems for corals in the future?

PH: The unfortunate thing about the future for corals in some areas are that we are predicting that very many coral species on the planet will suffer as a consequence of increased sea temperatures, increased ocean calcification and increased storm activities on reefs. And that will lead to a loss of corals on many reefs around the planet. In some cases this could be completely catastrophic and we could lose entire reef systems. In other cases what we are probably going to see is the loss of some important branching coral species which are more susceptible to temperature stress and bleaching and therefore a reduction in the diversity of the reef system.

DL :What could be the possible future for coral?

PH:We are uncertain about what will exactly happen in future in terms of the development and maintenance of coral reefs but unfortunately all the global change models are predicting that there

will be increased sea temperatures, which will lead to increasing severity and frequency of mass bleaching events that will kill corals and associated organisms and unfortunately there is a killer that is developing at the moment too and that is what we refer to as ocean acidification. And the problem with the changing chemistry of the sea water is that it will reduce the rate with which corals can calcify and grow their hard calcium carbonate skeleton and they are the foundation of the reef. So what we have is a double whammy effect of increasing sea temperatures, increasing death of corals through bleaching and the increasing carbon dioxide dissolved in sea water reducing the rate at which corals can calcify and grow the reef system.

DL :When you speak about cyclones or tsunamis, you speak about people. But what about coral?

PH:One of the problems for coral reef environments is that they are subject to fierce storm events, cyclones and very rarely to tsunamis. And what we know from recent tsunami and cyclone events are that these events can be catastrophic to some of these coral systems on those reefs. What the huge wave effects occur during heavy cyclone and tsunami events result in is a breakage of many corals. In some cases some corals can regrow and the reef will redevelop. But if you have a very severe wave impact for example, it can strip the foundation of the reef away and it may take many decades, possibly even centuries for the reef to recover.

For the future, are you optimistic or...what do you think about the future?

PH:The future scenarios for coral reefs around the planet are really uncertain. Unfortunately the climate change models are predicting that we are likely to lose significant components of biodiversity around the world's reefs and therefore from that point of view it is quite a pessimistic outlook. However we are still uncertain about how much adaptive adaptability there is in corals. Therefore there is a possibility that at least some of these corals will survive in the future and maintain some components of the reef which will allow at least some of the other reef organisms to remain on those reefs. But the problem is we just don't know enough about how climate change is going to impact corals and the broader reef system. Until we know more, and can be more certain about it, it is very difficult to predict the future.

Science is a fantastic way to understand the environment we live in. And the beauty about science is that we are just beginning to understand what we don't know about corals and reef systems and therefore there are great opportunities for the next generation of students to get involved in managing and hopefully saving the reef systems for future generations as well. So although climate change models are showing us that we are likely to lose significant numbers of reef species and the loss of biodiversity, our hope is we will understand the system soon enough to modify human behavior so that at least some of our reefs will survive into the future and future generations can enjoy them.

Cette transcription a été assurée par Aurélie Dulin – CRDP de l'académie d'Amiens.

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