

What does a whale and a human have in common?

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The immune system of the blue whale is as good as the human's and other land mammals; the species is healthy and could resist an epidemic of bacteria or fungi. Disclosed in the first study of its kind to be carried out globally by researchers at the National Polytechnic Institute (IPN).

Jorge Ortega Reyes, head of research at the National School of Biologic Sciences (ENCB/IPN), explained that the DNA of the cetaceans is

obtained from a tissue sample and a specific gene is sequenced, in this case the DQA gene with which the immunity of the species can be identified.

"The tissue of 80 individuals was analyzed and 33 sequences were obtained, 23 common ones while the other ten were quite particular. We compared, for example, two individuals and they had different sequences between them which makes them respond differently to a particular sickness".

The research demonstrated that the community of blue whales in the Gulf of Mexico is a healthy one regarding the DQA gene, in other words, healthy in their immune response. "We found haplotypes – genetic configuration of the chromosome – with infrequent changes, what proves that the community is distinct and healthy".

Besides the [blue whale](#) in the Gulf of Mexico, the IPN has studied black bears and bats. The first were studied as a metapopulation to find out how they migrate, and the last ones underwent a taxonomic research to find out how many different species lived in Central America.



The black bear is a mammal with a habitat that ranges from Alaska to central Mexico; the biggest population is located in Coahuila (a state next to Mexico's north border). The researchers from ENCB/IPN selected bear feces from six locations in the north region of the country and their analysis showed that the species is part of a metapopulation, which means, populations divided in groups that can migrate.

This study demonstrated the population dynamics of this species: individuals come down from a hill and climb another one looking for food.

IPN communicated that in Nuevo Leon, the four subpopulations have mixed with each other. Meanwhile, in Coahuila there are two separate populations that haven't mixed with the ones in Nuevo Leon.

Concerning the bats, the National School of Biologic Sciences (ENCB) started with a study of the species in Campeche (southeast of Mexico), then the bat communities in the adjacent state of Yucatan and finally Central America.

Ortega Reyes said that 26 new species were discovered in Mexico and 17 in Central America. "For the study we employed cytochrome oxidase, which works as a bar code; the research showed that there are six different haplotypes in vampire [species](#), eight in nectarivores (feeding on nectar) and 30 of frugivores (feeding on fruit)".

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