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**Media Release**

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**BITES AND SCARS HELP RESEARCHERS TO UNRAVEL WHALE MIGRATIONS**

With the help of GPS technology and smart phones, researchers from the University of Pretoria’s (UP) Mammal Research Institute are unravelling the mysteries of humpback whale migrations and breeding areas of the west coast of Africa. Their recent paper (see details below) in the *Journal of Mammology* explains how they use technology, along with scarring patterns on the bodies of humpback whales, to determine migration routes between feeding grounds in the polar regions and warmer water breeding grounds.

“Whale numbers have been increasing rapidly since the end of whaling, but determining the exact whereabouts of migration routes and breeding areas remains a mystery for many stocks, including those off the west coast of Africa,” Dr Simon Elwen, UP research fellow explains.

"By looking at the patterns of scarring by cookiecutter sharks and killer whales and comparing the number of bites and scars on whales with the known distributions of these predators, we get a better understanding of the environment the whales have travelled through before they reach our coasts, and a better understanding of where they have been ", says co-author Dr Tess Gridley, a post-doctoral fellow at UP.

“We are reasonably confident that cookiecutter sharks, which look particularly gruesome and have a razor sharp set of teeth for gouging out discs of flesh, prefer living in warmer and temperate waters and avoid the shallower, colder waters of the Benguela ecosystem that characterise the western coast of South Africa and Namibia. In contrast, killer whales, which regularly attack and kill humpback whales, especially calves, live throughout the humpback’s habitat. Therefore if whales are photographed with lots of fresh cookiecutter shark bites, there's a good chance they've recently passed through warm water from offshore areas and only recently reached the coast".

Using these lines of evidence, Dr Elwen and colleagues were able to determine that humpback whales seen in coastal Namibian waters during the winter months had a lot of fresh bites from cookiecutter sharks suggesting they had recently arrived at the Namibian coast directly from the warmer waters offshore of the Benguela. In contrast, humpback whales photographed off western South Africa by research associate Dr Jaco Barendse as part of an ongoing study of study summer feeding humpback whales, had no fresh bites suggesting they had spent long enough migrating through the cold Benguela for bites to heal. Dr Barendse is a post-doctoral fellow at the Nelson Mandela Metropolitan University and SA National Parks.

"Photo-identification of scarring and colouration of tail flukes has long been used to identify individual whales and look at the movements and population size.” Dr Elwen adds. “In this study we used photographic data to determine where the animals might have been before they reached our coast”.

"We compared catalogues of individual whales from the different study sites, and found no matches between the population seen in western South Africa, Namibia and Gabon. However, the Namibian catalogue is much smaller as fewer animals have been seen there. We do not think that animals are breeding in Walvis Bay or coastal Namibia (as has previously been suggested), but rather passing through on their northward migration".

This low-cost method of data collection provides valuable insight to help manage whale stocks and this information has already been presented to the Scientific Committee of the International Whaling Commission. The next step is to use genetic fingerprinting to investigate the relatedness between humpback whales found in Namibia and those seen in other locations around the African coast line.

High-res visuals and copy of research paper available at  
<https://www.dropbox.com/sh/2fb4v32exbsg893/AAAYbR1g_1Hax5UZzM_IUtasa?dl=0>

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