by Elke Bojanowski

Oceanic whitetip sharks have taken centre stage on international dive forums throughout the past few weeks. After the unfortunate death of a snorkeler on the St Johns plateau at the beginning of June, there has been an avalanche of rumours about additional incidents and reports of aggressive behaviour towards scuba divers. This led to substantial confusion, and reactions bordering on hysteria – apparently even among some diving professionals here in Egypt.

Also known under its scientific name, *Carcharhinus longimanus*, this shark species has always had a 'special' reputation...
Starting with their involvement in the tragedy surrounding the sinking of the SS Indianapolis during World War II, continuing with their depiction in early Jacques Cousteau documentaries, and culminating in them becoming an integral part of the Egyptian diving tourism industry today, despite being generally described as aggressive and dangerous.

For the last at least six or seven years, meeting oceanic whitetip sharks under water has been the highlight of many a liveaboard visiting the offshore marine parks and other dropoff reefs, like Elphinstone. Thousands of divers and snorkelers have enjoyed the special thrill caused by the inquisitive and fearless behaviour of these sharks.
Finally a shark species, that you cannot only discern by its shadowy contour out there somewhere in the blue, but that is readily approaching you…

Male #564 off Abu Kizan, October 2009. Photographs: Elke Bojanowski

The close encounters, that have made oceanic whitetips so popular in recent years, are not solely due to their natural inquisitiveness, though. Quite contrarily, the illegal practice of feeding and baiting is very likely to have caused these sharks to become accustomed to people in the water, and reduce their in-built "flight distance" to basically zero.

Do we have to conclude then, that it is unsafe and dangerous to meet these sharks while scuba diving? In my opinion, clearly not! Despite being an apex predator in the world's oceans, the

longimanus (and ANY other shark species, for that matter!) does not have humans on the menu. Simple rules applied, diving with them will remain the exciting and enjoyable experience it has been in the past, hopefully for years to come…

Female #663 moves in for a closer look. After a few passes in amongst about 10 divers off Big Brother Island she calmly vanished in the blue…

Following is a list of the major things to remember, when encountering sharks under water:

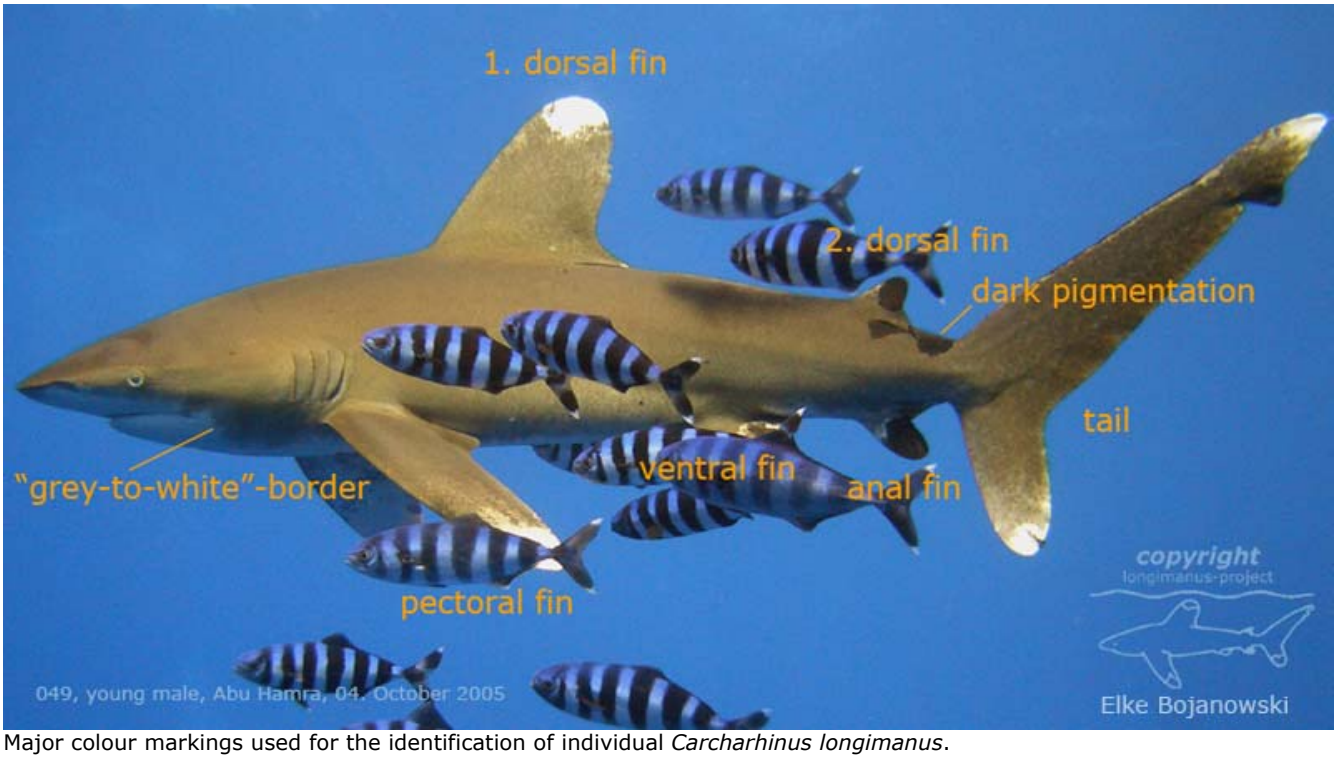
- Do not feed or bait any shark species, or enter the water while feeding activity is occurring;
- Stay calm; if you decide to leave the water, do so in a calm and orderly fashion;
- Control your buyoancy at all times, especially try to avoid ascending to the surface straight above a shark swimming around you;
- Stay alert and keep looking around you; if circled by a shark, turn with it and maintain eye contact.

Frighteningly little is known about Oceanic Whitetip Sharks worldwide, aside from general biological features (distribution, maximum length, length at maturity, viviparity [= giving birth to live young], litter size, length at birth). Available information on population numbers is rather depressing, indicating that populations worldwide are declining, with critically low numbers reported from parts of the Atlantic Ocean. Being one of the most abundant open-ocean predators, the longimanus is of major importance for maintaining the ecological balance and diversity of the marine environment.

Longimanus-Research in Egypt

Throughout the last five years, the Red Sea population of *Carcharhinus longimanus* has been the subject of a research project, which exploits some of their more conspicuous morphological characteristics. Colour markings on their fins and body are used to identify individuals, and to

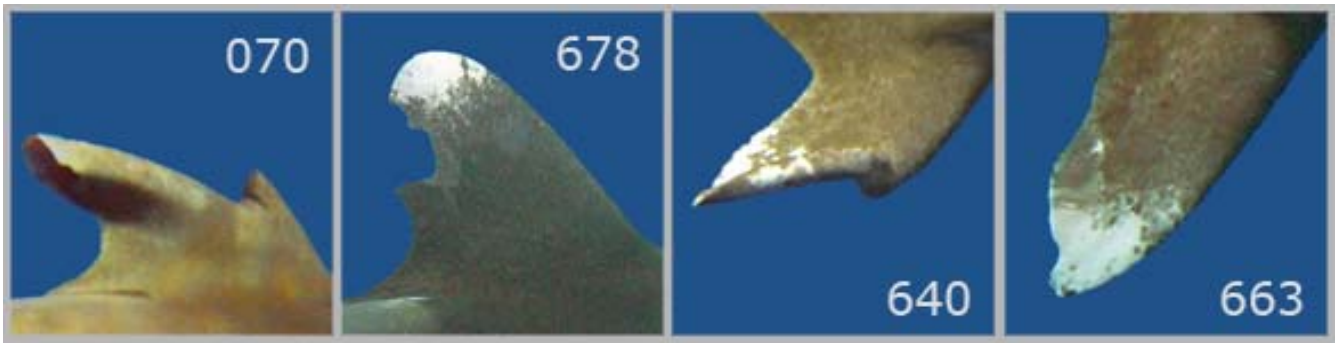
follow their migration paths and residency patterns. The major tool is the analysis of underwater photographs and video clips, which are taken by scuba divers.
Most prominent - and therefore most important for the individual ID - is the first dorsal fin, followed by the lower tail lobe. These two fins are generally well depicted in full body images from either side of the shark. But any other fin can help identifying individuals, as well as pigmentation patterns on the head, the belly and the tail stock.



Major colour markings used for the identification of individual *Carcharhinus longimanus*.

All the fin markings are fed into a catalogue containing a total of just above 560 individuals (Jul 2009), who have been assigned three-digit ID-numbers. Additionally, each image/video is stored with the information, where (which reef), when (which date), and by whom they were taken. That enables me to track if familiar animals are resighted at the same dive sites, or if they have travelled, how far they have travelled, and across which time period.

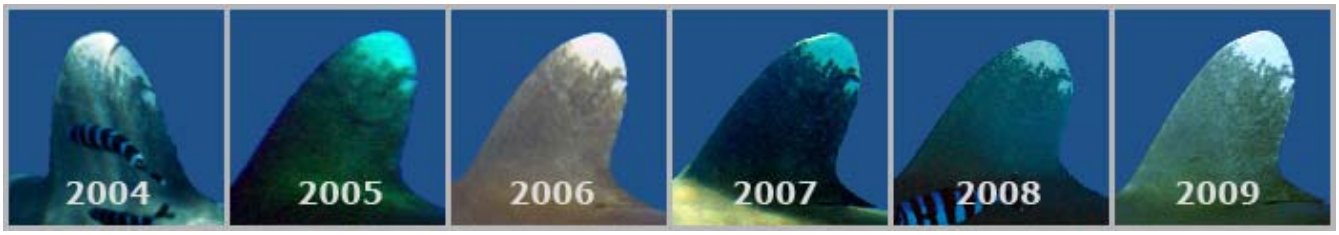
One of the major problems for the identification process is, that the markings differ on the two body sides… left and right are not the same! So unless there are more obvious characteristics, e.g. notches or cuts in one or more fins, or parts missing completely, it can be tricky sorting the two sides of the same animal together.



Examples for notches and cuts in dorsal fin and lower tail lobes of four different oceanic whitetip sharks. The cuts in 070's dorsal fin and 640's tail were probably caused by zodiac propellers...

Until July 2009, I sorted through about 18.000 underwater images of oceanic whitetips, that were made available to me by close to 400 divers. Geographic limits of these photographs were Jackson

Reef in the Strait of Tiran to the North, and the St. Johns-Plateau to the South. Timewise, collected photographs were taken between June 2002 and July 2009.
Out of the more than 560 individuals in the catalogue, more then 400 were photographed in only one year; 86 were sighted across 2 years, 14 across 3 years, 6 across 4 years and 3 across 5 and 6 years respectively.
One single female (#506) has been documented each year since 2004, which makes her a perfect specimen to show the stability of the natural markings used for the individual identification. The first underwater images showed her at Daedalus Reef, where she was also photographed the following 2 years. In September/October 2007, she took residence around the island of Zabargad, then appeared in Elphinstone in June 2008. This year, she is back at Daedalus Reef, last photographed in the middle of May.



Colour markings of the left dorsal fin of female #506, showing their stability across six years.

This year has started quite exceptionally. In seven months, more individuals have been documented already then throughout the whole of 2007, even before the onset of the main season in October/November. Most of them have been seen around Daedalus, which has replaced Elphinstone as the topspot for oceanic whitetip encounters since 2007. Resighting rates are higher than for any other year, with 42% of animals being familiar ones. Quite a few of those had not been photographed for 2 or 3 years before reappearing in 2009.

Building on the dataset of the last five years, the longimanus-project is moving into its next stage. With the help of HEPCA, a support network is being set up, ensuring that photographic documentations of oceanic whitetip sharks are remaining here in Egypt and are made available to the study. With liveaboards covering the Marine Parks as well as St Johns from different ports on different days, and the ever-growing number of digital underwater cameras available at reasonable prices, there will be lots of valuable information within comparably easy reach. All it would need is for the dive guides to inform their guests about the ongoing survey and – whenever possible – directly collect any underwater images and videos showing *Carcharhinus longimanus* from their trips. As long as this material is stored with the information on where (which divesite), and when (which date) it was taken, it will be highly valuable for the project.
If possible, also include the full name of the photographer, and any unusual behaviour that occurred in any of the encounters with the oceanics.

This kind of data could for example show, if we really do have individual sharks, that – because conditioned by feeding and baiting activities from liveaboards throughout the last few years – are permanent residents in certain areas, have learned to expect food from people and might show aggressive behaviours if these expectations are not met.

Generally considered to be highly migratory, it is still uncertain if that is true for the Red Sea population of *Carcharhinus longimanus*. We don't even know, if there is a distinct Red Sea population, or if it is a part of the Indian Ocean genetic pool.

To answer this and other important questions (feeding areas? breeding and nursing grounds?) one future goal for the project is to secure fundings for fitting some oceanics with satellite tags. These tags are attached to individual sharks for up to 12 months, recording information such as water temperature, pressure, and the length and onset of the daylight period. After detaching themselves and popping up to the surface, the tag then transfers all the stored data to the satellites above. These data are then translated into depth profiles and geolocation tracks allowing a more detailed assessment of habitat use and of population parameters for this open-ocean shark species.

I am also grateful for underwater images of oceanics from previous years. For any question, or some more details on the longimanus-project, please click on www.longimanus.info. You will find more information on the species, the project itself, and also a small photo gallery with my favourite pictures.
You can also contact my by email: longimanus@elke-bojanowski.de and send any underwater images of oceanic whitetips to me directly.

Any contributions will be highly appreciated, thank you in advance !

HEPCA
CARING FOR THE RED SEA

Dr Elke Bojanowski
Biologist, dive guide &initiator of the longimanus-project
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