


●●● **WORLD EXCLUSIVE**

PHOTOGRAPHS BY DOUGLAS DAVID SEIFERT



A large whale shark with a pattern of white spots on its dark body is swimming horizontally across the frame. It is surrounded by a large school of smaller, silvery fish. The background is a clear, deep blue ocean.

EACH YEAR under a full moon on an isolated reef in Belize, an amazing spectacle takes place, which until now has never been photographed. A mass of spawning of reef fish attracts hungry whale sharks to a rare feast...



Snappers return to the depths after spawning



Large numbers of whale sharks gather



Whale sharks suck the protein-rich water

Report Douglas David Seifert

PREVIOUSLY IGNORED stories told by local fishermen have led scientists to uncover a key link in the cycle of life on coral reefs. American researcher Will Heyman was fascinated by the stories of dozens of whale sharks feasting on the mass spawnings of a variety of species of reef fish. He was directed to an isolated point on the barrier reef which stretches for 1,000km along Central America. The reef itself supports 65 species of coral and 300 fish species, but more importantly, for a few days each year, what happens at certain precise sites along the reef determines the future and fate of fish populations along its entire length.

Heyman discovered that these specific reef sites are the gathering points for fish reproduction – called broadcast spawning – for at least 26 species of reef fish, many of which are transient visitors to these sites, travelling more than 100km to heed nature's call. Everything is timed to the phase of the full moon. Thousands and thousands of male and female fish arrive as if by clockwork and mass together into spawning aggregations. By day the fish remain in deep water, below 30m, just beyond the drop-off from the reef. But as the sun begins to set, the fish pack together into tight schools and rise up in the water column – the action becomes fast and furious.

The swirling, undulating school accelerates rapidly into a mad rush towards the surface. With a tumultuous rubbing of bodies, belly to belly, and a furious, thrashing wriggle of tails, the fish reach the point of no return: eggs and sperm are released into the water. The eggs are transparent but the sperm is milky, giving the sudden appearance of what looks like a cloud of smoke. When the fish have spawned they swim back towards the depths, and wave after wave of spawning fish follow without abatement for an hour and more. With the explosive release of eggs and sperm into the waters comes the appearance of the largest fish in the sea, the whale shark. For, just as the spawning aggregation signals the cycle of life in the sea with its creation of the smallest fishes, so too does it ring the dinner bell for the large predators, with its enticing prospect of feasting upon the richest source of protein to be concentrated in one small area.

Never before has such mass broadcast spawning been recorded and it now seems that these events hold the key to how all coral reefs around the world are populated. Read the full story, with many more amazing photographs in the *Shark Special*, published by *DIVE* and out this summer. ■

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