There may be nothing new under the sun, but there’s a lot of weird stuff in the water. Way more than we thought, according to the Census of Marine Life, a project 10 years in the making that involved 2,700 scientists in 80 countries who put together "a map of where we haven’t been," according to Ron O’Dor, one of the program’s senior scientists. Using everything from fancy submersibles to old seafood-restaurant menus, the scientists produced more than 2,600 papers, the highlights of which were released in a 64-page report in October.

Among the "large, active and conspicuous organisms" that no one knew existed is a new species of spiny lobster, *Palinurus barbarae*, which was found by a Spanish fishing boat on the Walters Shoals in the Indian Ocean, 400 nautical miles south of Madagascar, and classified by South African marine biologists. It’s more than half a meter long. "This was a lobster that had never been described," O’Dor says.

What O’Dor and his colleagues call "biodiversity’s big, wet secret" is the understudied midwater depths, well below the surface but above the seafloor. There researchers gathered videotaped evidence of big-fin squids, which have extremely large "undulating" fins and whose "long, thin arms and tentacles have a strange elbowlike bend near the body." They can grow as long as 22 feet and have been glimpsed in four different oceans. O’Dor, a squid biologist himself, explains that taxonomists had already "ID’d the paralarvae, but nobody knew what they grew up to be." AARON RETICA