

Ten new coral species discovered in science collections

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Kotatea raekura coral discovered by Dr Kessel. Credit: Mike Page, NIWA

Ten new species of New Zealand soft corals have been discovered by marine biologist Dr. Gustav Kessel, who recently completed his PhD at Te Herenga Waka—Victoria University of Wellington.

Soft corals are lesser-known relatives of reef-forming hard corals and are important components of marine ecosystems.

"They're like the trees of the sea floor and many other organisms depend on them for their habitat," Dr. Kessel says.

The [new species](#) were found among tens of thousands of preserved specimens housed at the NIWA Invertebrate Collection in Wellington, the Auckland War Memorial Museum, and international institutions.

"Many species are 'discovered' in collections of old material rather than during expeditions. The new species I described had been waiting for attention on collection shelves for years, some since the late 1960s."

Dr. Kessel's work debunked the belief that Aotearoa had one common shallow-water [coral species](#) called "dead man's fingers," or *Alcyonium aurantiacum*. "What we thought was one species is actually several superficially similar, but very diverse species."

While New Zealand is a hotspot of soft coral diversity, our corals are better studied in the deep sea than at shallow depths, he says. "Virtually nothing is known about the many species within diving or even snorkeling depths around the country."

Dr. Kessel wants more resources invested in taxonomy—the naming and classifying of organisms.

"Countless species are threatened, declining and going extinct, and this certainly includes species we didn't even know existed. How can we protect our biodiversity without a full picture of what's out there?"

The 10 corals he identified have been classified into two new genera (groups of species) endemic to New Zealand.

Dr. Kessel says a working group from Far North iwi Ngāti Kurī named one genus *Kotatea*. The second is named *Ushanaia*, after his fiancé

Ushana.

The iwi also named four of the 10 new species that are found in its rohe.

"Ngāti Kuri representatives carefully crafted scientific names based in te reo, and seeing the species I worked so hard to identify given names with such deep historical and spiritual meaning was the most rewarding part of my PhD."

Dr. Kessel was born in Köln (Cologne), Germany, about 200 km from the sea.

"Luckily, my parents decided to move to New Zealand when I was 11. There are few better places for people who are fascinated by nature, especially [marine life](#), and I started studying [marine biology](#) as soon as I had the chance."

Dr. Kessel's dissertation, titled "[Dead man's fingers point towards new species](#)," was supervised by Professor Jonathan Gardner from the University's School of Biological Sciences—Te Kura Mātauranga Koiora, Drs Kareen Schnabel and Jaret Bilewitch from NIWA, and Dr. Phil Alderslade at the Commonwealth Scientific and Industrial Research Organization in Australia.

Provided by Victoria University of Wellington

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