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Expedition Launching to Study the Colossal Squid in Antarctica

An international expedition is heading to Antarctica in December 2022 in an attempt to find and film the largest invertebrate in the world in the deep sea for the first time.

A collaborative effort is underway between a polar tourism vessel, underwater technologists, and marine biologists, to repeatedly deploy deep sea cameras into the Southern Ocean to try and uncover the biological mysteries of the colossal squid. The goal is to find and study the colossal squid before 2025, the hundred year anniversary of the first discovery of the species.

About the Colossal Squid: The colossal squid is the largest invertebrate in the world, and one of the largest ocean predators. It has the largest eye in the animal kingdom, about the size of a dinner plate. It could weigh as much as 750 kg (1,650 lb.) or more, and the total length is ~10-12 meters (~30-40 ft.). It is larger by weight than the better-known giant squid, *Architeuthis*, and it is believed to live primarily in the deep sea in the Southern Ocean. It has hooked tentacles and is in a genus by itself – *Mesonychoteuthis*. Little is known about the colossal squid's basic biology, behavior, unique use of bioluminescence, and conservation status. A summary paper of what is known about the colossal squid sums up the major gaps in understanding about the world's largest invertebrate: "...its basic biology and ecology remain one of the ocean's great mysteries" (Rosa et al 2017).

Crowdfunding Campaign to Support the Research: The groups [have launched a crowdfunding campaign](#) to support the expedition with the Experiment Foundation. The campaign raised their original goal of \$5000 from 33 backers in the first 24 hours after launch. This is going to support travel and insurance for the researchers, and the



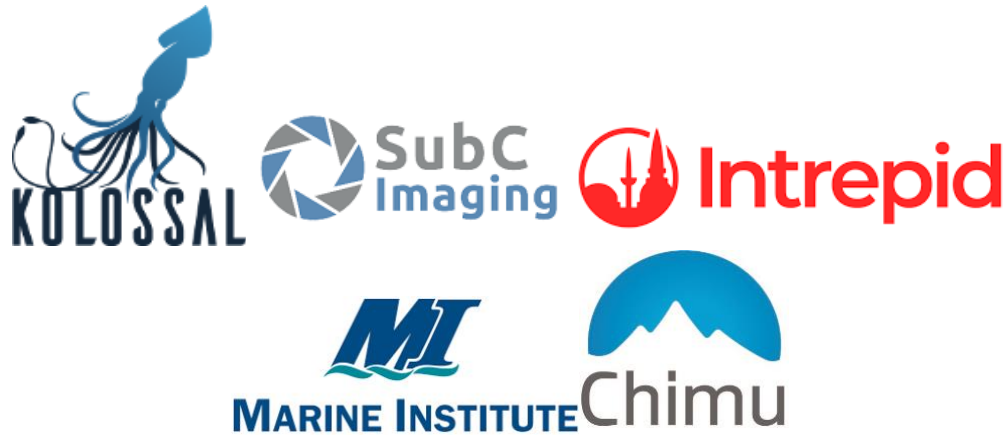
purchase of deep-sea lighted lures. The Experiment Foundation has provided a matching \$5,000 in support, and the campaign is open until November 17th.

Research Goals: *The goal is to document the colossal squid underwater in its natural habitat in the next three years (2025), before the 100-year anniversary of the first discovery of this species. In 1925 two arms of a colossal squid, *Mesonychoteuthis hamiltoni*, were found inside the stomach of a sperm whale (Robson 1925). Since then, only a few whole specimens have been captured or viewed alive and never in the colossal squid's natural habitat, the deep sea between 500-2,500 meters.*

We are surveying locations in the Antarctic Peninsula onboard the tourism vessel [Ocean Endeavor](#) operated by Intrepid Travel to try and find and film a colossal squid - to observe its behavior, and raise awareness about conservation priorities for the Southern Ocean. With this expedition we seek to potentially answer some basic biological and ecological questions about the colossal squid: How large do they grow? What is their most preferred habitat and what depths do the adults live? Do adult females spawn near the surface? How does it use its massive eye (offense or defense)? Is it attracted to lighted displays? How does it use its bioluminescent photophores around its eyes? Is it truly an ambush hunter or more active? Is it a pelagic species or will it spend time in the fjords? What is its population size and conservation status?

Methods and Technologies: *The colossal squid is believed to be a slow-moving ambush hunter, with a low metabolism eating infrequently. It is believed to live only in the remote, deep sea of the Southern Ocean making it a difficult target species for research. To attract and observe it we will need to get very close to the squid with a suitable deep sea camera system. The weather, wave, currents, and ice conditions of the Southern Ocean make submersibles, ROVs, and AUVs less reliable and possibly riskier for finding the colossal squid. Instead, we are repeatedly deploying a tethered cable attached with a frame and deep-sea camera system made by [SubC Imaging](#). We are using an oceanographic winch and crane which is affixed to the vessel. The system will be deployed to a maximum of 500 meters depth by a small team of 2-4 researchers from a gangway door on the first floor of the Ocean Endeavor. We will be employing [SubC Imaging's Towed Camera System](#) (although it will be stationary when we use it) along with a 4k camera and red and white lights.*

Conservation Goals: *The colossal squid is an oversized poster species for how much we still can learn about the ocean. With this expedition we also want to inspire the public*



(Antarctic tourism guests and beyond) about the ~90% of the ocean largely unexplored. We will be conducting talks about the expedition to guests onboard the tourism vessels and developing a documentary that seeks to get people engaged in major decisions impacting the ocean - such as passing the High Seas Treaty, expansion of Antarctic marine reserves, and how individuals can make seafood decisions that impact far away nearly pristine ecosystems.

Quotes:

KOLOSSAL

"The colossal squid is an oversized poster species for how little we know about the ocean" said Matt Mulrennan, Marine Scientist, an organizer of the expedition and Founder/CEO of non-profit Kolossal, "It's the largest invertebrate on our planet, with the world's biggest eye, hooked tentacles, and likely glows in the dark, does it get any cooler than that? Studying this species in this remote region is a truly challenging adventure. So let's 'get kraken' on this exciting scientific expedition!"

SubC Imaging

"We're thrilled that our technology will be used to attract and possibly capture footage of the elusive colossal squid, especially as we approach the 100-year anniversary of the first discovery of this species," said Chad Collett, Founder, CEO, and Camera Systems Manager at SubC Imaging. "It's this type of collaborative opportunity that breeds innovation and helps move forward ways to gather imaging for marine research".

Chimu Adventures

"At Chimu Adventures, we are so excited to be a part of this uncharted project", says Chad Carey, Chimu's Managing Director. "It will launch on our Antarctica expedition cruise, specially chartered by Chimu, with Australian mathematician and media personality Adam Spencer, so we're thrilled that this trip will have such a strong element of citizen science for our travelers. On all our trips, wildlife is an integral part of the experience so the opportunity to learn more about creatures of the deep adds such a unique element to the journey. After visiting Antarctica, we find our guests become ambassadors and advocates for the planet so we're thrilled to educate them about the elusive colossal squid".



Marine Institute

“The colossal squid expedition is an unparalleled opportunity for our graduate research students to collaborate with an international team to expand our limited knowledge of this rarely seen species,” said Dr. Paul Brett, acting vice-president, Memorial University (Marine Institute). “We are thrilled that our students will be able to lend their Canadian Arctic research experience and know-how in deploying similar innovative technology to this deep ocean exploration. Through knowledge generation, research and industry collaboration, we are bringing our expertise to the world to gain a better understanding of our global ocean ecosystems.”

Groups Involved:

Intrepid Travel

Intrepid Travel is the largest small group adventure company in the world.

Chimu Adventures

Chimu Adventures is a specialist travel operator with over 20 years of experience in Antarctica, the Arctic, and Latin & South America.

KOLOSSAL

An ocean exploration and conservation non-profit based in Venice, CA.

SubC Imaging

SubC Imaging is a global leader in developing innovative subsea cameras, systems, lights and lasers that generate complete imaging solutions.

Fisheries and Marine Institute, Memorial University of Newfoundland

The Marine Institute is Canada's most comprehensive centre for education, training, applied research and industrial support for the ocean industries.



Videos and Media:

Crowdfunding Campaign on Experiment Foundation. ['Studying the World's Largest Invertebrate - the Colossal Squid, Mesonychoteuthis hamiltoni'](#).

[Overview Video of the ACKBAR's First Dive - Grand Prize Winner Con X Tech Tech Prize.](#) YouTube. November 2018.

[Deep Sea Wildlife From First Dive.](#) YouTube. November 2018.

Media Hits about the Colossal Squid Expedition and Winning a Conservation Technology Prototyping Prize:

[Kraken the code..of squid.](#) Where We Live. WNPR. January 2019. (interview about the colossal squid expedition starts around 23:00).

[Newfoundland company hopes to catch colossal squid on film.](#) Weather Network. December 2018. (Discusses KOLOSSAL and SubC Imaging)

[Conservation X Labs Awards Inaugural Con X Tech Prize Honors.](#) Conservation X Labs. December 2018. (Original camera technology that won the \$20,000 grand prize in this global conservation technology prototyping competition, now is tethered).

[An award-winning new tool to explore and protect deep-sea habitats.](#) ecoEssentials. March 2019.



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