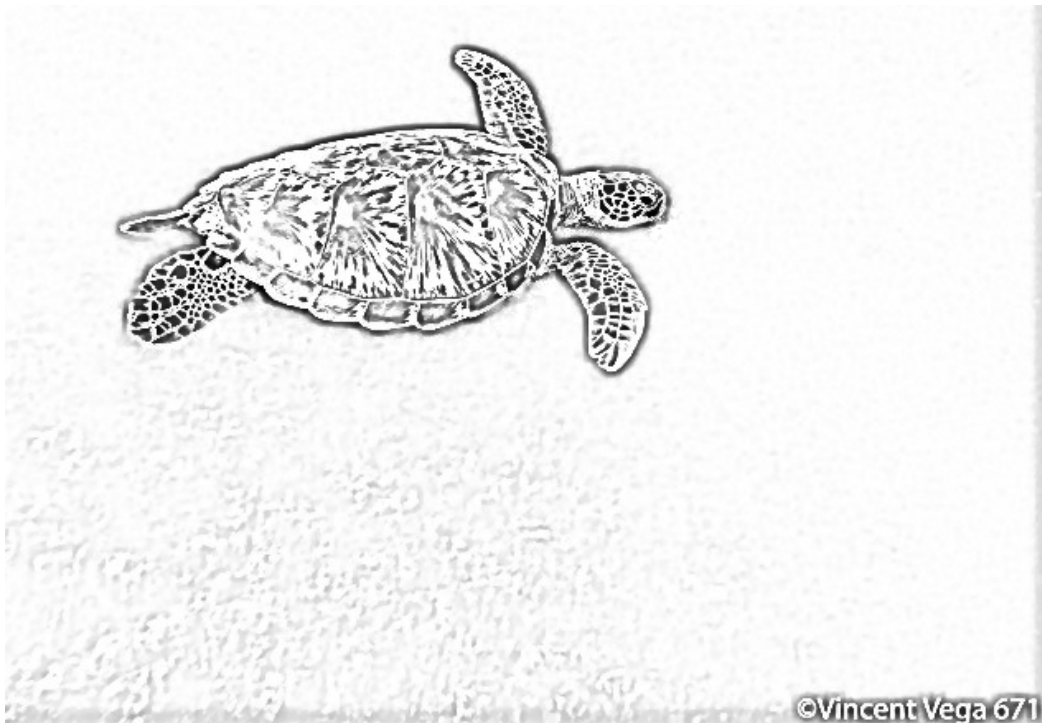


# MARINE SCIENCE COLORING BOOK

**Charter Day 2022**  
**University of Guam Marine Laboratory**



Dear Young Scientist,

We hope you have fun coloring this book while learning about marine life and how to study it. Come back to this space to write notes of what you learned or if you have any questions for the scientists. If there is a question you would like to ask any of the scientists from the Marine Lab, you can send it to the following email: [uogmlpoets@gmail.com](mailto:uogmlpoets@gmail.com).

Bird Wrasse – Donaldson Lab

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Blue Seastar – Kerr EchinoLab

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Coral Garden - Island Evolution Lab

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Coral Polyps – Lemer Invertebrate Genomics Lab

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Coral Nursery – Raymundo Coral Lab

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Fouha Bay – Bentlage Lab

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Låggua – Houk Lab

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Marine Algae – Schils Phycology Lab

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Midnight Snapper – Fisheries Ecology Lab

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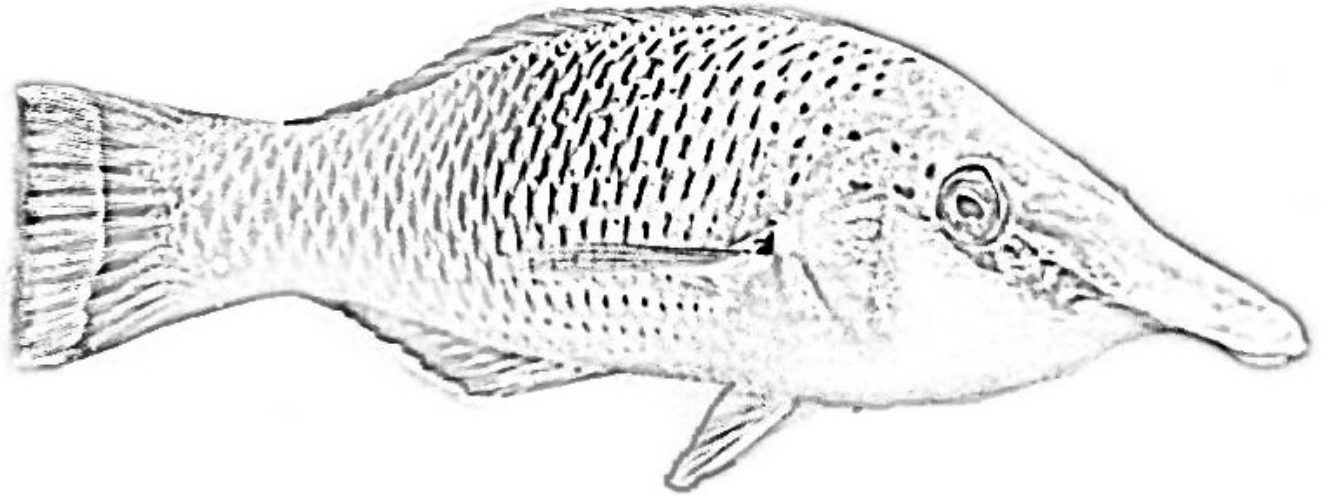
Scuba Divers – Fujimura Lab

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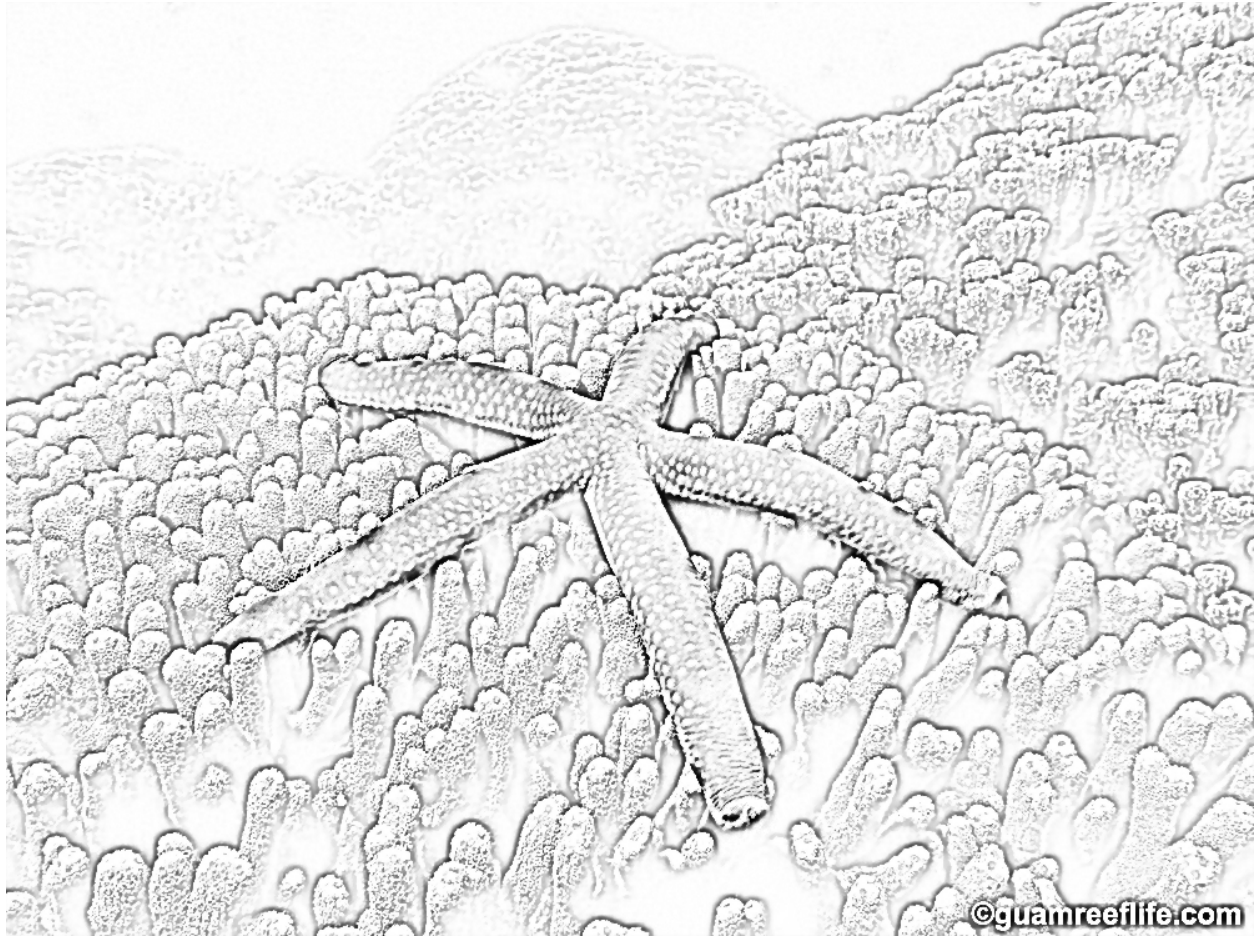
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# Bird Wrasse



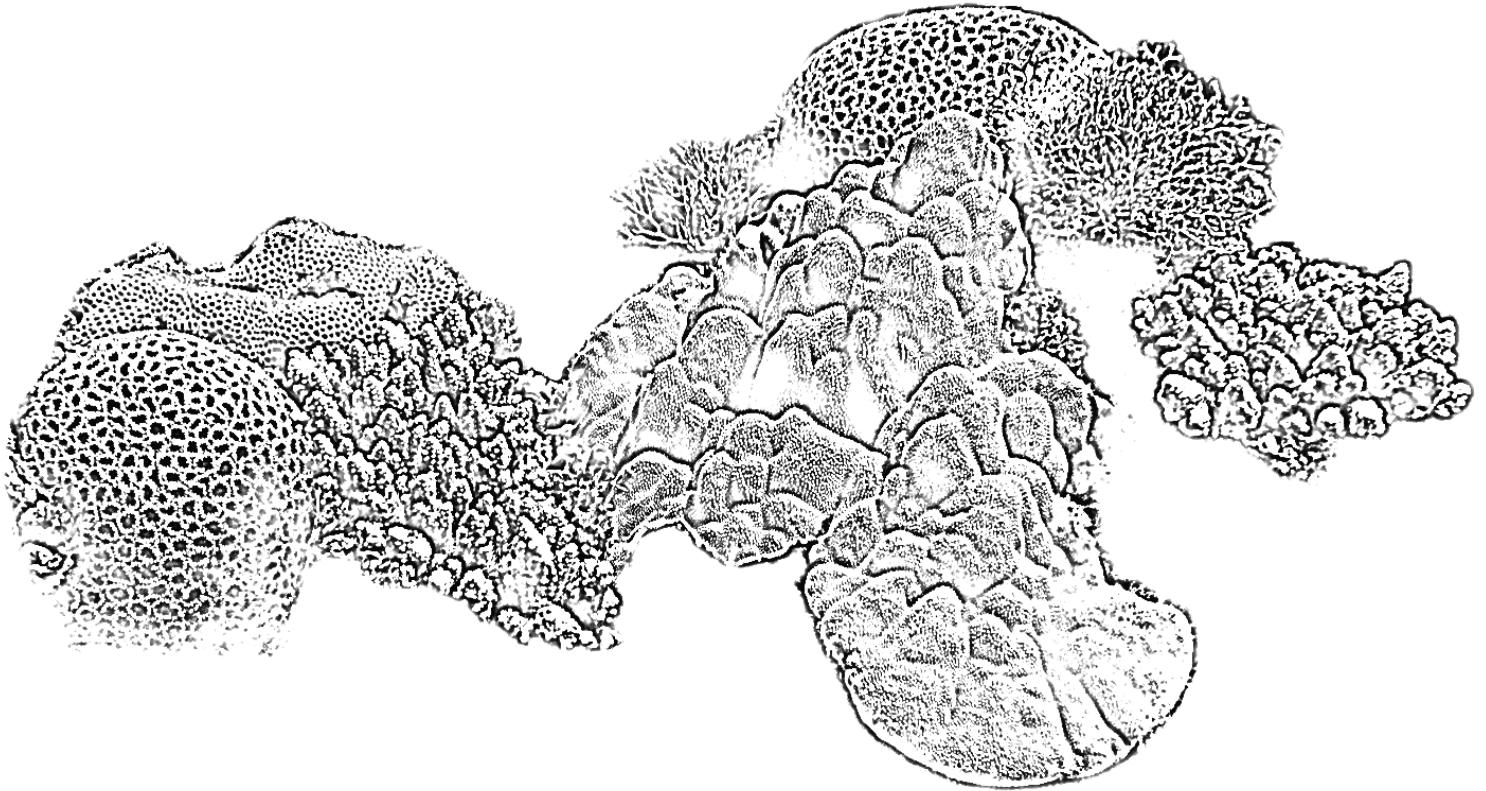
The Bird Wrasse's scientific name is *Gomphosus varius*, and is known as *tatanum* in CHamoru. *Tatanum* means to plant something by digging into the ground, which is what the Bird Wrasse does with its long snout to dig for food. All Bird Wrasses start their lives as females, and some transition into males. Females are colored black and white with orange fins and snout, while males are colored green and blue. The Donaldson Lab is studying the spawning behaviors of this fish species.

# Blue Seastar



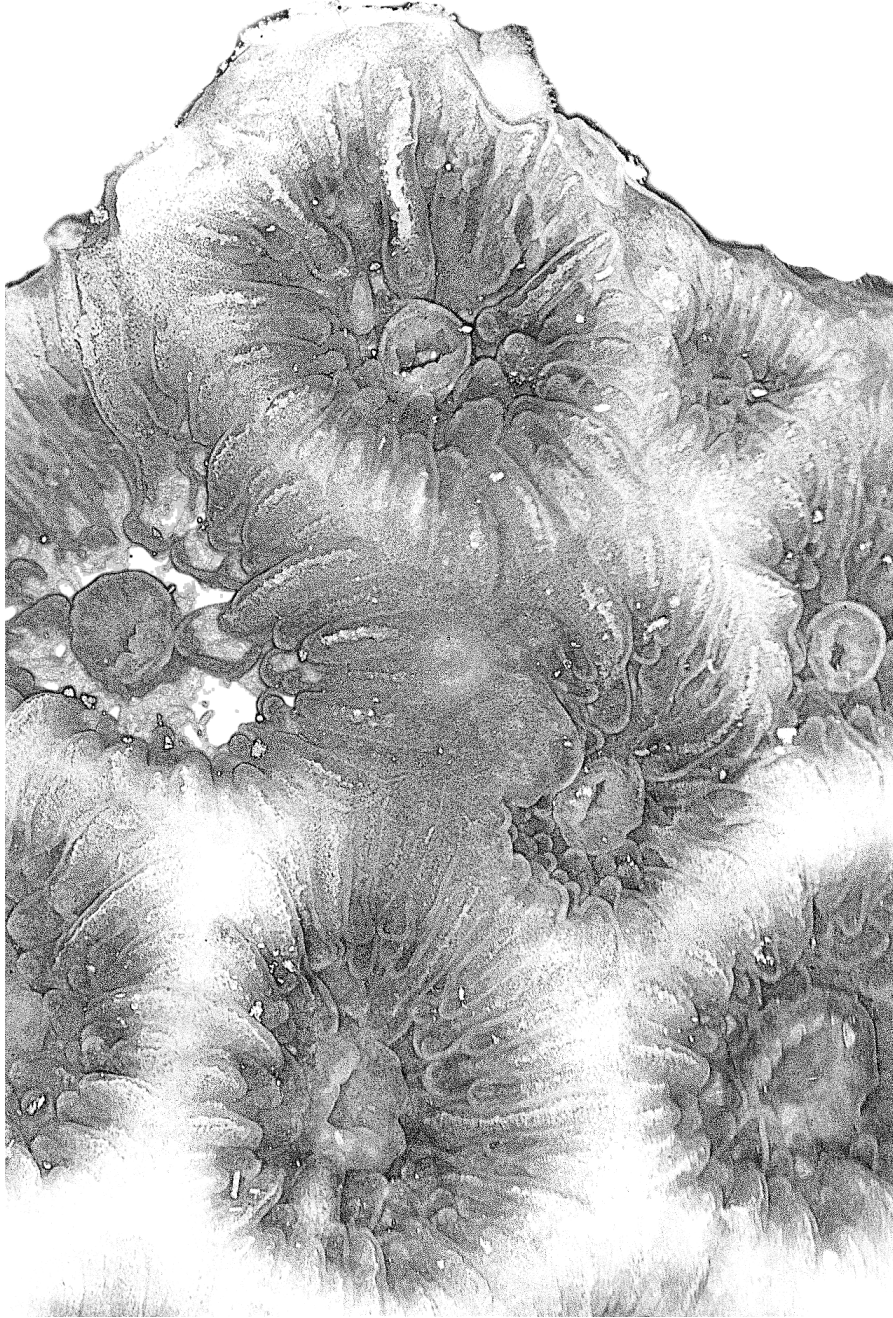
This is the blue seastar resting on a coral colony. In Chamoru it is called *I asút na puti'on tãsi*. Scientists call it *Linckia laevigata*. Some seastars eat coral, but the blue seastar eats leftover dead seaweed and microscopic animals. It can live for up to 10 years. The blue seastar is found on all tropical Pacific islands. On some islands, it is pink and in deep water it is sometimes brown. Nobody knows why it has several colors. Marine Lab scientists study what seastars eat and why there are so many seastars.

## Coral Garden



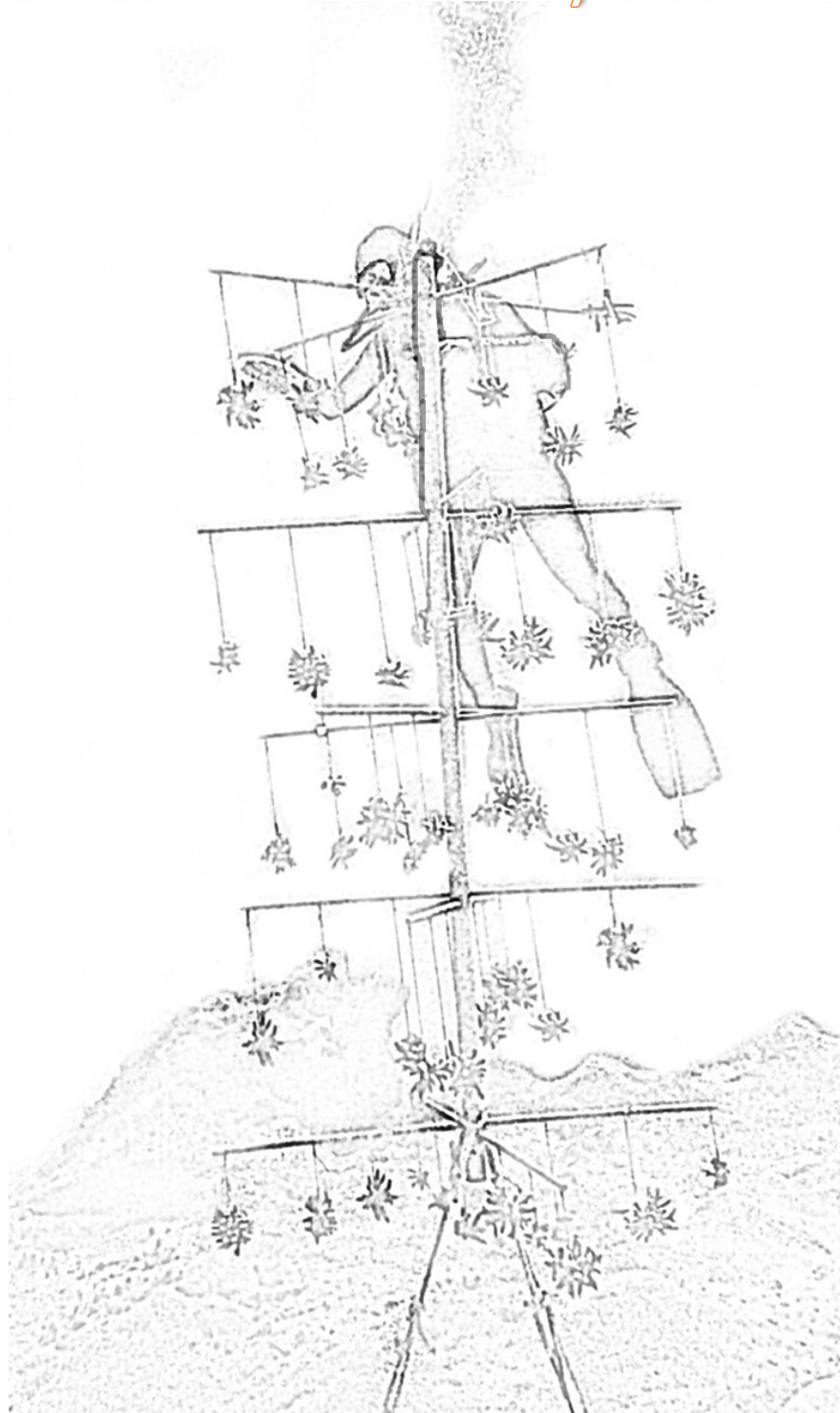
A garden of coral and algae in Pago Bay. Corals come in a great variety of shapes and sizes, including the honey-comb shaped corals on the left known as *Goniastrea* and *Dipsastraea*. Right next to these corals, as well as the coral on the right-hand side, are *Acropora* branching corals. In the middle is a massive *Porites* species that is a deep, vibrant blue in color. A recent graduate student in the Island Evolution Lab identified 6-7 different species of massive *Porites*, when previously we only knew of 2-3 different species on Guam.

# Coral Polyps



These are the polyps of a coral known as *Leptastrea purpurea*. Corals are made of many polyps that each live in a hard structure called corallite. Here you can see individual corallites at the center of each polyp, and the corallite center is surrounded by a circle of small tentacles. This coral is unique because it produces larvae daily, compared to many other corals that produce larvae on a seasonal basis. This makes this coral valuable in coral reproduction research. The Lemer Lab is utilizing this coral species to look at how reproduction and larval survival is impacted by stressors, such as hotter water temperatures.

# Coral Nursery



A SCUBA diver cleaning baby corals hanging from a coral nursery tree at Piti Bomb Holes. Coral nurseries are utilized for coral reef restoration and scientific research.



# Fouha Bay



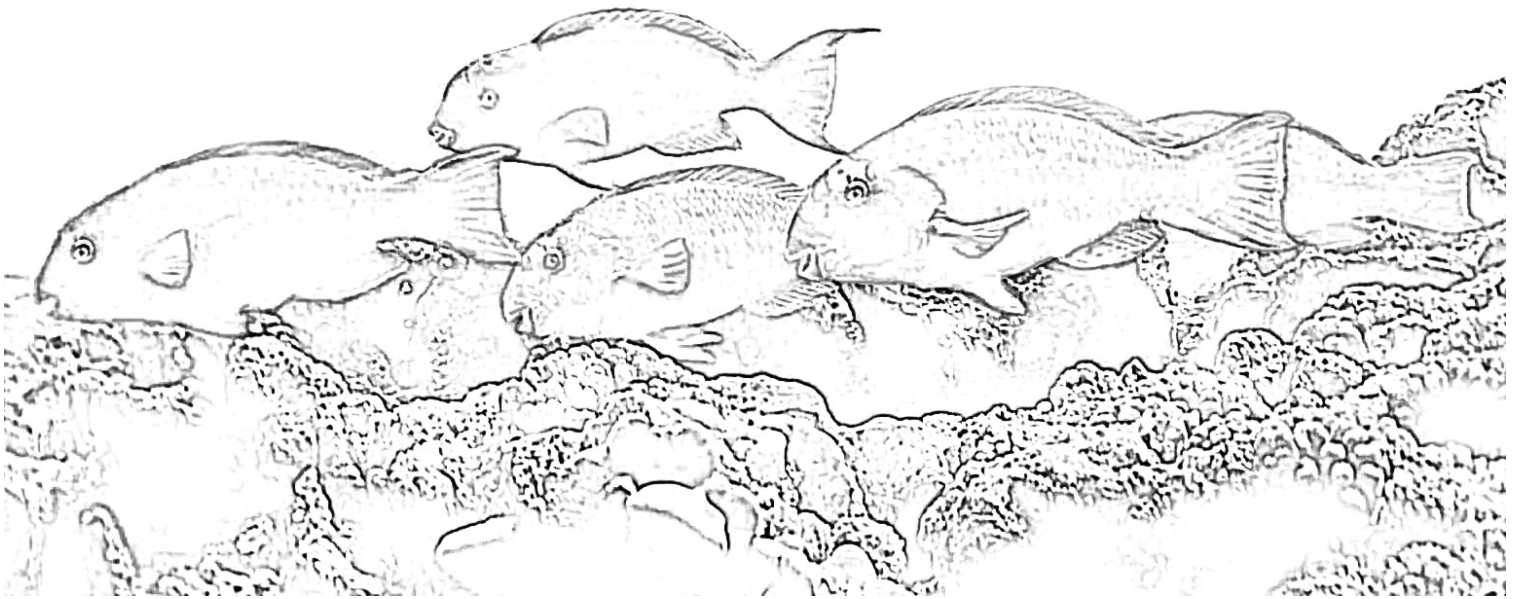
Fouha Rock is the Cradle of Creation in the CHamoru tradition. The Bentlage Lab uses Fouha Bay as a study site to look at how humans affect coral reefs. They hope to better understand how sediment from river runoff impacts the coral reef environment.



Courtesy of Bentlage Lab  
University of Guam Marine Laboratory  
Charter Day 2022



# Låggua



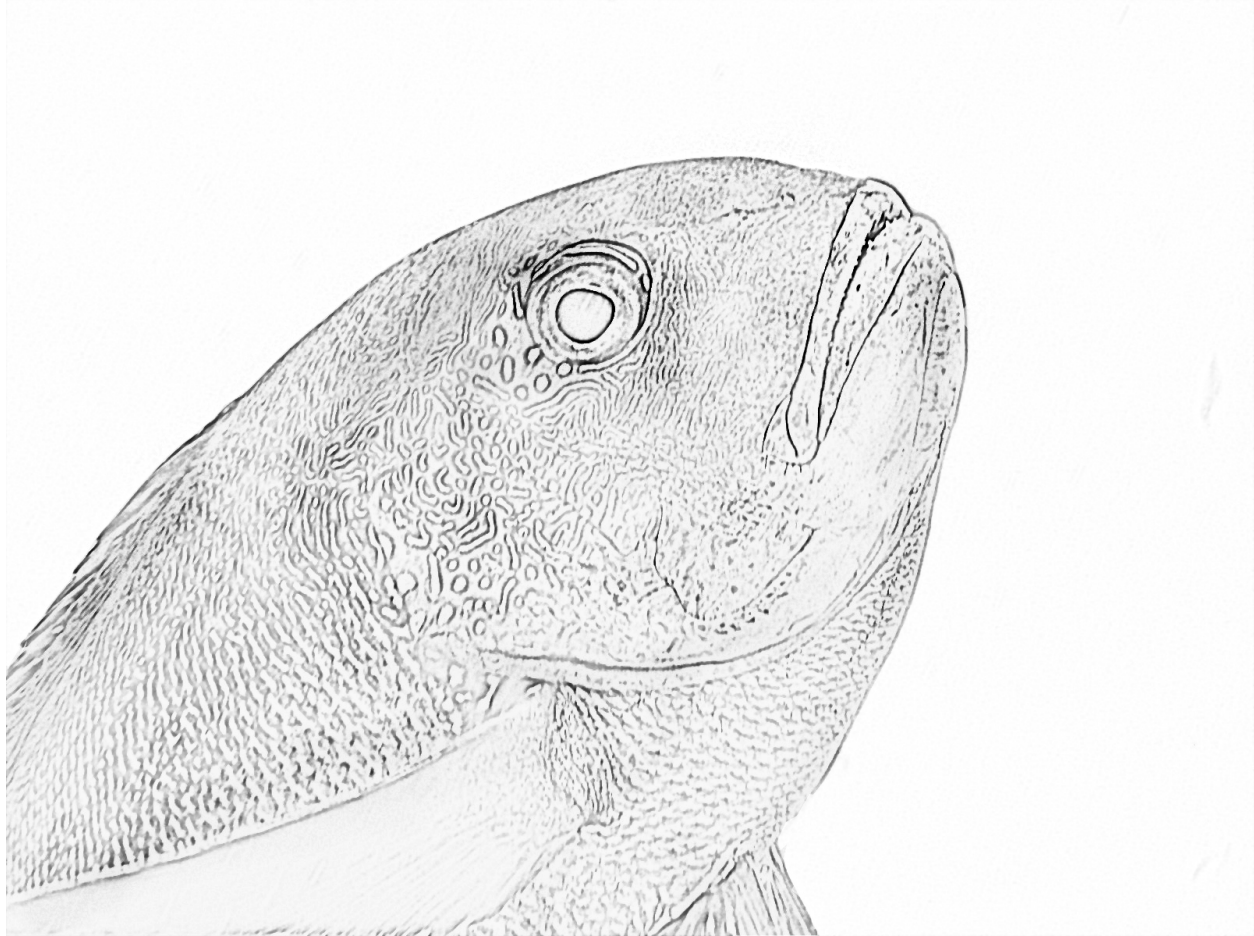
The male tan-faced parrot fish is known as *Låggua* in CHamoru, and its scientific name is *Chlorurus frontalis*. *Låggua* are colored an electric blue, with orange markings on their heads and fins. In Guam, they can often be found in small schools like this. The Houk Lab is researching the ecology of coral reef fishes and working to create sustainable fisheries management options for species found throughout the Federated States of Micronesia.

# Marine Algae



This species of marine algae is known as *Asparagopsis taxiformis* and is very common in Guam's waters. In Hawai'i, this algae species is often used to flavor meat and seafood dishes, including poke. This algae species has also been utilized to feed livestock, such as cows. It has been shown to reduce the amount of methane produced by livestock by over 80% when included in the livestock's diet.

# Midnight Snapper



Did you know that fish have earbones? These tiny structures sit immediately under the brain and can help scientists figure out how old fish are. Pictured here is the midnight snapper, a species that feeds on zooplankton and eggs of other fish species. The midnight snapper is the longest-lived tropical fish species known to science, with the oldest individual found to be over 80 years old! Researchers at the University of Guam Marine Lab use these methods to better understand fish populations today and how they might respond to environmental changes into the future.

# SCUBA Divers



SCUBA stands for “Self-Contained Underwater Breathing Apparatus”. This photo shows divers swimming between heads of coral, releasing bubbles as they breathe. Many students at the Marine Lab utilize SCUBA diving to gather scientific data from the ocean. In the Fujimura Lab, students SCUBA dive to install and maintain scientific monitoring devices in the water. These devices can measure water temperature, water current strength, and many other important parameters.

## Acknowledgement

*Special thanks to all labs for the contributions to the making of this coloring book.*

### Editors

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