

"Ochre Sea Star" (36-37)
by Frankie Gerraty

becoming-Feral
a book of beasts

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OCHRE SEA STAR

P i s a s t e r o c h r a c e u s

Up to my knees in a rock pool of mussels and sea stars, I turn to the north and inhale the smell of wildfire in January. Weeks of oceanic swell have created a layer of salt-spray in the air, which mingles with nearby forest fire smoke to create an ominous haze over the central California coast. A setting sun sets the skies aflame.

In two cupped hands, I carry the wriggling remains of an ochre sea star, *Pisaster ochraceus*, whose lesions and twisted legs allow me to diagnose her with Sea Star Wasting Syndrome. Soft and slimy, her body is beginning to liquefy.

Beginning in 2013, an epidemic of Wasting Syndrome decimated populations of over twenty species of sea stars along the west coast from Baja California to Alaska. The syndrome continues to plague sea stars today but at far lower rates than the 2013 outbreak. Some species, including *Pisaster ochraceus*, appear to be making a comeback. Others, such as the manhole-sized, 24-armed sunflower sea star (*Pycnopodia helianthoides*) are yet to recover.

The cause of the sea stars' affliction remains a mystery, but recent scientific evidence suggests that warming waters and high levels of organic matter promote the formation of a smothering layer of microbes on the stars' spiny skin.¹ The microbial layer, which includes a nutrient-loving family of bacteria called copiotrophs, creates a low-oxygen microenvironment that prevents the animals from breathing through their papulae, or "skin gills." The suffocating sea stars decay rapidly—over the course of only a few days—leaving disarticulated legs and tube feet in their wake.

As warming waters and excess nutrients facilitate the riotous reproduction of copiotrophic microbes and consequently the large-scale ruination of sea star populations, multitudes of other beings are entangled in the sea stars' crisis. Serving as critical urchin predators, the stars' disappearance has led to major kelp forest losses along the west coast. Unchecked urchin populations mow down kelp forests, stripping these biodiverse habitats—which support numerous fisheries and provide crucial shoreline armoring—of every last blade of kelp. Therefore, atmospheric pollutants released by human infrastructural projects lead sea stars to fall ill, and the ecosystems that the stars support unravel in unanticipated ways.

Inhabiting a region of smoke-choked skies and bacteria-smothering seas, the broader story of planetary health is carried in the cells of humans and sea stars alike. A shared future depends on cultivating new ways of living with and caring for these more-than-human kin.

Underneath the glowing atmospheric haze, I cross the intertidal reef with the sea star's remains and release them into a surge channel filled with rushing water. The unraveling animal is carried out of sight, and I hope that my small act of intervention—removing the star's decaying nutrient-rich flesh from her isolated pool—might protect the surrounding stars from a similar demise.

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[A version of this entry was previously published in *Loam*.]

16. Kjartansdóttir, “The Changing Symbolic Meaning of the Extinct Great Auk,” 50.
17. Donna J. Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008), 84.

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1. Citlalli Aquino et al., “Evidence That Microorganisms at the Animal-Water Interface Drive Sea Star Wasting Disease,” in *Frontiers in Microbiology* (2021) 11:610009, <https://doi.org/10.3389/fmicb.2020.610009>

PELICAN

1. Bonnie K. Baxter and Jaimi K. Butler, eds., *Great Salt Lake Biology: A Terminal Lake in a Time of Change* (Cham: Springer, 2020); also “American White Pelican,” All About Birds, The Cornell Lab (Listen), https://www.allaboutbirds.org/guide/American_White_Pelican/overview.
2. Aldo Leopold, *A Sand County Almanac: Sketches Here and There* (Oxford: Oxford University Press, (1949) 1989), 159.
3. Rachel Carson, *Silent Spring* (Cambridge, MA: Riverside Press, 1962), 45-6.
4. Eduardo Kohn, *How Forests Think: Toward an Anthropology beyond the Human* (Berkeley, CA: University of California Press, 2013).

5. Robin Wall Kimmerer, “Nature Needs a New Pronoun: To Stop the Age of Extinction...,” *Yes! Magazine* online, 30 March 2015. She continues, “By learning from other species, we might even learn humility.”

This entry on ‘pelican’ interrelates with my book, *Life in the Tar Seeps: Overlooked Ecologies at Great Salt Lake and Beyond* (forthcoming Trinity University Press).

PYGMY RABBIT

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Series ID BECOMING / Two
Publisher Objet-a Creative Studio, Glasgow, UK
SCIO registered in Scotland: SC048214
www.objeta.org
Designer Objet-a Creative Studio
Editors Josh Armstrong, Alexandra Lakind,
Chessa Adsit-Morris, Rebekka Sæter,
Addie Hopes, Emery Jenson,
Sabrina Manero
Copy Editor Gabrielle Kelenyi
Supported by University of Wisconsin–Madison
Royal Conservatoire of Scotland
University of California, Santa Cruz
Printed November 2021
ISBN 978-1-9161283-1-6

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Cover and chapter artwork, ©Debra Swack 2021
www.debraswack.com

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