A Crab's-Eye View of the Food Chain in Contemporary China

Stephen R. Halsey

Summary

Human beings have viewed the Chinese mitten crab as either a culinary delicacy or an invasive species. But what if we looked at the world from the crab's perspective? We would discover that the Chinese mitten crab has shrewdly placed our strategies to obtain food, build suitable habitats, and expand our range and numbers in the service of its own biological needs. We would also see it as the hero of its own story, engaged in a dance of creative agency, or a pattern of action and response, with members of our species.

"Menace or delicacy?" asks one author. In southeastern China, the hairy mitten crab (*Eriocheir sinensis*) is a luxury food prized by social elites, while wildlife services in the US, the UK, and elsewhere view it as an invasive species. Wealthy diners in coastal cities such as Shanghai consume "the female in the ninth lunar month and the male in the tenth" because *Eriocheir sinensis* migrates from freshwater to saltwater to spawn at that time and contains flavorful roe and milt. Contemporary Chinese describe the mitten crab as a "cold" food and believe that eating it infuses the human body with a negative female energy called *yin*. Strong consumer demand has transformed this humble crustacean into a valuable commodity and given rise to a flourishing aquaculture industry during the past three decades in the counties around Hongze Lake in northern Jiangsu Province.

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A male mitten crab caught in the Havel River, Brandenburg, Germany, October 2007.

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At the same time, the species has spread from southeastern China to coastal waters around the world, especially in recent years—its larvae hitch a ride in the ballast water of commercial freighters. Most countries outside of East Asia have designated *Eriocheir sinensis* an invasive species during the past 20 years and fear that it will upset the balance of native ecosystems, harm commercial fisheries, and damage crucial infrastructure through its burrowing behavior. Fisheries scientists from the Thames to San Francisco Bay have attempted to halt its advance through traps, electric pulses, obstacles, screens, and various harvesting schemes but with little success. Like the carp and the tilapia, the Chinese mitten crab has become a gastronomic boon to some and a biological bane to others.

But what if we view the world from the crab's perspective? If we could ask a Chinese mitten crab, it would not identify itself as either a gastronomic delicacy or an invasive species. Crabs may act without conscious thought or intention, but they possess agency and pursue clear biological aims. Based on our knowledge of other living organisms, these appear to include finding sources of nutrients, occupying a suitable habitat, and replicating their DNA in numerous offspring. They share these goals with members of *Homo sapiens* and, in fact, use our biological strategies for their own ends, albeit at an unconscious level. Our histories have become entangled.

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Chinese mitten crab boats at Hongze Lake during the Mid-Autumn Festival, October 2017.

Photograph by Stephen Halsey, 2017.

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Let us first reconsider the story of the "crab as food" before turning to idea of the "crab as invader." If we view the thriving aquaculture in southeastern China from an anthropocentric perspective, we might think that our species has discovered how to control the Chinese mitten crab to ensure a reliable source of food. But Chinese aquaculture also provides these crustaceans with a limitless food supply, eliminates *their* predators and competitors, creates *their* preferred habitats, and even aids in *their* reproductive goals. Individual crabs may end their lives on a dinner plate in Shanghai, but the range and numbers of the species as a whole have increased by a wide margin in recent years because of its interaction with *Homo sapiens*, in this case via our appetite for food. Humans and crustaceans may not meet on equal or even fair terms, but the relationship still serves many of *Eriocheir sinensis*'s biological needs.

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The Sanhe Dam, Hongze Lake.

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Cooked Chinese mitten crabs.

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The term "invasive" may also obscure as much as it reveals. We could argue that *Homo sapiens* is an invasive species given our now global range and impact on all the planet's ecosystems. We engage in activities such as long-distance trade and shipping to improve the quality of our lives and, in an ultimate biological sense, to ensure our odds of reproductive success as a species. Chinese mitten crabs have traveled with us over the past few decades, colonizing new habitats in the middle Yangzi, the Elbe, the Thames, the Black Sea, and Chesapeake Bay. Without question, mitten crabs can inflict damage on existing infrastructure and ecosystems, but they enjoy these opportunities to expand their range and numbers because of their entangled relationship with us. "Invasiveness," then, is a sign of biological adaptability and reproductive success from the crab's perspective, while at the same time the term tends to occlude *our* role in these processes.

What does the Chinese mitten crab have to teach us? First, "local" environmental histories can take us on a worldwide odyssey because our global lives are inseparably intertwined with all other organisms. Second, in these entangled histories, humans and crabs engage in a "dance of agency," in which each responds to the actions and interventions of the other. As historical actors, we participate in a genuine give-and-take with *Eriocheir sinensis*,

even if not on equal terms. Finally, the Chinese mitten crab has placed our strategies to obtain food, build suitable habitats, and expand our range and numbers in the service of its *own* biological needs, albeit at an unconscious level. The Chinese mitten crab is the hero of its own story, not a footnote to ours.

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Further readings:

- Furth, Charlotte. *A Flourishing Yin: Gender in China's Medical History, 960–1665*. Berkeley: University of California Press, 1999.
- Höllman, Thomas. *The Land of the Five Flavors: A Cultural History of Chinese Cuisine*. Translated by Karen Margolis. New York: Columbia University Press, 2013.
- Pickering, Andrew. "The Robustness of Science and the Dance of Agency." In *Characterizing the Robustness of Science: After the Practice Turn in Philosophy of Science*, edited by Léna Soler, Emiliano Trizio, Thomas Nickles, and William Wimsatt, 317–27. Dordrecht, Netherlands: Springer, 2012.
- Ritvo, Harriet. "Invasion/Invasive." *Environmental Humanities* 9, no. 1 (2017): 171–74. doi:10.1215/22011919-3829190 .
- Swislocki, Mark. *Culinary Nostalgia: Regional Food Culture and the Urban Experience in Shanghai*. Stanford, CA: Stanford University Press, 2009.
- Wang, Qidong, Jiashou Liu, Shengyu Zhang, Yuxi Lian, Huaiyu Ding, Xue Du, Zhongjie Li, and Sens S. da Silva. "Sustainable Farming Practices of the Chinese Mitten Crab (*Eriocheir sinensis*) around Hongze Lake, Lower Yangtze River Basin, China." *Ambio* 45, no. 3 (April 2016): 361–73. doi:10.1007/s13280-015-0722-0 .
- Ye Junshi. "Jiangnan Diqu Shixie Wenhua Chu Tan" [An introduction to the culture of crab eating in the Jiangnan region]. *Hangzhou Yazhou Shixue Luntan Lunwenji* 8 (2011): 841–47.

Related links:

- Chinese Mitten Crab: Life and History
  https://web.archive.org/web/20090117002542/http://www.delta.dfg.ca.gov/mittencrab/life_hist.asp
- Global Invasive Species Database: Mitten crabs
  http://www.iucngisd.org/gisd/species.php
- Mitten crab culture and history (in Chinese)
  https://www.sohu.com/a/342835021_120153979
- Cultural history of the mitten crab (in Chinese)
  http://www.uqmei.com/index.php

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Websites linked in image captions:

- https://commons.wikimedia.org/wiki/File:EriocheirSinensis5.jpg#file
- https://commons.wikimedia.org/wiki/File:Gekochte_Wollhandkrabben.jpg

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Stephen R. Halsey serves as an associate professor of Chinese history at the University of Miami in Coral Gables, Florida. Harvard University Press published his first book, *Quest for Power: European Imperialism and the Making of Chinese Statecraft*, in 2015, and a Chinese-language edition followed in 2018. He is now researching the environmental impact of China's developmental state in the twentieth century and has received support for the project from the Fulbright Foundation and the Rachel Carson Center for Environment and Society.

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