

American Malacological Society (AMS) Conservation Committee Imperiled Species Newsletter Spring 2024

Welcome to the American Malacological Society (AMS) Conservation Committee's Imperiled Species Newsletter for spring 2024. For those of you new to the Society, the Imperiled Species Newsletter is an informal report distributed sporadically each year to AMS membership and posted on the AMS web page <https://ams.wildapricot.org/AMS-Imperiled-Species-Newsletter>. Through the Newsletter, the AMS Conservation Committee seeks to provide interesting and relevant documentation of changes to rare and imperiled species status at the federal level as well as provide short anecdotes and stories relating to mollusk conservation in North America. These are drafted by Conservation Committee members and are submitted on a volunteer basis by the membership at large. In addition, the Newsletter posts summaries of current and proposed federal legislation and regulations regarding mollusks to inform membership of ongoing changes that are not always easily accessible or adequately announced publicly. These summarize all legislative actions taken by the United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Committee on the Status of Endangered Wildlife in Canada (COSEWIC) on conservation of marine, freshwater, and terrestrial mollusks as they are applied by the U.S. Endangered Species Act (ESA), Canadian Endangered species, and other relevant legislation. Many people are unaware that *anyone* can contribute to the listing of proposed Endangered Species to the ESA and COSEWIC through the Public Comment Period. After a petition to list (as Threatened or Endangered), reclassify, or delist a species, the Federal Government conducts a 90-day review of the petition. If, after this review, substantial information indicates that the petitioned action may be warranted, public comments are solicited. Anybody can comment on listing reviews. Instructions for submitting comments are included in Federal Register Reports. Following the public comment period, a status review (including peer review) is conducted and a Proposed Rule issued after a 12-month finding. If a decision to list is warranted in this Proposed Rule, a second Public Comment Period is announced after which a Final Ruling is issued.

In the Imperiled Species Newsletter, the AMS membership is kept informed of current and upcoming federal legislation relating to mollusks. Part of this includes information on Public Comment deadlines. This is your opportunity to make a difference in the legal protection of rare and endangered mollusks. Too often, the "what can I do?" question either goes unanswered or yields abstract actions the results of which are difficult to quantify.

The Imperiled Species Newsletter is also an opportunity to provide updates on regional and national research or activities related to successes (and failures!) in molluscan conservation. These are solicited from members for future installments of the Imperiled Species Newsletter. They are informal and can include providing periodic updates or short stories on regional conservation activities. Simple, short description of conservation activities by professionals or amateurs that might be of interest to members are sufficient. Activities need not be your own (most often this is not the case) but may be from activities undertaken by your network of colleagues or from activities you become familiar with over the course of the year. Examples include local molluscan habitat management, imperiled species research projects, changes in

local conservation laws, actions undertaken by conservation facilities such as propagation labs, descriptions of regional emergence of threats and impacts to species survival, and activities by students of malacology. Announcements of upcoming published works and meetings and conferences are also provided. Please consider submitting conservation updates for inclusion in future editions of the Newsletter by contacting Conservation Committee Chair, Jay Cordeiro for submissions (jay.cordeiro@umb.edu).

Current Political Climate Impacting Malacology

Back in August 2019, the Newsletter reported on drastic changes to regulations set forth in the U.S. Endangered Species Act (ESA). The Society (AMS) was notified of these changes as they will have lasting, and likely deleterious effects on conservation of mollusks in the United States far into the future. These changes were announced by the Trump-Pence Administration in July 2018 who issued a public comment stating that “these updates will ease the burden of regulations and increase transparency into decisions on whether a species warrants protections.” Potential impact of these changes could severely limit the ESA’s ability to protect species, including mollusks, and lead to rapid increase in species decline and extirpation; especially from human disturbance and development. On April 5, 2024, after 39 months in office in their first term, the Biden-Harris Administration formally reversed almost all of these changes through Executive Order. This is the result of its initial proposal to do so on June 22, 2023, which received 468,000 comments during the public comment periods for the proposal, the vast majority of which were in favor of the proposed change reversals.

A summary of the changes made in 2019 and their current status (2024) follows:

First, and perhaps most severe, the USFWS limited the default extension of prohibited actions protecting Federally listed Endangered and Threatened species to Endangered Species only. This default extension was known as “blanket rule” set in place before 2019 for protecting threatened species with the same “blanket rule” protection as Endangered species. Threatened species were no longer automatically provided protected by extension. Instead, each Threatened species was assessed on a case-by-case basis whereupon USFWS would determine which protection regulations are appropriate for species currently or newly listed as Threatened. This regulatory change did not affect any consultation obligations of federal agencies under ESA Section 7. *As of April 5, this change has been reversed and Threatened species are again afforded the same protection as Endangered species.*

Second, in making listing determinations, the USFWS in 2019 modified its framework for utilizing “for the foreseeable future” in making decisions regarding delisting Threatened species. Threats based on these terms were no longer considered; in particular, threats due to climate change. Although it did not include additional regulatory language regarding the definition of “habitat”, the USFWS clarified and severely limited thresholds for when it is appropriate to designate Critical Habitat unoccupied by a listed species and when Critical Habitat designations are “not prudent.” *These actions have now been reversed wherein impacts to a species in the “foreseeable future” (particularly climate change) can again be considered in the listing process and the definition of habitat outlined in greater detail.*

Lastly, economic impacts could no longer be considered in protective language when determining protection status of newly proposed Endangered and Threatened species. *The 2024 legislation expanded this and announced that financial considerations would, in fact, specifically be considered to accompany the listing criteria for all species.*

No changes were made to the delisting process. *However, in 2024, factors considered for delisting a species have been expanded from (1) species is extinct, (2) species has recovered, and (3) new information has become available to also include (4) species does not meet the definition of a species (as was the case March of this year for the pyramid pigtoe (*Pleurobema rubrum*)).*

These latest changes restore former protections for species and habitats, reinforce the listing process, renew critical habitat designation critical to include climate change impacts, and ensure interagency cooperation of the USFWS and NOAA and their commitment to protect and manage species under the Endangered Species Act. “As species face new and daunting challenges, including climate change, degraded and fragmented habitat, invasive species, and wildlife disease, the Endangered Species Act is more important than ever to conserve and recover imperiled species now and for generations to come,” said U.S. Fish and Wildlife Service Director Martha Williams. “These revisions underscore our commitment to using all of the tools available to help halt declines and stabilize populations of the species most at-risk. We will continue to use the best-available science when implementing the ESA — including when making listing and delisting decisions, designating critical habitat, developing protective regulations for threatened species, and consulting on federal actions.”

Of the 1669 species protected under the ESA, there are currently 33 mollusk species listed as Threatened and listed as 141 Endangered with an additional 6 Candidate species. In its conservation policy, the American Malacological Society states “the interests of malacology (the scientific study of mollusks), of science in general, and of the well-being of the human race are best served by the protection of intact ecosystems and their naturally occurring biodiversity.” It also “supports measures at all levels of government and society, throughout the world to... *protect threatened and endangered species.*” The Endangered Species Act is landmark conservation legislation that has protected hundreds of rare and imperiled species since its enactment in 1973. To date, more than 100 species of plants and animals have been removed from the list attaining full recovery or downlisted from Endangered to Threatened based on improved conservation status. This includes the Magazine Mountain shagreen (*Inflectarius magazinensis*) the first invertebrate to be removed from the list back in 2013.

Federal Legislation Updates

Since January of this year, the following changes have been made to mollusk species with respect to the ESA:

- lower Pleistocene snail (*Discus macclintocki*) 5-year review of Endangered listing status
- pink mucket (*Lampsilis abrupta*) 5-year review of Endangered listing status
- purple cat’s paw (*Epioblasma obliquata*) 5-year review of Endangered listing status
- spectaclecase (*Cumberlandia monodonta*) 5-year review of Endangered listing status
- clubshell (*Pleurobema clava*) 5-year review of Endangered listing status
- northern riffleshell (*Epioblasma rangiana*) 5-year review of Endangered listing status

Chittenango ovate ambersnail (*Novisuccinea chittenangoensis*) 5-year review of Threatened listing status

King's River pyrg (*Pyrgulopsis imperialis*) Proposed Listing as Endangered

no common name snail (*Eua zebrina*) 5-year review of Endangered listing status [comment period open until April 19- <https://www.federalregister.gov/documents/2024/03/20/2024-05822/endangered-and-threatened-wildlife-and-plants-initiation-of-5-year-status-reviews-for-100-species-in>]

no common name snail (*Ostodes strigatus*) 5-year review of Endangered listing status [comment period open until April 19-

<https://www.federalregister.gov/documents/2024/03/20/2024-05822/endangered-and-threatened-wildlife-and-plants-initiation-of-5-year-status-reviews-for-100-species-in>]

pyramid pigtoe (*Pleurobema rubrum*) Proposed Listing withdrawal (species invalid)

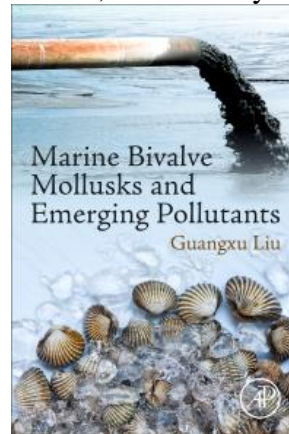
Recent publications impacting molluscan conservation:

Liu, Guangxu. 2024. *Marine Bivalve Mollusks and Emerging Pollutants*. Academic Press. 222 pp.

From the publisher: Marine Bivalve Mollusks and Emerging Pollutants:

Toxicological Impacts provides the most updated and comprehensive knowledge of the toxicological impacts of a variety of emerging pollutants on marine bivalve mollusk species. In addition to synthesizing recent toxicological findings, the book also discusses toxification mechanisms, current challenges, and future research prospects. Written by international experts, this book assesses new advances in the toxicological impacts of pollutants, including microplastics, bromide flame retardants, nanomaterials, pharmaceutical residues, personal care products, pesticides, and perfluorinated compounds. In addition, it details how these can affect reproduction, embryonic development, metabolism, and immune systems of marine bivalves.

Behavioral responses and neuroendocrine regulation is also discussed. Toxification mechanisms are interpreted at both physiological and molecular levels. The book concludes with current research and environmental challenges and potentials for further, future study techniques.

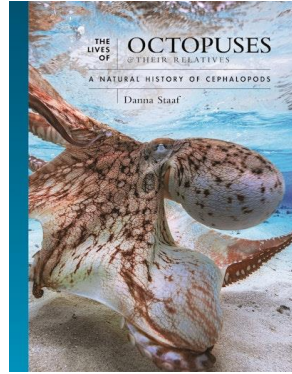


Staaf, Danna. 2003. *The Lives of Octopuses & Their Relatives A Natural History*. Princeton University Press. 288 pp.

From the publisher: Dive deep into the fascinating world of cephalopods—octopuses, squid, cuttlefish, and the mysterious nautilus—to discover the astonishing diversity of this unique group of intelligent invertebrates and their many roles in the marine ecosystem. Organized by marine habitat, this book features

an extraordinary range of these clever and colorful creatures from around the world and explores their life cycles, behavior, adaptations, ecology, links to humans, and much more. With stunning photographs and illustrations as well as profiles of selected species, *The Lives of Octopuses and Their Relatives* is a

comprehensive, authoritative, and inviting introduction to the natural history of these charismatic creatures.

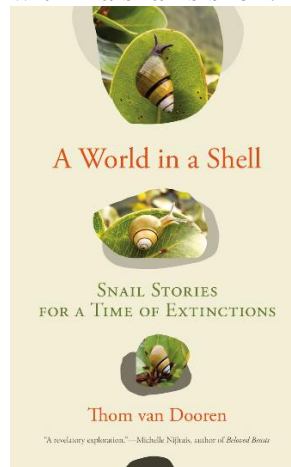


Van Dooren, Thom. 2023. *A World in a Shell – Snail Stories for a Time of Extinction*. MIT Press. 288 pp.

From the publisher: In this time of extinction, the humble snail rarely gets a mention. And yet snails are disappearing faster than any other species. In *A World in a Shell*, Thom van Dooren offers a collection of snail stories from Hawai'i—once home to more than 750 species of land snails, almost two-thirds of which are now gone. Following snail trails through forests, laboratories, museums, and even a military training facility, and meeting with scientists and Native Hawaiians, van Dooren explores ongoing processes of ecological and cultural loss as they are woven through with possibilities for hope, care, mourning, and resilience.

Van Dooren recounts the fascinating history of snail decline in the Hawaiian Islands: from deforestation for agriculture, timber, and more, through the nineteenth century shell collecting mania of missionary settlers, and on to the contemporary impacts of introduced predators. Along the way he asks how both snail loss and conservation efforts have been tangled up with larger processes of

colonization, militarization, and globalization. These snail stories provide a potent window into ongoing global process of environmental and cultural change, including the largely unnoticed disappearance of countless snails, insects, and other less charismatic species. Ultimately, van Dooren seeks to cultivate a sense of wonder and appreciation for our damaged planet, revealing the world of possibilities and relationships that lies coiled within a snail's shell.

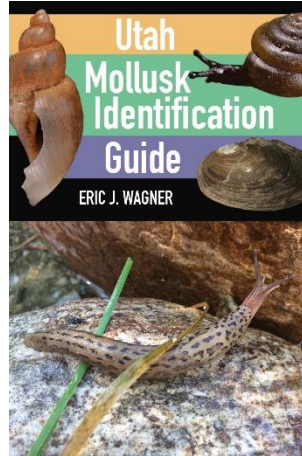


Wagner, Eric J. 2023. *Utah Mollusk Identification Guide*. University of Utah Press. 400 pp.

From the publisher: The Utah Mollusk Identification Guide offers the latest information for identifying aquatic and terrestrial snails, slugs, clams, and mussels within the state of Utah, providing comparative tables, taxonomic keys, and more than 230

images, including many type specimen images published for the first time. Amateur naturalists and biologists alike will benefit from detailed information regarding size, type, specimen location, junior synonyms (including taxonomy notes), and original descriptions for each of the

139 species. Clarifying notes from the author help to differentiate similar species. In contrast to older guides, this book includes data on the external and internal anatomy of mollusks and updated taxonomic names. Family descriptions and miscellaneous data on ecology, life history, and genetics offer readers a wide lens to understand Utah's mollusks. Data based on historical articles, museum records, personal observations, and collections point to the wide distribution of mollusks found in Utah. Although the focus is on Utah mollusks, the data, images, references, and taxonomy details within the guide will be of interest to many outside the state.



In Closing

Please join the American Malacological Society in celebrating the conservation work executed by the U.S. Department of the Interior's U.S. Fish and Wildlife Service in protecting rare and imperiled species; including mollusks. As a Society, we continue to support the U.S. and Canadian federal governments in molluscan conservation and scientific study. Also, thanks to all those AMS members, friends, and colleagues who offered public comment to these proposed changes over the years on all proposed federal legislation affecting mollusks. The passage of this protective legislation following a massive amount of public support during the comment period lends testament that everyone can contribute to the process. Please continue to offer your comments on future proposed legislation summarized in the AMS Imperiled Species Newsletter.