

Fictional Accounts of Predation on Lampreys

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Biologists who study organisms that are obscure, reviled, or both are usually eager to find mentions of their subjects in the popular literature. As a lamprey biologist, I have surveyed over the years books and articles written for the general public, including fictional accounts, for occurrences of my favorite fishes. The purpose of this note is to summarize fictional cases of predation on lampreys. It is meant to complement a recent review of predation on lampreys that was based on previously published accounts in the scientific literature, my own observations, and observations provided to me by other biologists (Cochran 2009).

I have often been asked about what sorts of predators feed on lampreys. Most often the folks posing the questions were wondering about the potential for predators to control the sea lamprey in the upper Great Lakes, where this exotic invader has caused great destruction of fish stocks. However, there is also increasing concern about the status of native lamprey populations, especially on the west coast, where some populations are threatened or endangered (Close et al. 2002). And some people seem to find value in a species if it benefits other animals that they value more highly. Anglers, for example, may come to appreciate brook lampreys when they learn that they are eaten by trout. In addition, it has been suggested that lampreys in tributaries to the Pacific coast of North America draw the attention of predators away from more highly valued salmonids (Landeem and Pinkham 1999, Close et al. 2002).

Results and Discussion

Several fictional accounts of predation on lampreys have been incorporated into books that describe the life of a fish or aquatic mammal. Williamson (1928) provided a scene in which a male otter pulls a lamprey off a brown trout to use as an offering to a female. He also included several incidents of

predation on lampreys in his novel about an Atlantic salmon (Williamson 1936): a hagfish attacks a sea lamprey that has attached to the salmon in an estuary, a sea-run brown trout feeds on river lampreys, and a dragonfly nymph feeds on small ammocoetes. In a novel about a goldfish in a watershed in the eastern U.S. (Mannix 1969), a raccoon feeds on a dying goldfish and the sea lampreys attached to it, and goldfish eliminate lampreys from a stream system by feeding on their eggs. In another novel (Scheffer 1970), a fur seal feeds on a lamprey (probably a Pacific lamprey) off the mouth of the Columbia River. Finally, in a break from works by nature writers, gulls and geese (common mergansers) feed on spent post-spawning lampreys near the mouth of a Scandinavian river at the opening of Norfolk's (1996) epic historical tale.

Some of these fictional accounts of predation on lampreys are consistent with actual cases of predation. Brown trout, gulls, geese, raccoons, otters, and fur seals have all been reported as predators of lampreys in the scientific literature (Cochran 2009).

In some fictional "biographies" of fish protagonists, lampreys seem to be cast in the role of the "evil" antagonist (Williamson 1936, Mannix 1969). These and other stories may include the removal by a predator of a lamprey attached to a fish. No doubt this was in at least some cases a convenient plot device that allowed the author to snatch the protagonist from a jawless death (I almost wrote "from the jaws of death" but that did not seem appropriate when applied to lampreys). However, in a laboratory setting, I have observed a rainbow trout strike at a sea lamprey attached to another trout, and it has been suggested that some lampreys in the guts of large marine predators may have been ingested along with their hosts (Hubbs 1967 and references therein).

Humans may act as predators of lampreys. Indeed, throughout history, lampreys have been consumed by people of many cultures. I have found two fictional examples. A

novel by Lesley (1989) includes use of lampreys (“eels”) in a traditional Native American feast in the Pacific Northwest, and a mystery by Wishart (2005), set in the days of ancient Rome, includes a subplot involving a missing basket of lampreys. Additionally, an oblique reference to consumption of lampreys by humans is provided by a novel entitled “Surfeit of Lampreys” (Marsh 1941). I tracked this one down because historical references almost inevitably (and perhaps apocryphally) ascribe the death of King Henry I to a “surfeit of lampreys.” However, despite the illustration that appears on the cover of at least one edition (Fig. 1), this book is populated by a human family named Lamprey and only hints at the consumption of fish by the same name (“‘Mrs. Burnaby brought them up,’ said Tinkerton, as if Nanny had suffered from a surfeit of Lampreys and had taken an emetic for it.”).

Finally, it is not a work of fiction, but Wallace’s (2007) review of the prehistoric and historic megafauna of the Pacific coast of North America features repeated speculation that the early pinniped *Enaliarctos* included lampreys in its diet.

Acknowledgments

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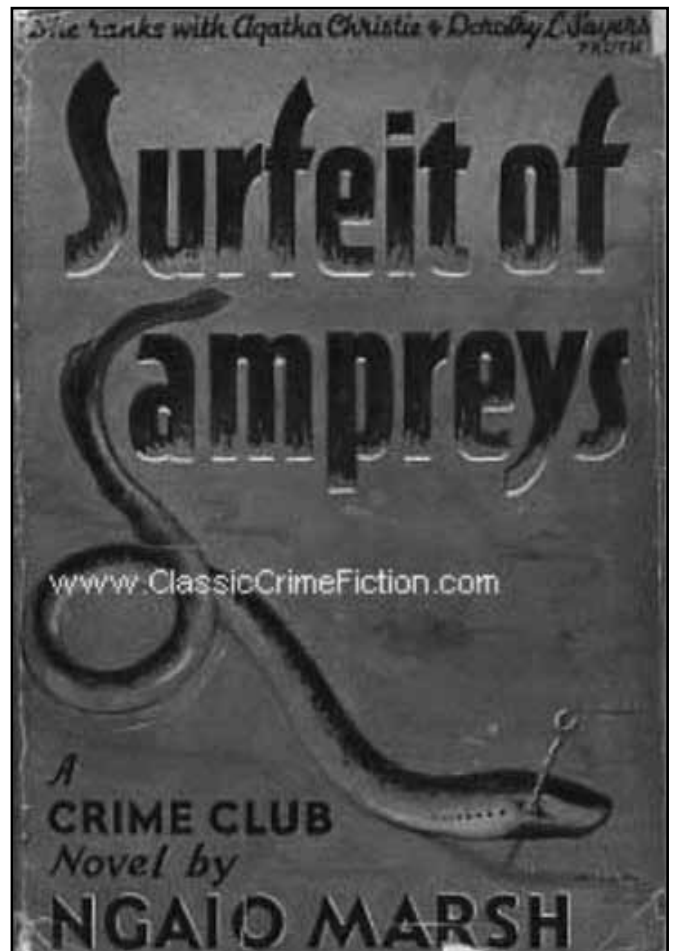


Fig. 1.

An early edition of Marsh (1941).

Taking into account the potential for lamprey utilization of an area is essential to their conservation. This is especially critical for lamprey ammocoetes because they are unable to move from areas of disturbance and a single dewatering event, physical disturbance, or contamination may have a significant effect on a local lamprey population. *Passage* (dams, culverts, water diversions, tide gates, other barriers) both upstream & downstream. *Predation by nonnative fish species*. Nonnative fishes such as bass, sunfish, walleye, striped bass, and catfish, among others, have become established over the last century in some rivers in the western U.S. In addition, migrations through reservoirs may increase susceptibility to predation. Jan. 2008 B. Streif "USFWS Portland OR. Based on the predatory behaviour for live and dead larvae, predator fishes were classified into four groups using principal component analysis. Predation rates of larvae in sediment by piscivorous predators including Northern Pike *Ptychocheilus oregonensis* and Smallmouth Bass *Micropterus dolomieu* were lower and showed no differences even when the study duration was extended. In contrast, predation rates by benthic predators including White Sturgeon *Acipenser transmontanus* and Common Carp *Cyprinus carpio*, increased when we extended the study duration. These results provide important context for assessing the potential threat of predation on lampreys in streams, which is a key knowledge gap for lampreys. View. Show abstract. [Others] Predation [v0.09] [HornedLizardStudio]. Thread starter Moo8. Start date May 3, 2018. 2dcg adventure anal sex animated combat female protagonist furry monster monster girl side-scroller vaginal sex. 4.00 star(s) 2 Votes. Discussion Reviews (2). Prev. Update log: Predation 0.09 Patchlist. Let's start with the good stuff -The tutorial has been partially added. -The intro was added. -Ms.Pharma has her second lust animation. -Chef is now in the game, but lacks mature animations. -Cafeteria was added back and now holds chef. Now onto the general bug fixes.