


ROUNDTABLE

Fighting the Invasion from the Suez Canal: Coastal Environmentalism and Locating the Lionfish in Lebanon

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Around the year 2015, new tidings began to be heard across the Lebanese coastline as local marine biologists—receiving reports from divers and fishermen—became aware of a new phenomenon in the coastal waters. *Pterois miles*, the lionfish, *samak al-asad*, a species not usually found in the waters, were being encountered in rapidly increasing numbers. Over the following years, as other Mediterranean countries started reporting similar occurrences, a sense of alert slowly built. Dina, one of my interlocutors and a shining young marine ecologist, had been at work setting up a new NGO to conduct marine pedagogy and environmental awareness campaigns.¹ As the invasion proceeded apace, she and her group reacted to the invading fish swarming the Lebanese coastal waters, putting together a counter-campaign. Meetings were called, ideas pitched, and plans convened. The invasion had to be confronted, just as Elias, another interlocutor from Dina's group, a hobbyist diver in his late 20s and active participant in civil society campaigns, told me during an interview in late 2018:

Now the hot topic is invasive species, like the lionfish, and the pufferfish. We have seen lionfish for maybe three years, but now people are starting to talk about it. They are in huge numbers, huge numbers, right. I remember the first couple of dives I did, used to dive with a friend of mine. She had a different diving certificate; I had an 18-meter-depth limit while she had 40-meter limit. She used to tell me how beautiful the lionfish she encountered below was. They spent minutes watching how beautiful the creature is. Now, we see them every dive. If there is no lionfish around, there is like something wrong. Yesterday, during the weekend, we dived next to one spot, next to the Casino du Liban.² It was the first time I saw a lionfish and it was a huge fish. They reproduce in huge amounts, huge amounts.

In this paper, I follow the arrival of the invasive lionfish through the Suez Canal to the Lebanese coastline and, eventually, to the frying pans of local seafood restaurants. I trace a campaign established by a local environmental NGO to combat the spread of the *Pterois miles* and discuss how the fish was deemed an invasive species, a potential culinary treat, and even a political metaphor in this encounter. Furthermore, I also examine how the lionfish encounter fit into a wider civil society project of marine pedagogy aimed at raising public awareness of the Lebanese waters through science-based marine knowledge.

The Arrival of the Invader

In 2018, I was carrying out fieldwork among civil society and volunteer groups on the Lebanese coastline in an attempt to better understand the significance and constitution of

¹ In order to provide relative anonymity, the names of my interlocutors in this text are pseudonymous.

² The luxurious and iconic entertainment and gambling facility in the town of Jounieh, north of Beirut.

politics and poetics of space on the littoral. Prior to this, I had picked up the occasional mention of this new migrant to the Mediterranean from the Red Sea, but had not considered it within the scope of my research on coastal spaces. This changed, however, as I followed my interlocutors' thinking on Lebanon and its residents' relationship with the sea. Going along, I started imagining the encounter with the lionfish as an increasingly important event on a changing coastline.

To the human eye, the lionfish is a significantly conspicuous species of fish, with black, red, and creamy stripes and characteristically long, venomous spines. It has a voracious appetite, in the words of my interlocutors, and can breed rapidly, thus leading to an ever-expanding lionfish population and dwindling local fish populations. It is not commonly fished commercially for two main reasons: it is both difficult to fish using nets or other standard commercial fishing techniques and the fish sport spines filled with venom strong enough to be painful and dangerous to a human being. Due to these difficulties, the lionfish is mostly fished by spear, making its catching a rather cumbersome, if thrilling business. Most often, it is fished by recreational or professional divers and spear fishing enthusiasts, not professional fishermen.

A 2019 policy brief prepared by Dina's organisation stated: "The lionfish is invading the Lebanese sea and urgent actions have to be taken by the Lebanese government to limit and prevent further damages from occurring. The lionfish is a threat to our local ecosystem and is having detrimental effects on the Lebanese marine biodiversity." Native to the Red Sea, the first lionfish sightings in Lebanon began in 2012, but not as a stable and consistent, let alone exponentially growing, population. The situation had seemingly developed, and *Pterois miles* looked poised to rapidly conquer Lebanese waters.

The lionfish was categorised as invasive, but what considerations go into such categorisation? Based on his work with invasive species in Hawaii, anthropologist Stefan Helmreich once noted that biologists make "their way through the world with a sense of the empirical nested in frameworks of interpretation."³ Thus, invasiveness as a metataxonomic category (a category that overlaps the standard Linnean taxonomy) is still dependent on context. And, according to Helmreich, "it's to do with our categories of nature and culture—invasive hints of the accidental or intentional, whereas native nods towards the endemic or indigenous."⁴ In the Hawaiian context, this taxonomical leaning on nature and culture had much to do with the consideration of invasive species as those whose arrival came via direct human intervention.

At an organization training session for volunteers on fisheries in Lebanon, Dina drew somewhat different lines for the Mediterranean: "Not everything that comes from another sea becomes an invasive species. We call them invasive just if they are destructive, like the pufferfish and the lionfish. They are invasive if they destroy their host ecosystem." As we see, it is not so much a differentiation between species of "nature" and species of "culture," but between those with the potential to damage local ecological reserves of value and those with the potential to boost them. This is much closer to how anthropologist Amelia Moore described the invasion of the lionfish in the Caribbean: "marine conservation efforts make the lionfish a compound creature, at once a recent arrival to the islands, a threat to Bahamian biodiversity and the marine resource economy, and an iconic species for science concerning biological life and social categories."⁵

A compound creature, then, one categorised as invasive precisely because of its capacity to destroy human economies of fishing and biodiversity; a creature of "culture" but with a

³ Stefan Helmreich, "How Scientists Think; About 'Natives' for Example. A Problem of Taxonomy Among Biologists of Alien Species in Hawaii," *Journal of the Royal Anthropological Institute* 11, no. 1 (2005): 109, <https://doi.org/10.1111/j.1467-9655.2005.00228.x>.

⁴ *Ibid.*, 110.

⁵ Amelia Moore, "The Aquatic Invaders: Marine Management Figuring Fishermen, Fisheries, and Lionfish in The Bahamas," *Cultural Anthropology* 27, no. 4 (2012): 669, <https://doi.org/10.1111/j.1548-1360.2012.01166.x>.

capability for action that defies human concerns. As we see later in this paper, the fish did become an iconic species of sorts for the group's marine pedagogy, even capable of taking on tones of a political metaphor. The fish, at least in minor ways, became "transgressive and hopeful cultural figures," as Moore suggested for their Bahamian cousins.⁶

As for the spread of the lionfish, there has been some concerted effort by marine scientists to map it across the Mediterranean. A recent study by Elizabeth Phillips and Alexander Kotrschal, which relied on narratives of first and current lionfish sightings collected by surveying diving centers, noted that the *Pterois miles* was rarely sighted in the Mediterranean prior to 2012.⁷ Furthermore, they highlighted that—aside from single sightings—a more consistent presence was noticed in 2015, with multiple sightings around the Eastern Mediterranean. Sightings were recorded in the waters of Lebanon, Israel/Palestine, Cyprus, Turkey, Greece, and an outlier sighting in Spain. According to Phillips and Kotrschal, the expansion was ongoing up to the end of their survey period in 2020, with sightings spreading year-on-year north- and westwards. This finding accords with the perceptions of my Lebanese interlocutors and their marine biology and civil society networks.

The exact reasons for the fish's arrival in Mediterranean waters remain unclear according to both my Lebanese marine biologist interlocutors and recent marine science literature.⁸ Climate change, through the warming waters of the Mediterranean, has certainly played a central role, as the *Pterois miles*' native Red Sea and Indian Ocean habitats sport waters warmer than the Mediterranean. There are also other speculated reasons, such as the fish's successful mutation to make it more resilient, or changes that have made the Mediterranean more "invasible." Nonetheless, the species' vector of arrival is certainly through the Suez Canal. However, even though Egyptian President Abdelfattah El Sisi's much vaunted expansion of the canal coincided with the lionfish's spread and was suggested as a direct cause by some media reports, there is no certainty here. My interlocutors suggest that it might be coincidental, and at the least remain skeptical about the defining cause, pointing to a lack of scientific research to answer the question. What is certain, however, is that the lionfish is the latest in a long chain of *Lessepsian migrations*, the spread of species through the Suez Canal engineered by Ferdinand de Lesseps.

The lionfish clearly changed things on the Lebanese coastline, and thus its arrival can easily be understood as an ecological event, or a situation where the actions of non-human migrants elicited and necessitated a response from Lebanese interested and engaged with the ecological composition of the coastline. As noted above, the lionfish was clearly understood as a threat in at least two registers of value: that of local marine biodiversity, which the rapidly expanding populations of *Pterois miles* threatened, and that of local fish stock, affecting the commercial fortunes of local fishermen. This event was both met and consolidated by the efforts of my environmentalist interlocutors, as they worked to produce a solid knowledge base of the fish, prepare and launch pedagogic work to make the fish better known across the country, and finally turn the fish from a venomous and relatively unknown arrival into a local delicacy worth consuming.

The Campaign

Let us return to Dina and her organization. In 2017, around the time the lionfish was making clear its increased presence in the Mediterranean, a group of young marine ecologists, activists, and others interested in environmentalist volunteering got together in Beirut to form a new group, which was eventually registered as an NGO. The intention was to carry out

⁶ Ibid.

⁷ Elizabeth W. Phillips and Alexander Kotrschal, "Where Are They Now? Tracking the Mediterranean Lionfish Invasion via Local Dive Centers," *Journal of Environmental Management* 298 (2021): 113354, <https://doi.org/10.1016/j.jenvman.2021.113354>.

⁸ Eg., Ibid.

pedagogic environmental activism around the state of Lebanon's sea and coastline. Like many such groups formed around various issues, the initial meetings drew a crowd of young students and professionals interested in volunteering to improve things in their country. Over the years, the group solidified and expanded, taking on ever new projects and activities. The group's founder, Dina, used pedagogic thinking to frame their activities and explained that they are working towards "ocean literacy" in Lebanon. Ocean literacy is a term circulating in marine science and educator discourses that Dina and her group were tapping into, and was defined in a 2005 report by US-based marine researchers and educators as "an understanding of the ocean's influence on you and your influence on the ocean." An ocean-literate person "understands the fundamental concepts about the functioning of the ocean, can communicate about the ocean in a meaningful way, and is able to make informed and responsible decisions regarding the ocean and its resources."⁹ For Dina and her friends, the campaign against the invading lionfish, working to counter this Lessepsian migrant, contributed to the wider cause of promoting ocean literacy.

In 2018, as the organization launched lionfish as its first major campaign, it took up several different activities. I had the privilege to participate in some of the meetings where these steps were planned, discussed, and responsibilities shared between the group's volunteers. Prior to launching the campaign, the organization had been holding other events and activities related to ocean literacy and marine environment. Thus, for their lionfish work, they activated previous networks and methods and accommodated knowledge from global marine science and civil society networks. The group's activities aimed mostly at two goals: first, spreading knowledge of the lionfish situation in the country; and second, promoting the edibility of this particular fish, one previously not found in Lebanese waters and, with venomous spines, not commercially fished at the time. To change this, the organization created a recipe book that combined information about the lionfish with instructions for its safe preparation. They began canvassing restaurants to raise awareness, encouraging them to include lionfish on the menu. This was done alongside reaching out to and surveying fishermen and diving clubs to encourage them to begin fishing the lionfish, so there would be ample supply for restaurants and interested consumers.

The group also organized events, both internal and external. I participated in one such event during my fieldwork, an internal soiree for the group and their close friends. This was a casual evening at a volunteer's apartment, where lionfish and other seafood treats were served along with *mezze*. During the evening, the group's volunteers socialized and got to know each other better. The lionfish itself, even though dwarfed in sheer quantity by other seafoods, took a justified central place at the table—and had a pleasant and mild taste to my palate. Pictures of the lionfish dishes and people enjoying them were shared on the group's social media pages as a part of the campaign to promote the lionfish's edibility. Shortly after the end of my main fieldwork period, the group organized a wider launch for their lionfish campaign at a local microbrewery on the coast. The event—a sort of mini festival, from what I gathered from images, videos, and discussions—included chefs from the microbrewery's kitchen cooking heaps of lionfish for attendees interested in taking a bite of the invasive species. Throughout their campaign, the group put social media to good use and experimented with ways to produce fun and appealing content, such as a video posted on YouTube and Instagram of one of the groups activists "daringly" taking a bite of the supposedly poisonous lionfish and finding it delicious. *El-samake ktir taybe*, the fish is very delicious, was a phrase repeated time and again in the group's published materials, in their interviews with fishermen, by participants at their events, and in their own words.

The group joyfully took up the "invasive species" category, with a wide range of jokes and puns about the species' enemy- or invasiveness. "Eat the lion," most often stated in English,

⁹ F. Cava, S. Schroedinger, C. Strang, and P. Tuddenham, "Science Content and Standards for Ocean Literacy: A Report on Ocean Literacy," 2005. https://www.coexploration.org/oceanliteracy/documents/OLit2004-05_Final_Report.pdf (accessed 9.6.2022).

was a common slogan used to underscore the jokingly daring endeavor of taking a bite of the delicious fish. The categorization of the fish as an enemy and the need to protect “our waters and marine ecosystems” from its invasion were both reasons for and the tools necessary to curtail the lionfish populations. The “lion,” after all, was also threatening “native” fish populations, causing the already embattled Lebanese fishermen’s catches to dwindle. The lionfish campaign was, however, just a part of Dina’s group’s wider aim of changing perceptions of the sea and environment in Lebanon, which ended up changing those participating in the project. The group served as a venue for young, committed people to engage in civil society work and, in some cases, find opportunities to continue working with the sea; for example, by taking up studies in marine sciences. On a wider level, the group shared an implicit understanding that the Lebanese people’s relationship with the sea was an ever-changing issue and connected with other organizations working on coastal matters in the country to promote specific, caring images of relationality with marine environments and the country’s coastline. In this vein, they later launched a campaign with other coastal organizations aimed at safeguarding the Lebanese coastline “for all,” as their slogan stated, as opposed to the owners of privatized places and those with the money to pay expensive entry fees to private resorts.

Locating Recent Arrivals

In a context where access, relationship, and separation to/from the sea have become symbolically and politically significant, the choice to campaign for ocean literacy gains a certain power as well. Through coming to know the sea, one also forms a new relationship to it. The fact that such knowledge-as-relation is not merely epistemological, but also bodily, was underscored to me during my fieldwork, time and time again, as a large number of those active in voluntarism about the sea and coastline also counted diving among their hobbies and passions. Being able to see—and I emphasize here vision as an embodied experience—what is under the waves, how ejecta of urban life like sewage and trash—or non-human species, like the lionfish in this case—populate the coastline was a major driver for many becoming engaged with voluntarism. As anthropologist Justin Raycraft notes in his essay on scuba-diving, “By sharing their dive stories with friends back on shore, divers foster connections between their individual lived experiences underwater and terrestrial human society. For people who are unable to dive themselves, divers’ first-person narratives become windows into the lifeways of the ocean.”¹⁰ Likewise, divers along the Lebanese coastline are often the only ones to directly encounter the lionfish in its habitat.

But let us return for a moment to how the lionfish were located both in terms of their categorization and in wider cultural imaginations. In a recent publication examining a lone hedgehog crossing the border between Israel/Palestine and Jordan without anyone noticing, anthropologist Sarah Green examines the workings of efforts to locate non-human animals. As Green notes, the hedgehog was located through Linnean taxonomy and ecological sciences, but its inconspicuousness was reliant on other regimes of locating just as well. The border between Israel and Jordan is of a rather strong significance for the human inhabitants of the area, but the hedgehog remained of little impact to these political concerns, and thus remained rather unnoticed.¹¹

What made the lionfish’s arrival to Lebanese waters a noteworthy event, even in international press, was thus due not only to scientific taxonomy but also wider considerations of the impact of such travelling species on their environs. It is worthwhile to note that the

¹⁰ Justin Raycraft, “Seeing from Below: Scuba Diving and the Regressive Cyborg,” *Anthropology and Humanism* 45, no. 2 (2020): 301–21, <https://doi.org/10.1111/anh.12306>.

¹¹ Sarah Green, “The Hedgehog from Jordan: Or, How to Locate the Movement of Wild Animals in a Partially Mediterranean Context,” in *Locating the Mediterranean: Connections and Separations across Space and Time*, eds. Carl Rommel and Joseph Viscomi (Helsinki: Helsinki University Press, 2022), 199–221.

lionfish most likely swam to the Lebanese coastline via Israel's territorial waters, across an as-of-yet non-demarcated maritime border, recently the focus of a fierce negotiation process between the two countries. This crossing of borders was not on anyone's mind however, rather reminiscent of Green's hedgehog. What then, made the *Pterois miles* so conspicuous? First of all, through effective procreation and its inclination to eat up so much of the other marine life, the lionfish forced itself into the imaginations of Lebanese marine ecologists. Moreover, even though the fish had been present in the Mediterranean for a long time, according to occasional sightings, its arrival *en force* is what connected it to a number of wider narratives. The *Lessepsian migrations*, for sure, connected the fish to a longer narrative of movement between the Red Sea and Mediterranean. Likewise, the suggestion that climate change might be the root cause of the invasion tied the fish in immediately as an element in our political imaginations of the Anthropocene.

After all, the lionfish did arrive from the Red Sea using routes crafted by the high-modernist fantasies of global trade and managed to do quite well. Maybe it was regional authoritarian political imaginations that helped, maybe the wider carbon capitalist machine, but the lionfish nonetheless did succeed in making use of the changing context. What the lionfish did both allowed possibilities for and demanded actions from my marine ecologist interlocutors. Dina and her group engaged through ideas of what running an NGO means and what sustainable ecologies imply. So, we have a fish located by frames—scientific, national, ecological, climate-political—and an attempt by environmentalist volunteers to encounter it within these frames.

I want to close this paper by noting how far from the sea the lionfish has travelled on occasion. At times, the joking symbolism around the fish examined earlier in this paper was taken as a political metaphor. During the turbulent days of the Lebanese uprising in 2019, my interlocutors from Dina's group participated in the popular movement against nepotism, corruption, and the political status quo. They set up a stall on Beirut's central square with other civil society organizations voicing support for the protests, but theirs was under the banner of the lionfish. "The lionfish in the sea is like the corruption in the state," a sign on their tent stated, then outlined a wider list of comparisons: "Both spread like cancer, eat up everything—and you can't get rid of it without using force." During this rare period of political hope in Lebanon, the group's banner finished by proclaiming: "Revolution against the lionfish!"

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