

University at Buffalo School of Law

Digital Commons @ University at Buffalo School of Law

Journal Articles

Faculty Scholarship

6-1-2024

Green Gold: The Akkoub's Settler Ecologies

Irus Braverman

University at Buffalo School of Law

Follow this and additional works at: https://digitalcommons.law.buffalo.edu/journal_articles



Part of the [Environmental Law Commons](#), and the [Geography Commons](#)

Recommended Citation

Irus Braverman, *Green Gold: The Akkoub's Settler Ecologies*, 19 LA+ 38 (2024).

Available at: https://digitalcommons.law.buffalo.edu/journal_articles/1221



This Article is brought to you for free and open access by the Faculty Scholarship at Digital Commons @ University at Buffalo School of Law. It has been accepted for inclusion in Journal Articles by an authorized administrator of Digital Commons @ University at Buffalo School of Law. For more information, please contact lawscholar@buffalo.edu.



LA+ INTERDISCIPLINARY JOURNAL OF LANDSCAPE ARCHITECTURE
UNIVERSITY OF PENNSYLVANIA STUART WEITZMAN SCHOOL OF DESIGN

Editor in Chief
Karen M'Closkey

Creative Direction
Catherine Seavitt

Issue Editor
Karen M'Closkey

Production Manager
Colin Curley

Production Team
Ryan Franchak
Xinyu Liu
Maura McDaniel
Zhijie Wang

Editorial Assistant
Andreina Sojo

Founding Editors
Tatum L. Hands
Prof. Richard J. Weller

www.laplusjournal.com
laplus@design.upenn.edu

Library of Congress data available upon request.
World Rights: Available

ISSN: 2376-4171

Proofreading by Jake Anderson

Research by Colin Curley

Back cover illustration by Laurie Olin

Copyright © 2024 University of Pennsylvania Stuart Weitzman School of Design

All rights reserved. No part of this journal may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, including electronic, mechanical, photocopying of microfilming, recording, or otherwise [except that copying permitted by Sections 107 and 108 of the U.S. Copyright Law and except by reviewers for the public press] without written permission from the publisher.



LA+ Journal, the Weitzman School of Design and the University of Pennsylvania endeavor to respect copyright consistent with their nonprofit educational mission. The journal has attempted to trace and acknowledge all sources of images used in this publication and apologizes for any errors or omissions. If you believe any material has been included in this publication improperly, please bring it to our attention.

Recommended citation: *LA+ Interdisciplinary Journal of Landscape Architecture*, no. 19 [2024].



botanic /bə'tænik/

noun

- of or relating to botany or plants.
- designating or relating to herbal or botanical medicine.

Oxford English Dictionary, 3rd Edition

- 4 EDITORIAL
KAREN MCLOSKEY
- 6 THE CHANGING NATURE OF BOTANIC GARDENS
KATJA GRÖTZNER NEVES
- 12 SPIRALING DIVERSITY AND BLANK SPOTS IN A 19TH
CENTURY UTOPIAN BOTANIC GARDEN
SONJA DÜMPELMANN
- 22 GARDEN OF RELATION: DRAWING THE CLIMATIC
INTELLIGENCE OF PLANTS
BONNIE-KATE WALKER
- 32 PLANTS ON THE MOVE
JANET MARINELLI
- 38 GREEN GOLD: THE AKKOUB'S SETTLER ECOLOGIES
IRUS BRAVERMAN
- 44 THE VAULT IS A BUNKER, THE ARSENAL ARE SEEDS
XAN SARAH CHACKO
- 52 DESIGN(ED) DECAY
ANDREA LING
- 60 IN CONVERSATION WITH GIOVANNI ALOI
KAREN MCLOSKEY
- 68 FORENSIC ECOLOGIES AND THE BOTANICAL CITY
MATTHEW GANDY
- 74 BOTANIC LESSONS FROM THE PRAIRIE
BERONDA L. MONTGOMERY
- 78 IN CONVERSATION WITH JARED FARMER
KAREN MCLOSKEY
- 86 IN CONVERSATION WITH PATRIC BLANC +
CATHERINE MOSBACH
KAREN MCLOSKEY
- 94 CONCEITS AND CONSTRUCTS: VEGETAL ARCHITECTURE
ANNETTE FIERRO
- 104 PLANT SAMPLES
KAREN MCLOSKEY
- 114 SMART PLANTS AND THE CHALLENGES OF
MULTISPECIES NARRATIVE
URSULA K. HEISE
- IMAGE CREDITS
UPCOMING ISSUES

IRUS BRAVERMAN

GREEN GOLD

THE AKKOUB'S SETTLER ECOLOGIES

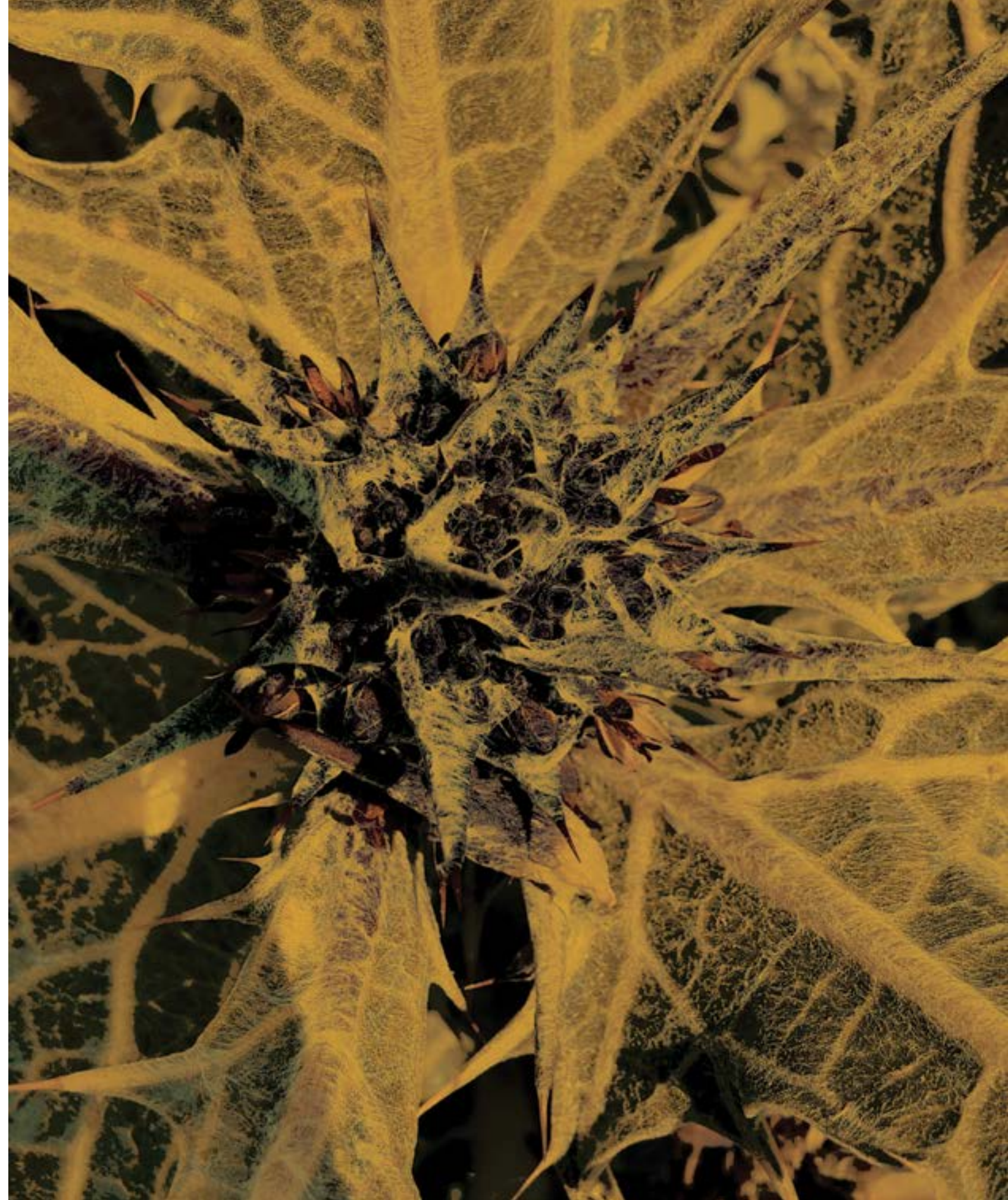
Irus Braverman is professor of law and adjunct professor of geography at the State University of New York at Buffalo. She is the author of several monographs, including *Planted Flags: Trees, Land, and Law in Israel/Palestine* (2009), *Zooland: The Institution of Captivity* (2012), and *Coral Whisperers: Scientists on the Brink* (2018). Her latest monograph, *Settling Nature: The Conservation Regime in Palestine-Israel*, was published with the University of Minnesota Press in 2023.

+ LAW, POLITICS

The akkoub (*Gundelia tournefortii*) is a thistle-like plant so precious to Palestinians that it is often referred to as “green gold.” Considered a rare delicacy, the list of health benefits associated with this edible plant only adds to its desirability. Palestinian foragers risk their lives to put their [gloved] hands on this thorny plant, venturing into fields dotted with undetonated land mines in the northern region of the Jawlan-Golan to collect a fresh batch during its short season in the wild. The risks—as well as the mystique—surrounding the akkoub have only intensified since the State of Israel designated this plant as protected under the Nature and Parks Protection Act.

The story of the akkoub illustrates the three tenets of “settler ecologies”: the regime of environmental protections enacted by the settler state (or by neocolonial modalities of governance on regional and global scales) that furthers the domination of the natural landscape and the dispossession of local and Indigenous communities.¹ The first and fundamental tenet of settler ecologies is the juxtaposed mindset it seeks to advance: the entire ecological system is seen through a binary prism, recruiting living beings to what is portrayed as an all-encompassing ecological war. The type of nature that is valued under this mode of thinking is a “wilderness” ideal of nature that is juxtaposed with culture and fixated on a particular past. This past is associated with the settler community, which in turn aims to restore it through ecological measures. Such an imaginary past landscape is finally juxtaposed with the present landscape, which is depicted as degraded and deteriorated because of the natives’ reckless and even criminal behavior.²

The power of juxtapositions was especially visible in my legal ethnographic research on the conservation regime in Palestine-Israel.³ However, the native-settler dialectic of the colonial nation-state extended here beyond the nature-culture and the past-present divides. I traced, for example, how the [Bedouin/local/domestic] camel is juxtaposed with the [Zionist/settler/wild and reintroduced] Asiatic wild ass, and the black [Palestinian] goat with [Jewish/European] pine seedlings. In an earlier project, I explored the warring tree landscapes in this region, documenting the pitting of the [forest] pine tree against the [cultivated] olive. While the former was deemed protectable for its affinity with the settler state’s project of afforesting the desolate landscape, the latter was deemed killable (or uprootable) for its affiliation



with the agrarian Palestinian community and its purportedly unwild nature.⁴ Such animosities run wild; leaning on each other, they reinforce, naturalize, and thus legitimize the power and the seeming inevitability of the juxtaposed mindset so characteristic of settler ecologies. As Amitav Ghosh points out, settler colonialism has been fought “primarily not with guns and weapons but by means of broader environmental change... Indigenous peoples faced a state of permanent...war that involved many kinds of other-than-human beings and entities: pathogens, rivers, forests, plants, and animals all played a part in the struggle.”⁵ Additional juxtapositions, such as those between renewal and demise and between hope and despair, are quite typical of modern conservation approaches, not only in Palestine-Israel but also around the globe.⁶

Second, settler ecologies are means of green dispossession, performed by both genocidal elimination and through the accumulation of natural capital.⁷ Colonialism and capitalism thus work hand-in-hand through conservation to inflict violence on racialized populations, both human and nonhuman. While the appropriation of territory and land are central to the settler colonial regime, they do not exist on their own: they are accompanied and even preceded by imaginaries that lend them meaning and support. Dispossession and other forms of takeover and erasure by various ecological means, such as the criminalization of the natives by the settler state as well as its advancement of an orientalist approach toward them, are the second tenet of settler ecologies.

Third and finally, settler ecologies operate through environmental law, its rigid definitions and categories of protection both enabling and regulating their continued governance through the ecological state. The pronounced role of law is central to the operation of settler ecologies, which are typically enforced by extensive nature administrations. While settler ecologies include several additional tenets, such as *terra nullius* and ecological exceptionalism, the three tenets I identified here are the primary components of this project.

Thorny Ecologies

In 2005, the State of Israel protected the akkoub under the 1998 Nature and Parks Protection Act. Just as with the state's protection in 1977 of the local herb za'atar (*Majorana syriaca*)—the central ingredient in the salty blend that has come to represent the Palestinian cuisine worldwide—Israel explained the need to protect the akkoub by alerting to its decline in the region. And just like with the za'atar, the Zionist state's protection of the akkoub, too, has been viewed by the local Palestinian communities as a political and militant affront. This legal protection has therefore alienated many Palestinians, deeming Israel's environmental efforts an inherent part of its broader “occupier's law.”⁸ Palestinian acts of steadfast resistance [*sumud* in Arabic] to the akkoub's protection have

since then emerged, as thorny and resilient as the plant they have aligned themselves with. In such instances, the state has only doubled down on its green prohibitions, flexing its muscles even when the foragers were eight-year-old children gathering food for their family dinner. Instead of dinner, in one instance four children who went foraging for akkoub in Jabal al-Khalil (the southern Hebron hills) brought home a high fine, after having spent their evening at the Israeli police station. In 2014, a 14-year-old Palestinian boy was shot and killed by Israeli soldiers after he passed through a breach in the Separation Wall near the Palestinian village of Walaje near Bethlehem to forage akkoub on farmland owned by his family.⁹

Unlike Israel's widespread and successful campaign to protect wildflowers, which mostly targeted its Jewish population, the enforcement of the za'atar and akkoub protections by the Israel Nature and Protection Authority (INPA)—the governmental body that administers nature in Palestine-Israel—has been harsh and has exclusively targeted Palestinians. Violations have resulted in up to three years in jail and fines have easily reached thousands of Israeli shekels—a hefty amount for *fellahin* and rural communities.¹⁰ Often, an order to stay “several hundred meters away” from the protected plants is imposed in addition to the penalties, and is executed not only in nature reserves but also in lands owned privately by Palestinians.¹¹ The Palestinian organization Adalah documented that “in the years 2016–2018, 26 indictments were submitted and 151 fine notices were issued for offenses related to these plants.”¹² At the same time, Jewish Israelis were neither indicted nor fined using this law. INPA's regional biologist in the north explained: “This traditional picking of the akkoub is [only] performed by the Druze and Arab sector. The Jewish sector doesn't do it. They wouldn't even know how to eat it.”¹³ What this official failed to mention, however, is that no criminal charges were ever issued against Jews for picking protected wildflowers either.¹⁴ He also neglected to say that the most serious damage to the akkoub and the za'atar has been in the hands of Jewish Israeli developers, not Palestinian foragers. As an Israeli expert on agriculture put it: “No one talks about the fact that we [Jews] destroy much more za'atar than the Arabs pick. Do you know how many great za'atar populations were uprooted by [our] bulldozers?”¹⁵

As with many wild plants and animals in Palestine-Israel, in the case of the akkoub and the za'atar, too, the Zionist settler project has been investing considerable efforts into excavating the ancient origin of these species. Utilizing linguistic studies alongside biblical geography and archeology, the settler state has been tracing contemporary wild creatures back through time in an attempt to prove its superior autochthonous connection to this place. Through their association with ancient Jewish texts from the Mishna and the Talmud, the akkoub and za'atar recently transformed into Jewish plants. It has therefore become even more important for Zionist settler ecologies to

restore the ancient akkoub and za'atar landscape. Increasingly, the Palestinian foragers are seen as hindering this process and as devastating the contemporary landscape in the region.

Such a “declensionist” perception has been justified through a limited scientific study published in 1995 by an ecologist from INPA who asserted that commercial foraging was likely causing a “significant decrease in the number of flowering *G. tournfortii* in harvest areas.”¹⁶ The study warned of “the threat of decline in reproduction and in the number of plants in the long term.”¹⁷ But whereas the study recommended restricting only commercial harvesting of this species, INPA imposed a strict ban on all forms of foraging, including domestic foraging. Didi Kaplan, who authored the original research paper, told me that he felt “awful” about how his work was utilized for political ends. “Anyone who knows me knows how far I am from these political ideas,” he explained.¹⁸ At the time, he issued a directive in his region that instructed his rangers not to enforce this law against Palestinians who foraged for private consumption. Another high level INPA ecologist asked to emphasize that: “In a situation like this, those who are hurt are individuals and families, while the commercial companies act in a more sophisticated way and obtain an advantage.”¹⁹

Such extractivist capitalist agendas are part and parcel of the settler colonial management of nature. Indeed, over the years, the za'atar was commercialized by both Jewish Israeli and Palestinian farmers, and there are currently numerous farms situated on both sides of the Green Line (the internationally recognized border of 1948-Israel).²⁰ Because the state has prohibited its foraging for a shorter time and since it is more complicated to cultivate this plant, there are only one or two akkoub farms in the entire region. The first and largest farm is managed by Eli Galilee, an Israeli Jew, in a kibbutz in the northern region of Galilee. During our interview at a roadside gas station near the farm, Galilee told me that the idea of cultivating the akkoub came to him while he was hunting with a few “Arab” friends, who abruptly stopped a wild boar chase when they stumbled upon the akkoub.²¹

One of the hunters abandoned everything and wandered off toward the other side of the Wadi, like some lunatic. I didn't understand how that could be, in the middle of all the action. My friend [explained that] he found akkoub, and that once there's akkoub, it's better than any meat, or in fact anything else in the world. I said, “Wow, that's interesting,” and my research started right then and there. That was 25 years ago.²²

The process of transforming the akkoub from a plant tied to rich Palestinian culinary traditions to a protected wild herb with domesticated commercial breeds is far from complete. For the most part, Jewish Israelis have not taken to its peculiar taste—a blend of artichoke and asparagus—and it is still

¹ I coin and discuss the term “settler ecologies” in Irus Braverman, *Settling Nature: The Conservation Regime in Palestine-Israel* (University of Minnesota Press, 2023).

² On the power of the imaginary landscape, see Edward Said, “Invention, Memory, and Place,” *Critical Inquiry* 26, no. 2 (2000): 184. On the declensionist narrative that blames the native for the desolate state of nature, see, e.g., Diana K. Davis, *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa* (Ohio University Press, 2007).

³ The term “Palestine-Israel” refers to any part of the contested geographic area of the State of Israel's post-1967 territories, including the occupied West Bank, Gaza, and Golan Heights (al-Jawlan). I deliberately chose to use a hyphen rather than the common slash (as in “Palestine/Israel”) to highlight the intention to move beyond the bifurcation of this space toward its decolonization. As for the order, it seemed both historically accurate and also more just to place Palestine first. See Braverman, *Settling Nature*, 269.

⁴ Irus Braverman, *Planted Flags: Trees, Land, and Law in Israel/Palestine* (Cambridge University Press, 2009).

⁵ Amitav Ghosh, *The Nutmeg's Curse* (University of Chicago Press, 2021), 55, 57–58.

⁶ See, e.g., Irus Braverman, *Coral Whisperers: Scientists on the Brink* (University of California Press, 2018).

⁷ David Harvey, “The ‘New’ Imperialism: Accumulation by Dispossession,” *Socialist Register* 40 (2004): 71–90. Patrick Wolfe insisted on the distinction between elimination and exploitation, explaining that the genocidal logic is at the heart of settler colonialism. Patrick Wolfe, “Settler Colonialism and the Elimination of the Native,” *Journal of Genocide Research* 8, no. 4 (2006): 387–409. Although many have followed in his footsteps, this distinction is increasingly contested. See, e.g., Sai Englert, “Settlers, Workers, and the Logic of Accumulation by Dispossession,” *Antipode* 52, no. 6 (2020): 1647–66.

⁸ Raja Shehadeh, *Occupier's Law: Israel and the West Bank* (Institute for Palestine Studies, 1985).

⁹ Alex Levac, “‘It Was Nothing Personal,’ Bereaved Palestinian Father Told,” *Haaretz* (April 4, 2014).

¹⁰ Ronit Vered, “How Za'atar Became a Victim of the Israeli-Palestinian Conflict,” *Haaretz* (May 7, 2017). See also Ronit Vered, “Forbidden Fruit,” *Haaretz* (March 13, 2008).

¹¹ David Lev, “Arab Fined for Picking Near-Extinct Plant,” *Arutz Sheva* (June 23, 2013), <https://www.israelnationalnews.com/news/169221>.

strongly associated with Palestinian culture. On their part, the Palestinians were initially wary of the Jewish commercial breeds. “There are those who said ‘without thorns, we won’t eat it,’ and some told us ‘this is not wild akkoub, [so] we won’t eat it...It took a while until they understood it’s good and just as tasty.”²³ Today, the commercial breed provides for roughly 20% of the market.

Whereas in most of the ecological juxtapositions I had documented in my research of settler ecologies, the wild organism is associated with the settler state and pitted against a domestic other that is associated with the local enemy, here both the settler and the native associate themselves with the same organism and are therefore battling over its definitions and legitimate uses. On the one hand, settler ecologies want to see a fully wild plant that is not consumed by humans; on the other hand, native practices challenge the wild-domestic divide and treat the akkoub and the za’atar as “nature-culture” hybrids.²⁴ In this sense, the war that takes place through and over the akkoub is about the proper definition of nature: while the Palestinian communities don’t see how their uses of the plant would take away from its wildness, the all-or-nothing approach of Zionist conservation sees it as *either* a plant for human consumption or a protected wild plant – but never as both.

The battle over the identity of the akkoub brings us full circle to the problematically dichotomous prism of settler ecologies. It is precisely in challenging this bifurcated context that Adalah’s attorney, Rabea Eghbariah, celebrated INPA’s recent revision of the law to allow personal foraging of the akkoub of up to five kilograms inside nature reserves and up to 50 kilograms outside of the reserves – in both cases, it should be noted, “without [the akkoub’s] roots.”²⁵ The native’s interpretation of the plant’s identity seems to have won, even if temporarily.

The akkoub story finally highlights a less studied aspect of settler ecologies: the ambivalence of the settler ecologist. Working for the state, the conservation managers and scientists I spoke with were not always fully aligned with its colonial agendas. This was already apparent in the statements I recorded from Didi Kaplan – the scientist whose work served as the foundation for the prohibition on the akkoub. Similarly, Israel’s current chief plant ecologist at INPA, Margareta Walczak, has expressed concerns with the dominant narrative of extreme protection promoted by the state. First, she explained in our interview, such an approach is not founded upon sound scientific research. She is currently executing such research but admits that this research, too, is limited in scope and capacity. In her words: “I was all the time very skeptical [about] how much you can really find out regarding the influence [of grazing] because, even in 2005, the plants were already grazed for many years.”²⁶ Walczak is well aware of the political undertones of the foraging prohibitions and worries

about the resulting alienation of the local community and how this alienation might in turn undermine broader conservation efforts in the region. She told me along these lines: “The [Palestinians’] connection [to land] is very, very important when you want these people to also care for the land and for the nature around [it].”²⁷ Walczak blames the antagonistic approach of many local Palestinians toward nature protection on INPA’s rigid enforcement practices, which at the same time ignore scientific reasoning. For her, then, the problem is not with conservation science but with law and policy as they manifest in INPA’s inflexible enforcement. In her words:

Who decides at the end? It’s more the enforcement unit than us [scientists]. We—and by we, I mean the scientific department—have quite a clear opinion, which is based on facts in the field, that we should allow people [to forage] because it’s really part of the culture and tradition.²⁸

But while she is sympathetic toward “small” acts of foraging, Walczak at the same time recites the official state narrative regarding akkoub and za’atar conservation, arguing that these plants are in decline and in danger of becoming extinct, that commercial foraging is detrimental to their protection, and that the foraging happens in large quantities and includes massive exports to neighboring countries. For her, then, the challenge is how the state might legally and practically distinguish foraging for personal consumption from that conducted for commercial uses. Relying on fundamentally different assumptions, the Palestinian approach toward the akkoub will typically question each of Walczak’s pro-regulatory stances.

The case of the akkoub reveals the ambivalence of the settler ecological actors: although they are part of the state’s administration and agree with the fundamental conservation assumptions underlying settler ecologies, these actors are often at the same time acutely aware of the counterproductive and violent repercussions of the myopic focus on nature protection. Such an ambivalent stance by certain state ecologists demonstrates that even at the heart of settler ecologies, possibilities for nonbinary, compassionate, and nuanced perspectives exist that offer more just ecological paths. Ecologies are not inevitably colonial; they can embody and promote coexistence, relationality, and plurality. As demonstrated by the story of “green gold,” thinking ecologically might in fact show us the way out of the colonial present toward decolonial ecologies.



¹² “Following Adalah Intervention: Israel Reformulating Ban on Harvesting Wild Herbs Used in Traditional Palestinian Cuisine,” *Adalah* [August 20, 2019], <https://www.adalah.org/en/content/view/9794>.

¹³ Amit Dolev (regional biologist, Northern District, INPA), interview and observations with author, Galilee and Golan Heights [December 23, 2019].

¹⁴ *Ibid.*

¹⁵ Jumana Manna, “Where Nature Ends and Settlements Begin,” quoting Rabea Eghbariah, “The Struggle for Za’atar and Akkoub: Israeli Nature Protection Laws and the Criminalization of Palestinian Herb-Picking Culture,” [Oxford Food Symposium on Food and Cookery, 2020].

¹⁶ Didi Kaplan, et al., “Traditional Selective Harvesting Effects on Occurrence and Reproductive Growth of *Gundelia Tournfortii* in Israel Grasslands,” *Israel Journal of Plant Sciences* 43, no. 2 [1995]: 163–66, 164.

¹⁷ *Ibid.*

¹⁸ Didi Kaplan [former regional ecologist in northern region, INPA], Zoom interview by author, February 20, 2021.

¹⁹ Dolev, interview.

²⁰ See Jumana Manna, “Where Nature Ends and Settlements Begin,” *e-flux journal* 113 [2020]; Brian Boyd, “A Political Ecology of Za’atar,” *EnviroSociety* [blog] [June 15, 2016], <https://www.envirosociety.org/2016/06/a-political-ecology-of-zaatar/>.

²¹ “The insistence on the part of many Jewish Israelis to refer to Palestinians as Arabs rather than Palestinians exemplifies yet another common form of erasure: this time through the refusal to recognize the Palestinian identity,” Braverman, *Settling Nature*, 67.

²² Eli Galilee [Jewish Israeli akkoub farmer], in-person interview by author, Kibbutz Ayelet Ha’Shachar, Galilee, June 30, 2022.

²³ *Ibid.*

²⁴ Donna Haraway, *The Companion Species Manifesto* [Prickly Paradigm Press, 2003].

²⁵ Zafir Rinat, “After Dozens of Years, Akkoub Foraging is Allowed,” *Haaretz* [March 10, 2020].

²⁶ Margareta Walczak (plant ecologist, INPA), interview by author, Jerusalem [June 26, 2022].

²⁷ *Ibid.*

²⁸ *Ibid.*

Above: A Palestinian farmer, or fallah, serves us traditional za’atar pastries during our visit at his home in Walaje near Jerusalem. Photo by author, February 2018.

Below: Close-up image of akkoub.

IMAGE CREDITS

Endpapers

"The Night-Blowing Cereus" by Philip Reinagle (1807), public domain.

Editorial

p. 4: "An illustration of a Vegetable Lamb of Tartary" by H. Lee (1887), public domain via Wikimedia Commons.

The Changing Nature of Botanic Gardens

p. 6: Image composite by Maura McDaniel using "Kew Gardens Victoria Regia House" by unknown (1903), public domain, and "Image of Prince of Wales Conservatory" by Scott Wylie (2022) used under CC BY-4.0 via Wikimedia Commons.

p. 8: Image of plant tissue cultures by Lance Cheung (2013), public domain.

p. 9: "No fundo da Caldeira" by Jardim Botânico (2010) used under CC BY-SA 3.0 via Wikimedia Commons.

p. 11: Image by O. Luci (2013), CC BY-SA 3.0 via Wikimedia Commons.

Spiraling Diversity and Blank Spots in a 19th-Century Utopian Botanic Garden

p. 12: Drawing of Padova Botanic Garden, by Girolamo Porro (1591), public domain [altered], and drawing of "The botanic flower-garden with a gravel-walk" (1826) by J. C. Loudon used under CC BY-NC-SA 4.0 license [altered].

p. 14: Drawing from John Claudius Loudon, *Hints on the Formation of Gardens and Pleasure Grounds* (Gale, Curtis & Fenner, 1813) plate 17, public domain [altered on p. 12].

p. 16-17: Drawings from John Claudius Loudon, *An Encyclopedia of Plants* (Longman, Rees, Orme, Brown & Green, 1829), 836, 829, public domain [cropped].

p. 19: Drawing from John Claudius Loudon, *Encyclopaedia of Gardening* (Longman, Rees, Orme, Brown & Green, 1824), 1035, public domain [altered].

Garden of Relation: Drawing the Climatic Intelligence of Plants

p. 23, 26-27, 28-29: Drawings by Bonnie-Kate Walker used with permission.

Plants on the Move

p. 32: Image by Ryan Franchak, used with permission.

p. 36: "*Umbrella Tree (Magnolia tripetala)*" (1932) by Mary Vaux Walcott, Smithsonian American Museum of Art, Gift of the artist, 1970.355.57, public domain.

Green Gold: The Akkoub's Settler Ecologies

p. 39: "*Asteraceae: Gundelia tournefortii* [akkoub, tumble thistle]" by Cataloging Nature used under CC BY-2.0 license via Flickr.com [altered].

p. 43: Photograph by Irus Braverman used with permission, and "Spiny Gundelia" by Lehava Activity 2013 Pikiwiki Israel used under CC BY-2.5 license via Wikimedia Commons.

The Vault is a Bunker, The Arsenal Are Seeds

p. 44: Photograph by The Crop Trust used under CC BY-NC-SA 2.0 license [cropped].

p. 46, 48: Photographs by Xan Sarah Chacko used with permission, cropped.

p. 47: Photograph by Nuclear Regulatory Commission (2014) used under CC BY-2.0 Deed license, cropped.

p. 49: Image by Snøhetta used with permission [cropped].

p. 50: Photograph by Navdanya International used with permission [cropped].

p. 51: Photograph by Karen M'Closkey used with permission.

Design(ed) Decay

p. 52-53: Photograph by Gabriel Li used with permission.

p. 54, 56, 58: Photographs by Ally Schmaling used with permission.

In Conversation with Giovanni Aloï

p. 60: Photograph provided by Giovanni Aloï used with permission.

p. 62: "Rootbound #3, Exercises in Rootsystem Domestication" (2018) by Diana Scherer used with permission.

p. 65: "Bioremediation [Kudzu]" (2018–2019) by Jenny Kendler used with permission.

Forensic Ecologies and the Botanical City

p. 68-69: "Jardins de béton" (2012) by Groume used under CC BY-SA 2.0 license [cropped].

p. 72: Illustration by Richard Deakin, *Flora of the Colosseum of Rome* (1855), public domain.

Botanic Lessons from the Prairie

p. 74-75: Image by Jono Gilbert, used with permission [cropped].

In Conversation with Jared Farmer

p. 78: Image by Xinyu Liu using photograph by Jared Farmer [altered], used with permission.

p. 82: "The Sacred Bo-tree of Ceylon" by James Ricalton, public domain via *Scribner's Magazine* 10, no. 3 (1891): 321, and photograph by Gareth James (2016) used under CC BY-SA 2.0 license.

p. 83: Photograph courtesy of Ericson Collection, Cal Poly Humboldt University Library; Photograph by the National Park Service, public domain.

p. 84: Photograph by Ragesoss at the United States National Arboretum used under CC BY-SA 3.0 license [cropped], and photograph by Jared Farmer used with permission [cropped].

In Conversation with Patrick Blanc + Catherine Mosbach

p. 86: Image by Ryan Franchak used with permission.

p. 89: Drawing by Mosbach Paysagiste used with permission.

p. 91: Images courtesy of Patrick Blanc.

p. 92: Photograph by Mosbach Paysagiste used with permission.

Conceits and Constructs: Vegetal Architecture

p. 94: Image of Louis Sullivan entrance detail on the Carson Pirie Scott Building, Chicago, Historic American Buildings Survey, public domain via Wikimedia Commons.

p. 96: Image courtesy of Ruy-Klein used with permission, and image courtesy of Eco-Logic/ ©NAARO used with permission.

p. 101: Photographs of glass detail and greenhouse by Annette Fierro used with permission, and image of Ricola building courtesy of Margherita Spiluttini/ Architekturzentrum Wien, Collection used with permission.

p. 102: Image courtesy of AJN used with permission, and image of Musée de Quai Branly courtesy of Patrick Blanc used with permission.

Plant Samples

p. 104-105: Image generated using Midjourney by Maura McDaniel (2023) used with permission.

p. 108-109: NASA Earth Observatory images by Jesse Allen using data provided by the University of Maryland's Global Land Cover Facility and the U.S. Geological Surveys, public domain.

p. 110: Images by Maura McDaniel containing modified Copernicus Sentinel data [2023] processed by Sentinel Hub, used with permission.

p. 112-13: Images by Audrey Genest using LUMION (2023), used with permission.

Smart Plants and the Challenges of Multispecies Narrative

p. 115: "The Day of the Triffids" (1962) poster art, attributed to Joseph Smith for Allied Artists, entered the public domain 28 years after its US publication date due to failure to assert or renew copyright [altered].

IN THE NEXT ISSUE OF

LA+

Issue 20 of LA+ Journal brings you the results of our fifth international design ideas competition. **LA+ EXOTIQUE** asked entrants to redesign the forecourt of the Museum of Natural History in Paris. The Museum—founded in 1793—sits within the Jardin des Plantes grounds, which include themed gardens, a zoo, and five themed galleries. In addition to its collections, the Museum is an active research institution studying the evolution of life on this planet. **LA+ EXOTIQUE** will showcase the award-winning designs and a comprehensive Salon des Refusés. The issue will also feature an essay by LA+ creative director Catherine Seavitt and interviews with jurors Julia Czerniak, Sonja Dümpelmann, Catherine Mosbach, Signe Nielsen, and Marcel Wilson.

OUT FALL 2024

WILD SPRING 2015	PLEASURE FALL 2015	TYRANNY SPRING 2016
SIMULATION FALL 2016	IDENTITY SPRING 2017	RISK FALL 2017
IMAGINATION SPRING 2018	TIME FALL 2018	DESIGN SPRING 2019
ICONOCLAST FALL 2019	VITALITY SPRING 2020	GEO FALL 2020
COMMUNITY SPRING 2021	CREATURE FALL 2021	GREEN SPRING 2022
 LA+ SPECULATION FALL 2022	 LA+ INTERRUPTION SPRING 2023	 LA+ BEAUTY FALL 2023
 LA+ BOTANIC SPRING 2024	 LA+ INTERDISCIPLINARY JOURNAL OF LANDSCAPE ARCHITECTURE	 LA+ EXOTIQUE FALL 2024
 LA+ SENSE SPRING 2025	 LA+ ENVIRONMENT FALL 2025	 LA+ +

LA+ brings you a rich collection of contemporary thinkers and designers in two issues each year. To subscribe follow the links at WWW.LAPLUSJOURNAL.COM.