

# SUSTAINABLE FUTURES

DELIVERING SOLUTIONS TO URGENT ENVIRONMENTAL CHALLENGES



**WE ALIGN | WE CONNECT | WE CELEBRATE | WE GROW**

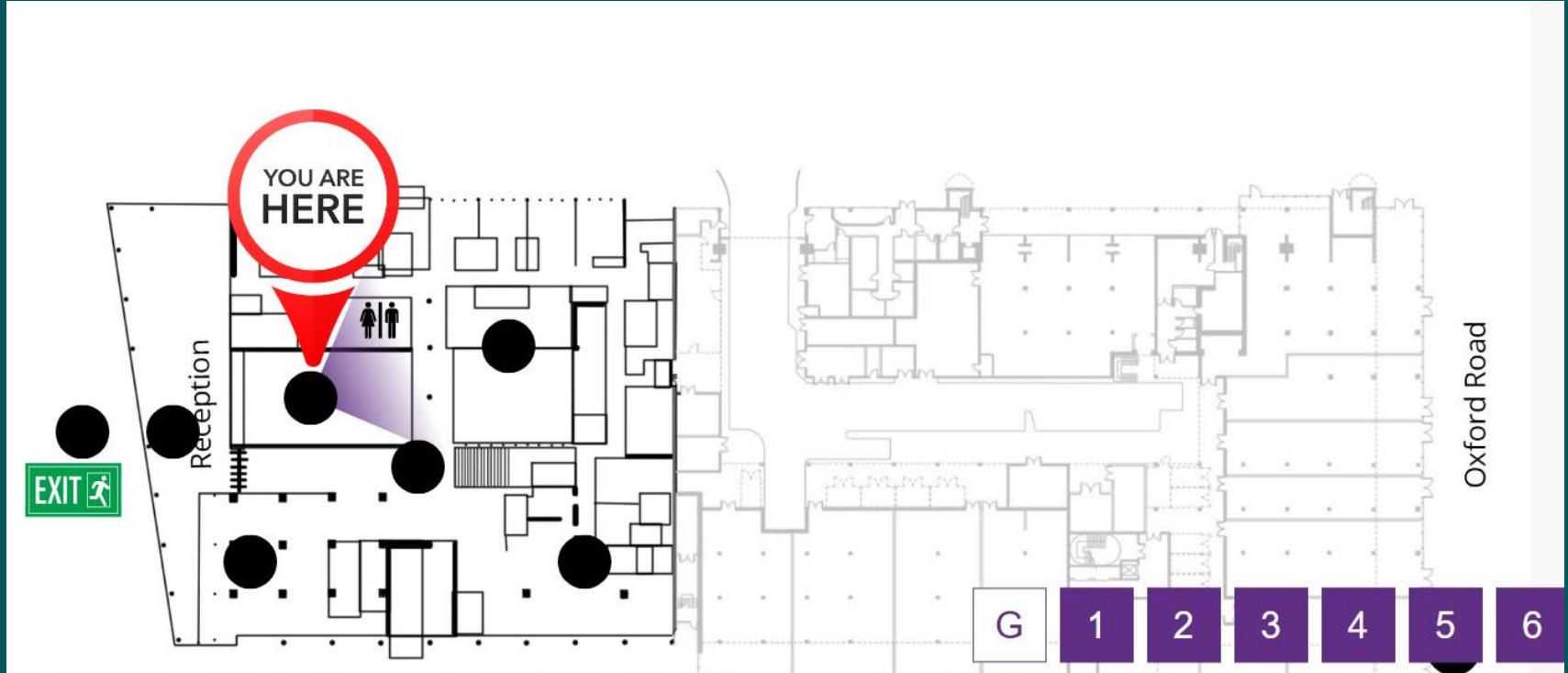
# Housekeeping



- Please find nearest fire exit and location of toilets on map on next slide.
- No fire alarm is planned. If it sounds during the event, please evacuate the building at the nearest exit.
- Fire assembly point is located outside the Hyatt Regency hotel.
- Please ensure any coats or bags are not in the way of walkways to avoid creating any trip hazards.
- A risk assessment is available on request.

**WE ALIGN | WE CONNECT | WE CELEBRATE | WE GROW**

# Housekeeping



# Sustainable Futures

SUSTAINABLE FUTURES

DELIVERING SOLUTIONS TO URGENT ENVIRONMENTAL CHALLENGES

- Recognising UoM as a world leader in **tackling urgent and complex environmental challenges through interdisciplinary sustainable solutions**.
- These **challenges impact** our *operations, teaching and Our Future*.
- The **environmental challenges** we face are **systemic** and **interrelated**. This necessitates *sustainable systems (socio-economic, as well as environmental)*.
- Sustainable Futures seeks to create **value, impact, and cohesion** from our diverse research efforts to create **truly sustainable solutions to environmental challenges**.

## CHALLENGE AREAS



RESOURCES



RESILIENCE



NET-ZERO



EQUITY



HEALTH



SKILLS



# What we do

SUSTAINABLE FUTURES

DELIVERING SOLUTIONS TO URGENT ENVIRONMENTAL CHALLENGES

## ALIGN

Sing in harmony and target robust interdisciplinary solutions

## CONNECT

Map capability onto need for solutions that integrate needed perspectives

## CELEBRATE

Champion our excellence and diversity to broader audiences

## GROW

Help develop interdisciplinary proposals and seek major fundings for research to tackle environmental sustainability challenges

# Find out more...

SUSTAINABLE FUTURES

DELIVERING SOLUTIONS TO URGENT ENVIRONMENTAL CHALLENGES



## Upcoming Events

Sign up for our newsletter and ECR network:



# Agenda



**11:00 - 11:15** - Registration

**11:15 - 11:30** - Welcome and Introductions with our Deputy Chair, [Dr Helen Holmes](#)

**11:30 - 12:15** - Annual Albatross Lecture - Keynote Speaker: [Dr Jared Margulies](#)

**12:15 - 13:00** - Networking Lunch

**13:00 - 13:50** - Panel Q&A

**13:50 - 14:00** - Closing Thoughts

**14:00** – Event Close / WILD tour\*

\*Those who secured a place on the tour should have already received confirmation and instructions.

# Lessons for conservation justice in the illegal wildlife trade



Art by Joel Fuller

The Albatross Lecture  
Sustainable Futures  
The University of Manchester  
January 23, 2025

Jared Margulies  
Department of Geography  
and the Environment  
University of Alabama

"If you're interested in cultural diversity, you have to be interested in biological diversity, because nature is the scaffolding of culture — it's why people are the way they are. If you're interested in environments, you have to be interested in culture."

– *Bernard Nietschmann, 1992.*

~~"If you're interested in cultural diversity, you have to be interested in biological diversity, because nature is the scaffolding of culture — it's why people are the way they are..."~~

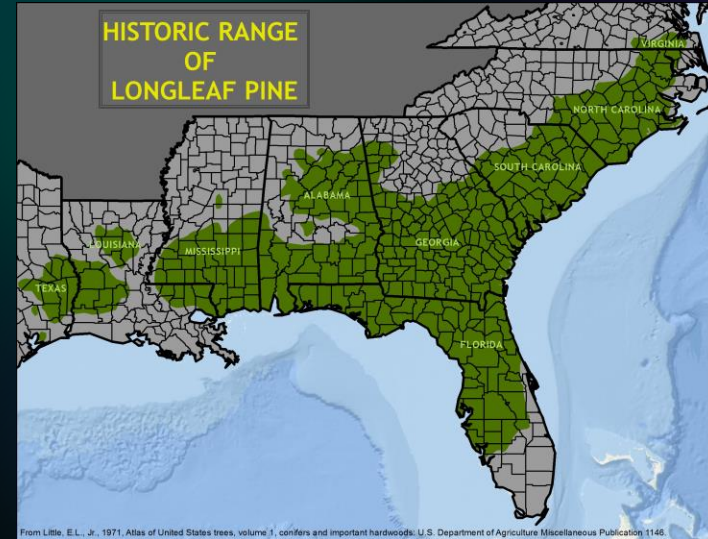
If you're interested in biological diversity, you have to be interested in cultural diversity, because culture is the scaffolding of nature—it's why nature is the way it is. If you're interested in environments, you have to be interested in culture.





Managed long-leaf pine habitat,  
Brunswick County, North Carolina

Less than 3% of longleaf pine's  
historic habitat remains today.





Agent Smith, *The Matrix*.





1-2% of giant rivercane's (*Arundinaria gigantea*) historic habitat remains today.



Figure 5. Haylaema, Choctaw, with a carrying basket made of giant cane. Photograph by David I. Bushnell, Jr., St. Tammany Parish, La., 1909. Courtesy of the Smithsonian National Museum of Natural History, National Anthropological Archives, 1102.b.22.





Giant Rivercane *Arundinaria gigantea*. Courtesy National Park Service.



Giant rivercane basket by master basket maker Rose Fisher Greer of the Jena Band of Choctaw Indians.  
Photo by Jared Margulies

# How should we define conservation justice?

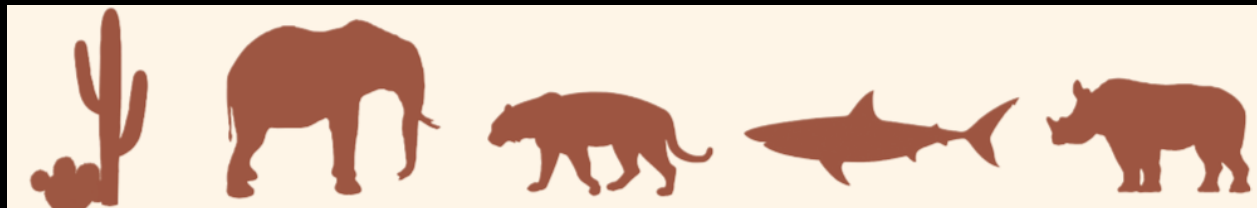
- “**Distribution** refers to differences between stakeholders in terms of who enjoys rights to material benefits and who bears costs and responsibilities.”
- “**Procedure** refers to how decisions are made, who participates and on what terms”.
- “**Recognition** is typically concerned with respecting identities and cultural difference (Fraser and Honneth, 2003); it is about the extent to which different agents, ideas and cultures are respected and valued”

(From Martin et al., 2016, p. 254-255).

Martin, A., Coolsaet, B., Corbera, E., Dawson, N. M., Fraser, J. A., Lehmann, I., & Rodriguez, I. (2016). Justice and conservation: The need to incorporate recognition. *Biological conservation*, 197, 254-261



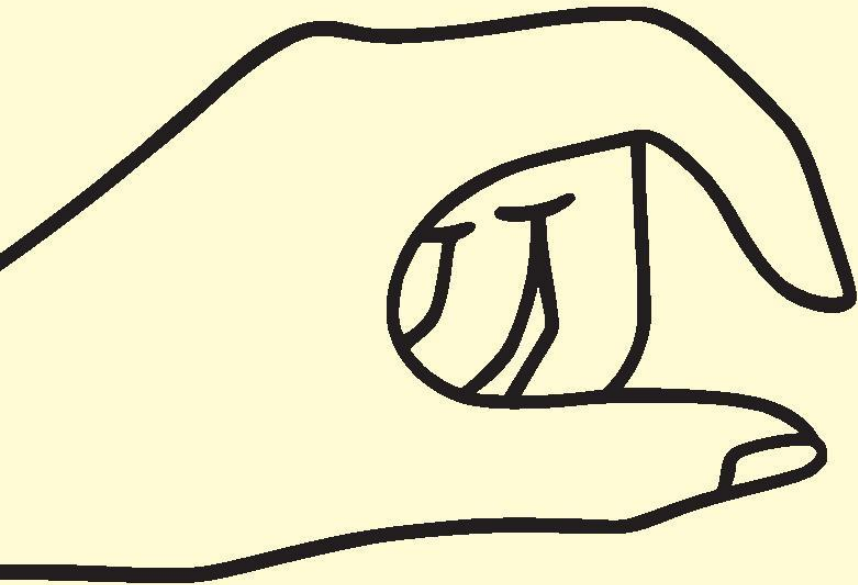
The BIOSEC project critically examined the growing inter-relationships between biodiversity conservation and security.



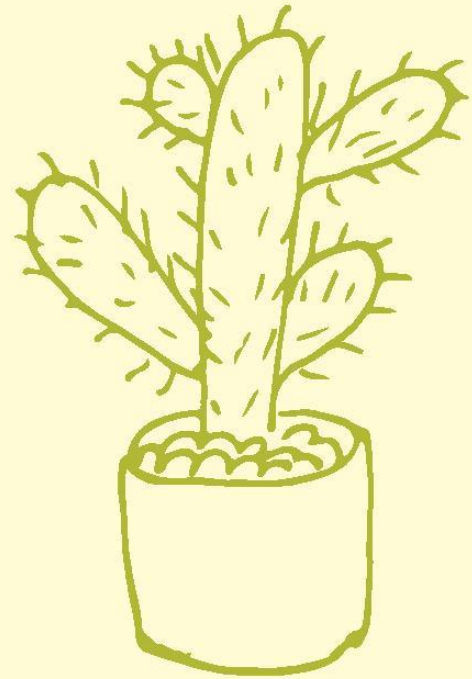


A private collection of cacti in Czechia





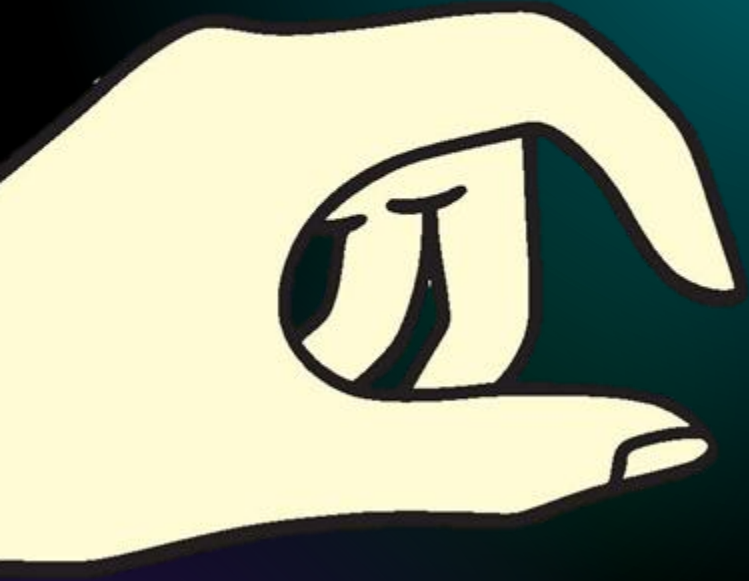
Who steals a cactus?



The desire to collect is a powerful, even compulsive force.



# A study of 'plant-people'; a dedication to a hyphen

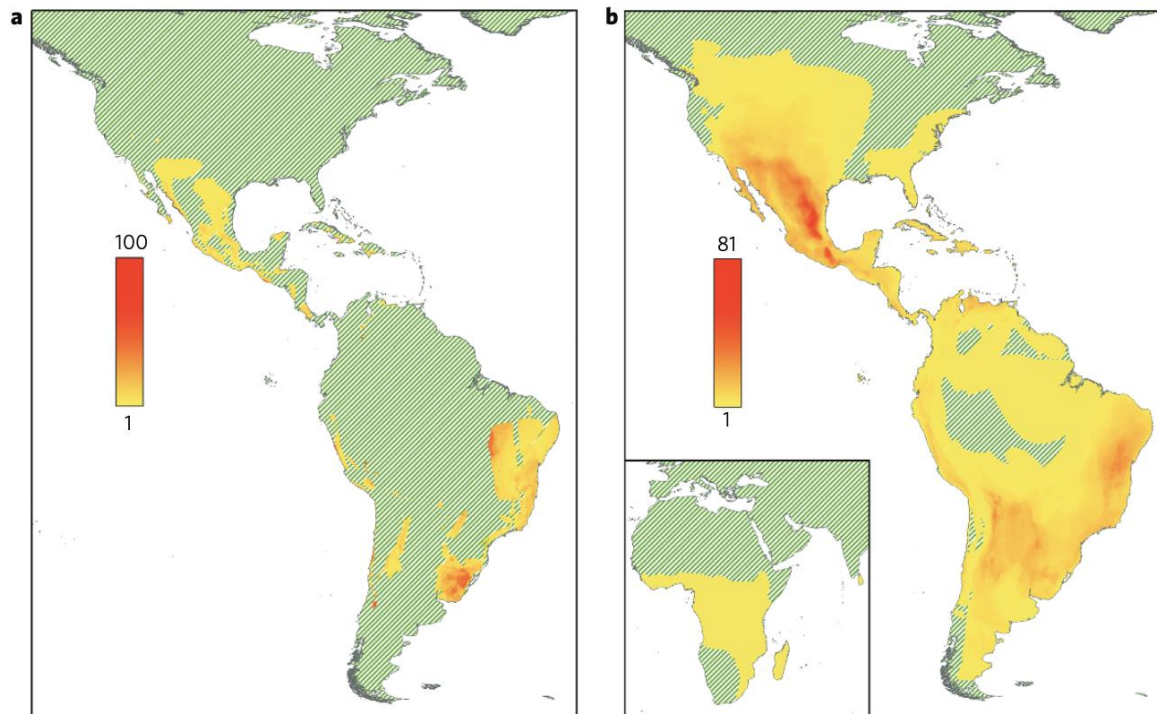


“During my research with cactus collectors, one research participant described his community as “plant-people.” One way to think about this book is as a dedication to that hyphen: what both connects and separates the collector from the plants that serve as objects of desire.” p12.



# High proportion of cactus species threatened with extinction

Bárbara Goettsch *et al.*\*



**Figure 2 | Patterns of biodiversity of Cactaceae. a,** Proportion of species that are threatened (Vulnerable, Endangered and Critically Endangered). **b,** Total species richness.



# The Threatened Status of Cacti

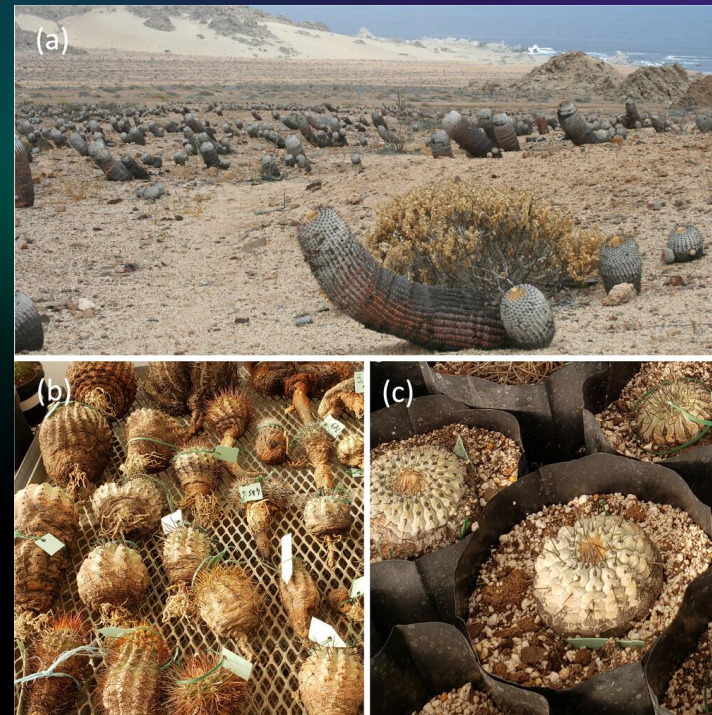
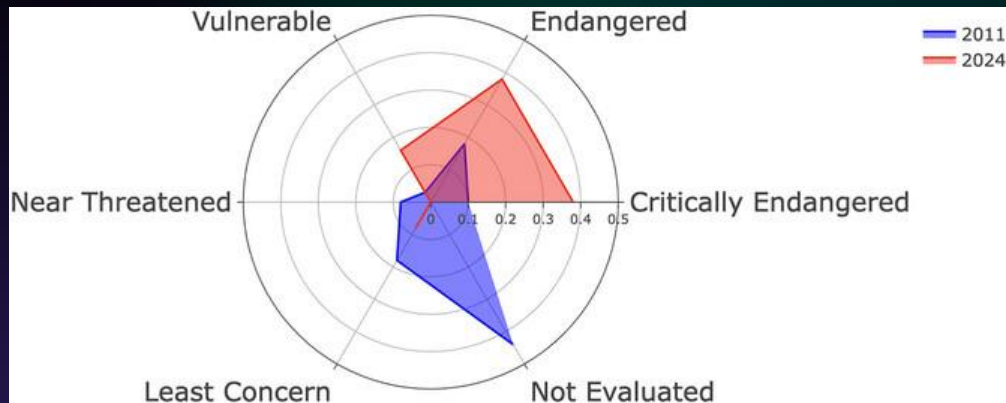
- Cacti are one of the most threatened taxonomic groups of any assessed species of *animal or plant* globally.
- Almost a third (31%) of ~1,500 species are classified as threatened (IUCN Red List).
- Some 86% of threatened cacti (203 cactus species) used for horticultural purposes are extracted from wild populations.
- Threatened cacti hotspots are found across the Americas from Brazil, to Uruguay to Mexico to Chile.
- One of the primary biological resource uses of threatened cacti is collection for the horticultural trade.





## Effects of trade and poaching pressure on extinction risk for cacti in the Atacama Desert

Angelica Villalobo-Lopez, Carol M. Peña, Antonio Varas-Myrik, Michiel Pillet, Paulina Jahnsen, Patricio Plissock, Bárbara Goettsch, Pablo C. Guerrero







## ***Global Cactus Traffickers Are Cleaning Out the Deserts***

A recent raid in Italy involving rare Chilean species highlights the growing scale of a black market in the thorny plants.

*The New York Times*

## Succulent smuggling: why are South Africa's rare desert plants vanishing?



The Richtersveld is home to  
Photograph: Ute Schmiedel/Ha

DOWN TO EARTH CLIMATE SCIENCE

### These tiny succulent plants are being poached by the thousands

The scourge of plant poaching is hurting the planet.

y Meredith Lawrence | Feb 23, 2022, 8:00am EST

f t e SHARE



udleya farinosa in the wild on the coast in Monterey County, California. | Stephen McCabe

DOWN  
TO EARTH

Last month, a South Korean man was sentenced to two years in prison for stealing hundreds of thousands of dollars worth of wild dudleya plants from the California

## California



Lois Beckett in Los Angeles

@loisbeckett  
Sun 20 Mar 2022 08:27 EDT



## 'Crime against nature': the rise and fall of the world's most notorious succulent thief

Byungsu Kim pleaded guilty to attempting to ferry more than 3,700 wild dudleya plants from California parks to South Korea



A California game warden with wild dudleya plants. Photograph: courtesy California Department of Fish and Wildlife

When Byungsu Kim appeared for his sentencing hearing on Zoom from the Santa Ana jail in California, his jaw was wired shut.

The 46-year-old South Korean national had been in prison for more than two years on two different continents. According to the US government, he was an "international succulent trafficker", perhaps the most notorious houseplant poacher in the world.



# Illegal trade booms in South Africa's 'super-strange looking' plants

25 December 2024

Share  Save 

Nomsa Maseko in the Succulent Karoo & Rob Wilson in London

BBC News



Thuthuka Zondi / BBC

A biodiversity hotspot in a remote part of South Africa has become the hub of an illegal trade in protected plant species, with organised crime groups capitalising on overseas demand.



“Most of us will be quite happy with a cultured or grafted plant. But there will always be those who want the *real* thing.”  
- British Cactus Collector



# Looking for the Last







Looking for  
*Uebelmannia*  
*buiningii* amidst a  
hillside of  
*Pilosocereus*  
*aurisetus* in Minas  
Gerais, Brazil.



# On caring and collecting: or what it means to 'save' a species

“The strange psychology of collectors in this hobby is that some people would say now, OK, this is the last one, and we should take it home, to protect it. Plenty of people would say that.”

*-Collector*



## Desiring *Uebelmannia buiningii*

“On the surface the argument is that to acquire them saves them from destruction... There is, however, another type of saving ... the collector saves the objects from obscurity... Yet even if they did not need the collector to save them from potential destruction, there is a strong sense in the collecting narrative that they deserve to be appreciated—they deserve to be loved—and in this sense the collector offers salvation.”

-MacKenzie and Yates (2016)

Mackenzie, S., & Yates, D. (2016). Collectors on illicit collecting: Higher loyalties and other techniques of neutralization in the unlawful collecting of rare and precious orchids and antiquities. *Theoretical Criminology*, 20(3), 340-357.

# When Desire goes awry

“The strange psychology of collectors in this hobby is that some people would say now, OK, this is the last one, and we should take it home, to protect it. Plenty of people would say that.”

*-Collector*





# International plant poachers or “Robinhood conservationists”?



OR....



Credit: Walt Disney Studios

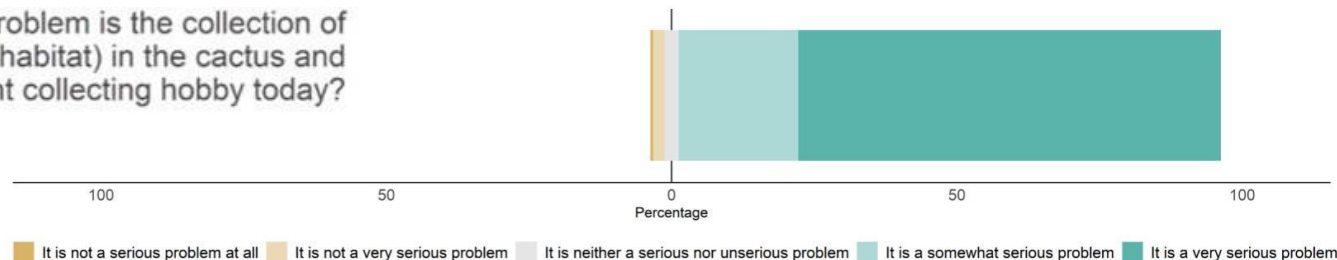
“If not for us, this plant might already be extinct in  
the wild, and yet we are made out as criminals”  
- *Czech collector/cactus smuggler*

# *Modus operandi* of the Robinhood conservationist

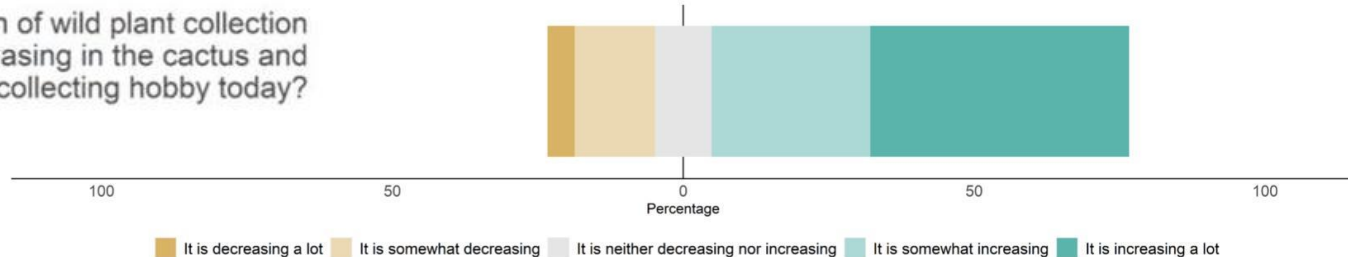
- The law and trade regulations (CITES\*) are wrong, and so answering to a higher moral authority is justified as an act of species care.
- Caring for the species means ensuring plants can circulate globally.
- Causing some level of harm is justified to circulate material (the ends justify the means).
- ‘Flooding the market’ with propagated plant material crashes the market for more expensive, wild-harvested plants.

\*Convention on International Trade in Endangered Species of Wild Fauna and Flora

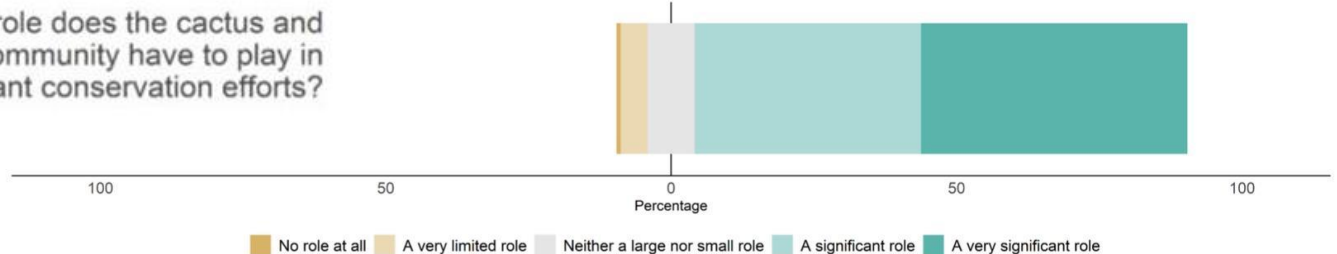
How serious of a problem is the collection of wild plants (plants in habitat) in the cactus and succulent collecting hobby today?



Is the problem of wild plant collection increasing or decreasing in the cactus and succulent collecting hobby today?



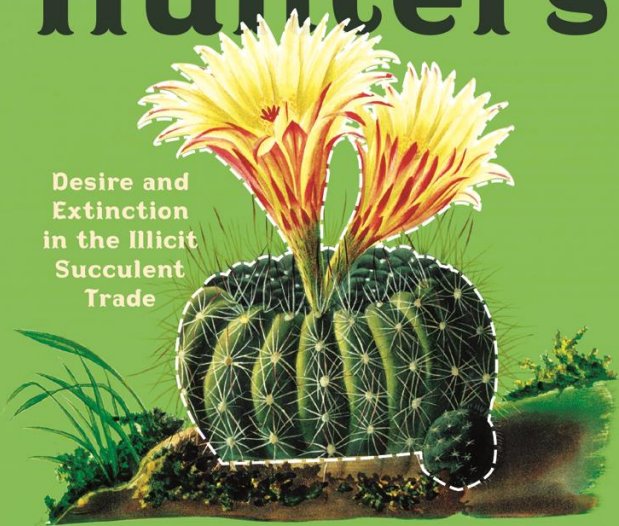
In your opinion, what role does the cactus and succulent collector community have to play in plant conservation efforts?



Margulies, J. D., Moorman, F. R., Goettsch, B., Axmacher, J. C., & Hinsley, A. (2023). Prevalence and perspectives of illegal trade in cacti and succulent plants in the collector community. *Conservation Biology*, 37(3), e14030.

# THE Cactus Hunters

Desire and  
Extinction  
in the Illicit  
Succulent  
Trade



**Jared D. Margulies**

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**South Africa's rare succulent plants are threatened by illegal trade – how to stop it**

Published: January 7, 2025 4:09am EST

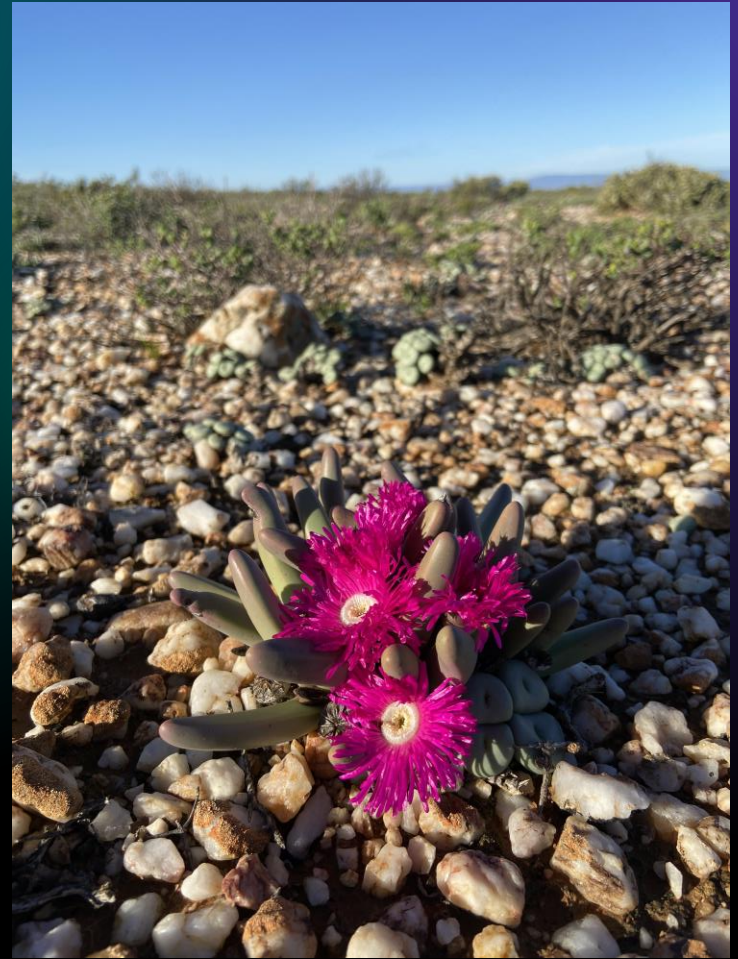
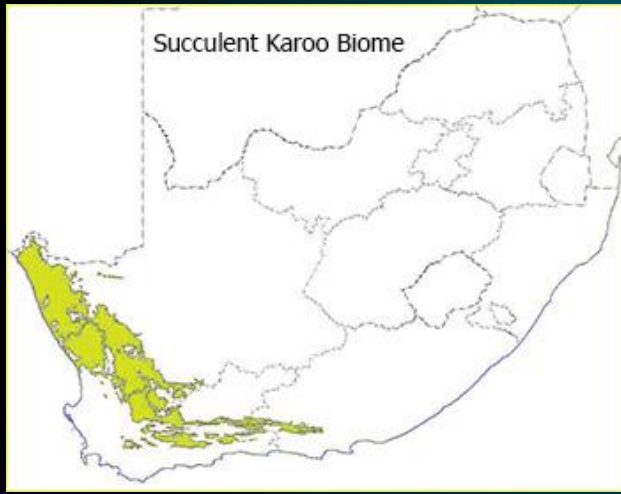
Dwarf succulents. Courtesy Jared Maroules

# “Safeguarding southern Africa's succulents through analysing demand and supply networks” research team

**ILLEGAL  
WILDLIFE  
TRADE  
CHALLENGE  
FUND**







Map: From Low & Rebelo (1996) , Obtained from South African Biodiversity Institute. Other photos, JD Margulies





# South Africa's succulent harvesting problem

- >1,000,000 illegally harvested succulent plants, representing 650 different species have been seized by authorities since 2019.
- >3,000 plant confiscations per week.
- ~6,000 species of succulents found in the succulent Karoo, many are endemic and endangered.
- Some species are now believed to be extinct in the wild due to poaching.

Sources: Traffic.org, SANBI

Photo: confiscated succulents in government facility



a.  
Individual wild plant harvested from habitat by international collector for personal collection



Collector smuggles plant in luggage to home country



Collector does not declare plant at customs. Plant enters country illegally



Plant enters personal collection. Eventually, offsets, seeds, or cuttings of illegally sourced plant may be sold or shared with others



b.  
Connected over social media or messaging platforms, an international buyer contacts a regional supplier seeking plants



Intermediary actor offers local harvester a price per plant/pound and arranges delivery details



Local harvester acquires desired plants. Prepares them for transportation to intermediary actor



Plant material is transported to intermediary by the harvester, an additional intermediary, or picked up by the intermediary from harvesting locality



Intermediary ships plants to international buyer



Buyer either purchases for personal use, or operates commercially, and divides wholesale shipment into smaller quantities for retail sale.



Plant is sold for personal collection or may be sold onto commercial nursery who sells onto retail customers.



c.  
Local harvester obtains wild plants they are aware are sought after in regional marketplace.



Harvester contacts transport intermediary to convey plants to regional market vendor. This may be sub-national or cross-border.



Regional vendor pays intermediary and harvester. Transports plants to regional marketplace.



Plants are sold direct to consumers in marketplace.



d.  
Commercial plant dealer harvests wild plants from habitat directly.



Dealer prepares plants for export



Dealer launders plants within shipment of legal plants, lies about contents, and/or acquires false paperwork to clear export controls



Dealer sells plants to other commercial operations wholesale, and/or to individual buyers

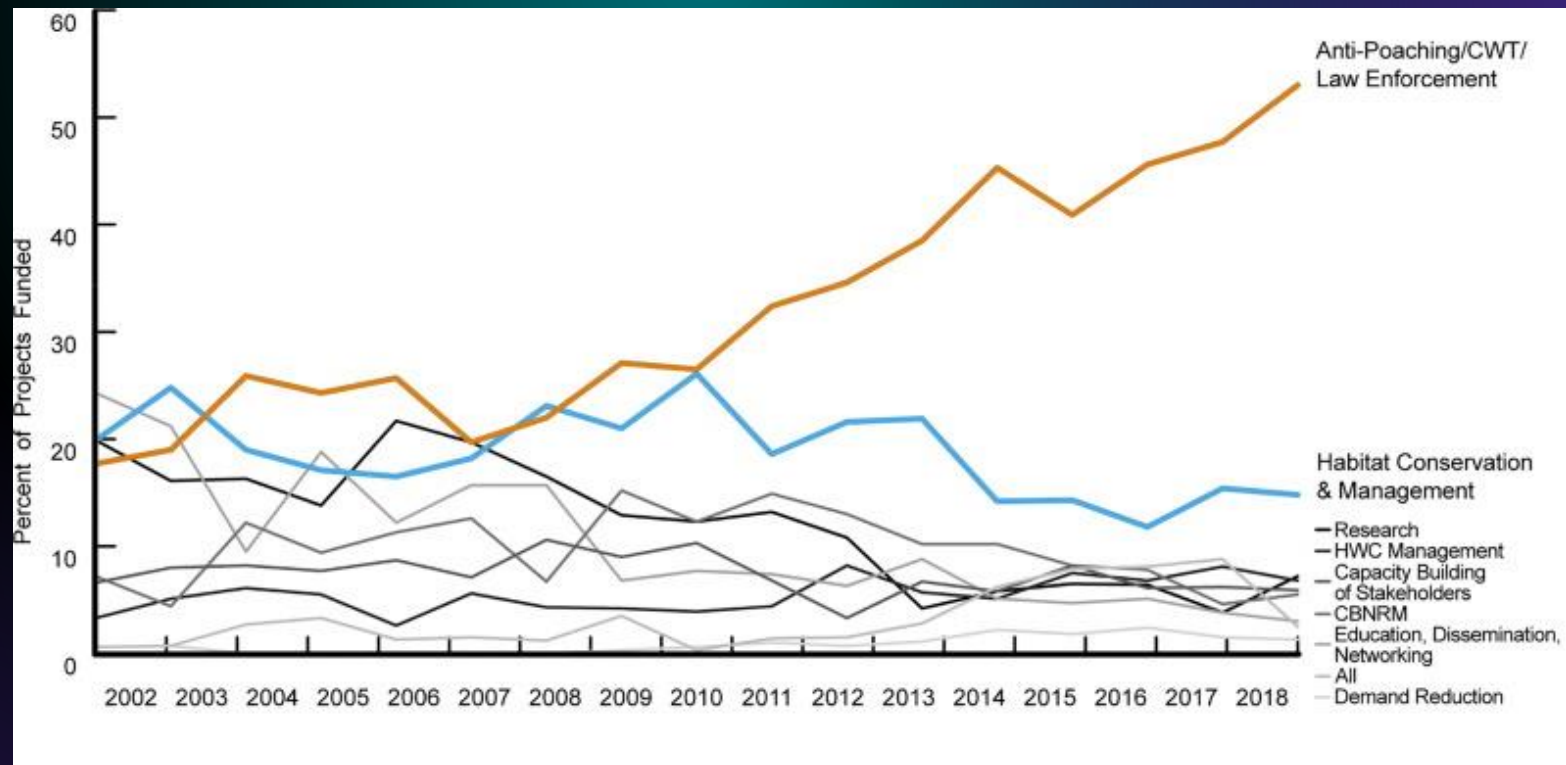
## Four typologies of plant harvesting for the illegal plant trade

From Margulies and Hinsley, forthcoming





# Learning from the illegal rhino horn economy



Percentage of USFWS funded projects per coded objective category (2a, top), and percentage of total funds allocated by USFWS per coded objective category (2b, bottom).

From Massé, F., & Margulies, J. D. (2020). The geopolitical ecology of conservation: The emergence of illegal wildlife trade as national security interest and the re-shaping of US foreign conservation assistance. *World Development*, 132, 104958.



# Lessons from the illegal rhino horn economy

“Rather than reducing these economic motivations to mere poverty and economic gain, we show it is more accurate to see **economic inequality** as the primary driver of illicit hunting.”

“...When residents talk about the difficulty of agrarian livelihoods and lack of alternatives steering young men into the rhino horn economy, conservation and its exclusions are a crucial piece of what adds to this difficulty. In other words, **people hunt illicitly because they are poor, vulnerable, and experience acute inequality, and conservation has made this worse.**”

Reference: Lunstrum, E., Givá, N., Massé, F., Mate, F., & Jose, P. L. (2023). The rhino horn trade and radical inequality as environmental conflict. *The Journal of Peasant Studies*, 50(3), 1085-1105.

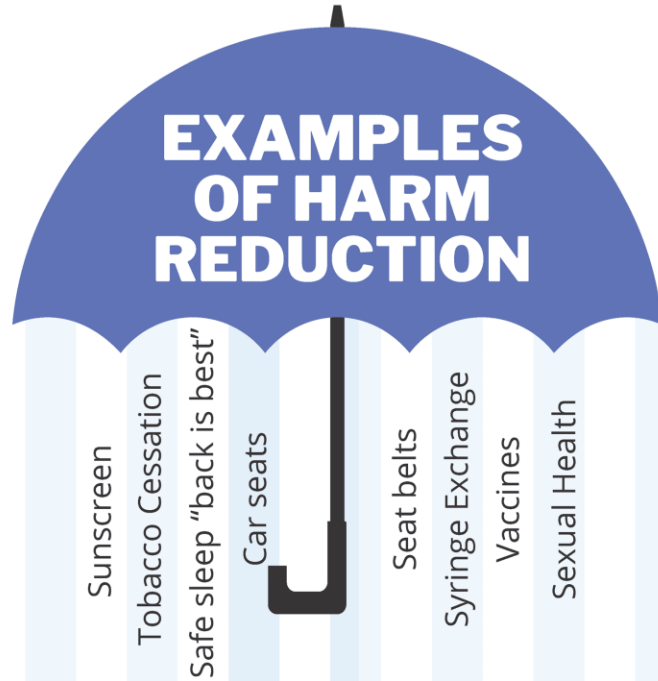
# From prohibition to harm reduction?

- Prohibition of trades does not always lead to beneficial outcomes for affected species and can even accelerate trade volumes or increase demand.
- There is a need for pragmatic conservation solutions that recognize human livelihoods in a way that current international trade frameworks often fail to consider.
- There is no reason to presume prohibition fosters conservation when designing trade interventions.

Hübschle, A., & Margulies, J. (2024). The need for a socioecological harm reduction approach to reduce illegal wildlife trade. *Conservation Biology*, 38(5), e14335.

## What is Harm Reduction?

Harm reduction is any behavior or strategy that helps reduce risk or harm to yourself or others.



# On Harm Reduction

“...a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use. Harm Reduction is also a movement for social justice built on a belief in, and respect for, the rights of people who use drugs” (National Harm Reduction Coalition, 2023).

# ***“We cannot eat conservation”***

## The case for socioecological harm reduction

- **Socioecological harm reduction** is focused on both the persons benefitting, harmed by, enrolled, or engaged in wildlife trade as well as affected species, species populations, and ecosystems they help compose.
- Aims to **minimize** harms that so emerge in wildlife trades.
- Focuses on how the greatest social **and** ecological harms can be minimized through attention to people’s immediate and longer-term needs and the needs of affected species.





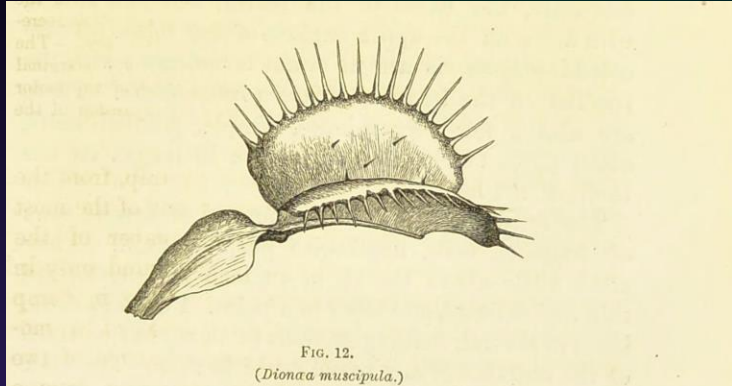
Extremely Accurate Depiction of a Venus Flytrap



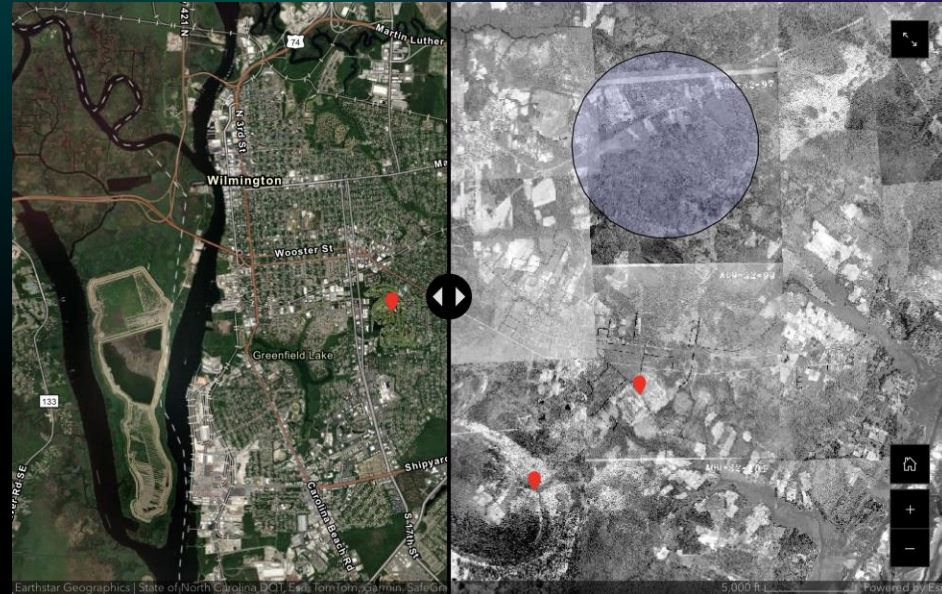
Screenshot: 2023 John Lewis Christmas advert

*“One of the most wonderful plants in the world”*  
-Charles Darwin

*“Against the order of nature as willed by God.”*  
-Carl Linnaeus



From Darwin's *Insectivorous Plants*



Wilmington North Carolina, Today versus 1930





## Venus flytrap harvesting

crime, culture, and conservation



NATIONAL  
GEOGRAPHIC

Art by Joel Fuller



# Protecting Venus flytraps

- North Carolina classifies poaching the Venus flytrap as a class H felony (North Carolina Gen Stat § 14-129.3 [2022]).
- Before this law, it was possible to collect Venus flytraps with appropriate collection permits.
- Collecting Venus flytraps has a long cultural history in the region.



Top Right. Venus flytrap (*Dionaea muscipula*) growing in a managed long-leaf pine savanna habitat in North Carolina. Photo by J.M.

Courtesy NC Botanical Gardens

# Criminalizing flytrapping

## A Homegrown Plant With a Taste For Blood Gets New Life

The Venus flytrap has survived numerous adversaries over the years, from encroaching development to bureaucratic delays. Can a new license plate boost interest in a threatened species and collaboration across stakeholders?

by Sara Heise Graybeal September 27, 2024

“What about those developers that’s coming in here destroying these billions and billions and trillions of Venus flytraps, and taking the wetlands away, and putting concrete on top of it?” she said. “People have been digging flytraps for decades. And they always come back.”

the  
Assembly

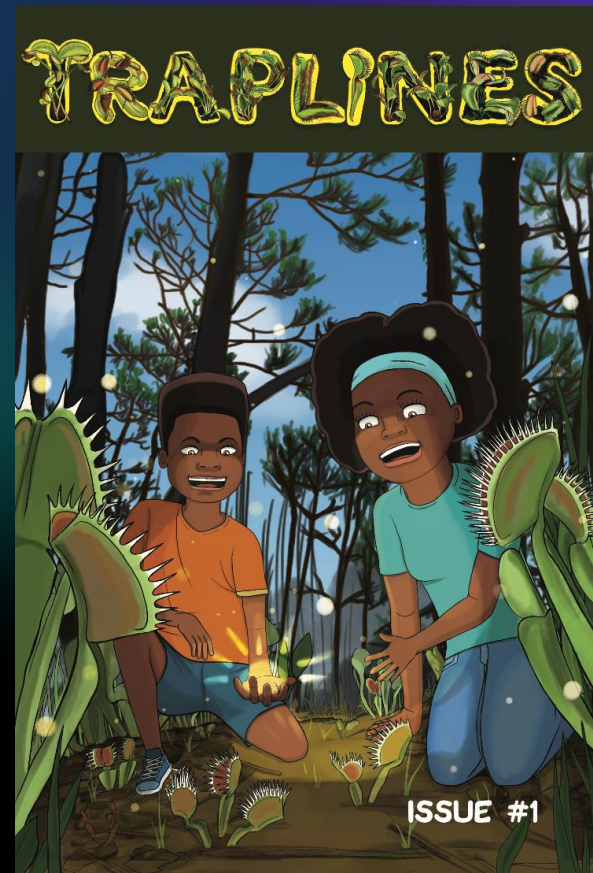


Carl Parker, Brunswick County NAACP President, sits outside his home in Leland. (Madeline Gray for The Assembly)





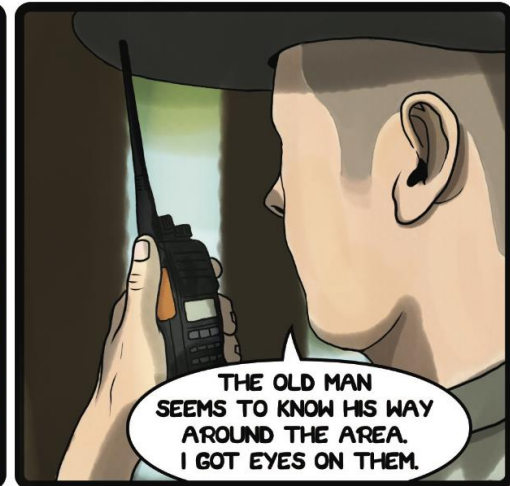
Learn more about Joel's work:  
[www.fullerfusion.com](http://www.fullerfusion.com)



*Traplines* is a 16-page comic produced with support from the Collaborative Arts Research Initiative at the University of Alabama and the BAND Foundation. <https://sites.ua.edu/ccgc/>

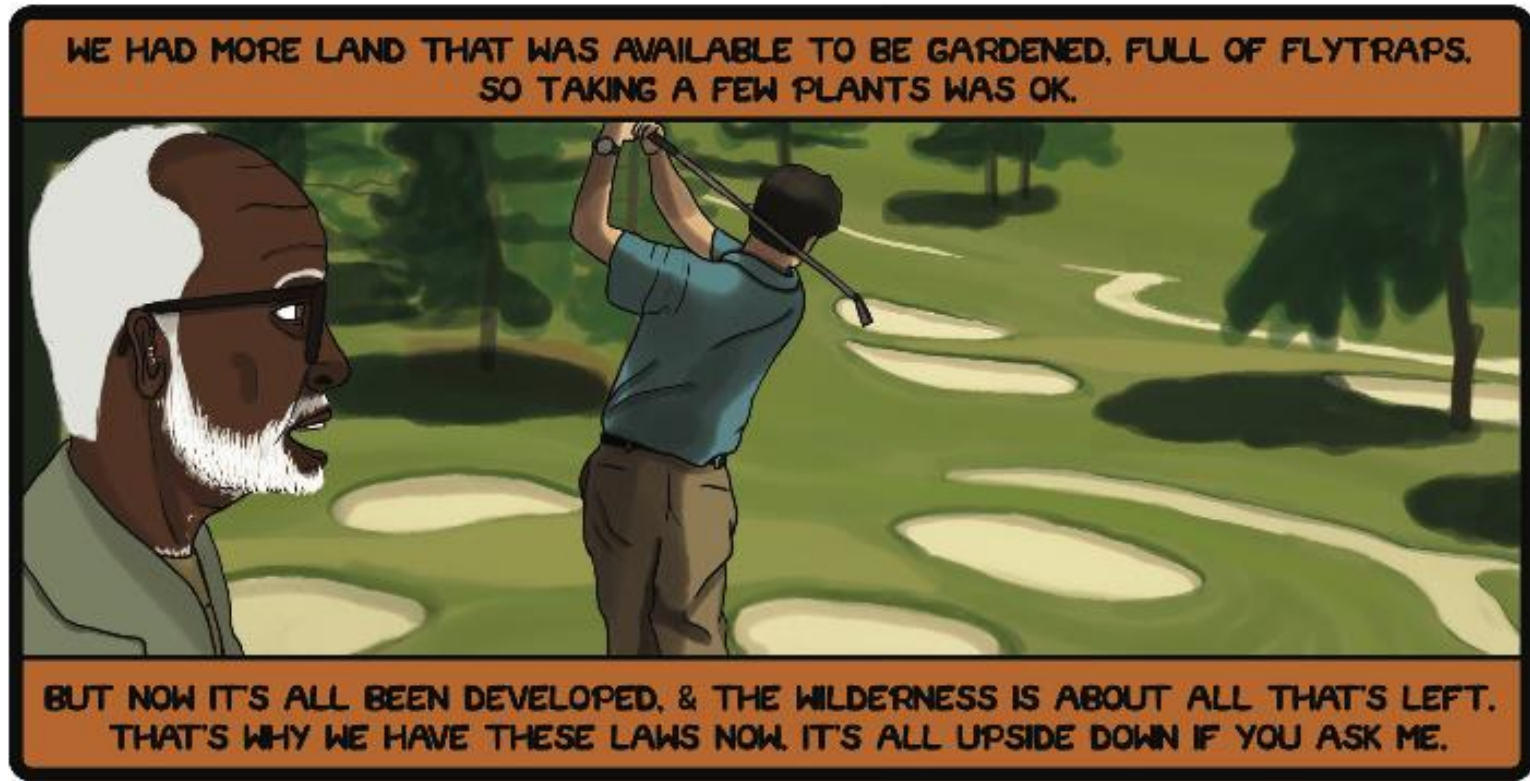


# Criminalizing flytrapping



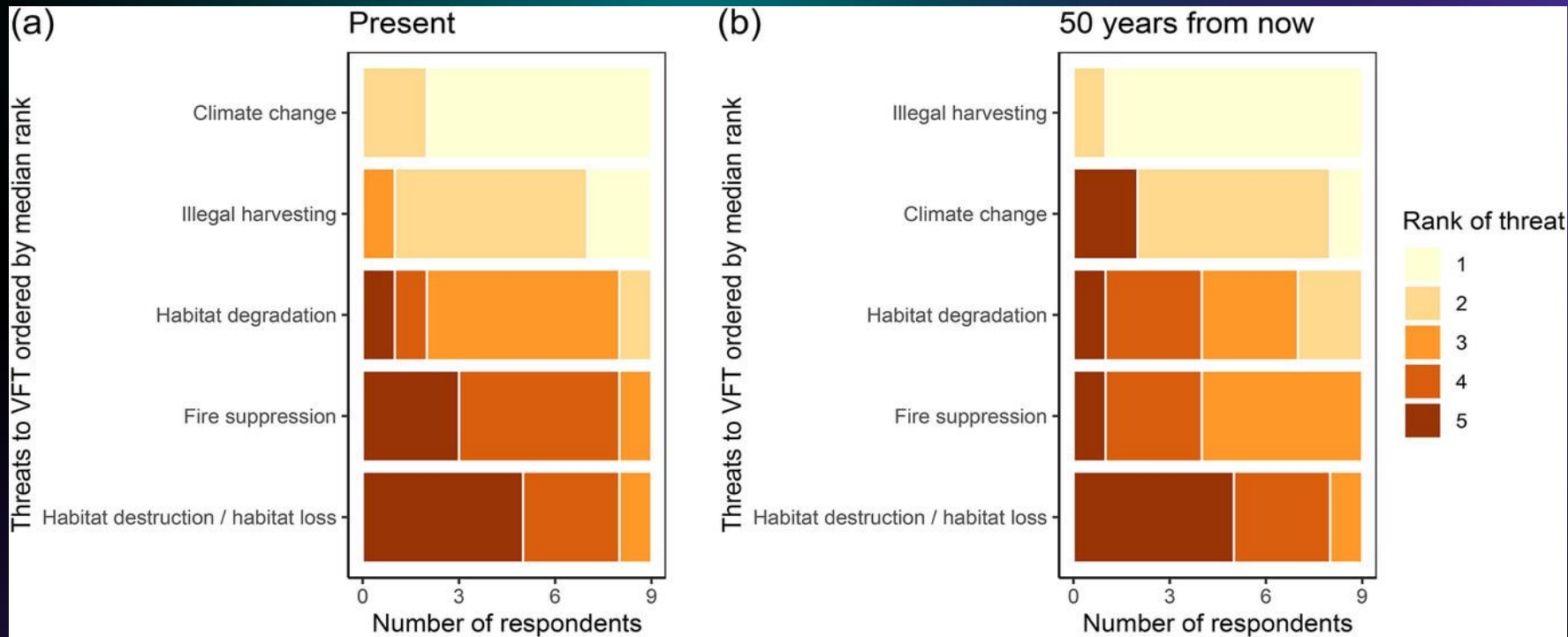
From *Traplines*.  
Art by Joel Fuller

# Flytrap harvesting and 'contested illegalities'



From *Traplines*.  
Art by Joel Fuller

Hübschle, A. (2017). Contested illegality. *The architecture of illegal markets: Towards an economic sociology of illegality in the economy*, 177.



Expert ranking of threats to Venus flytrap (VFT) populations (1, least concern, to 5, highest concern): (a) rank of threats in the present and (b) projected rank of threats in 50 years. From: Margulies, J. D., Trost, B., Hamon, L., Kerr, N. Z., Kunz, M., Randall, J. L., et al. (2024). Expert assessment of illegal collecting impacts on Venus flytraps and priorities for research on illegal trade. *Conservation Biology*, 38(5), e14320



# Towards conservation justice?

- “...**determining what constitutes ‘conservation justice’ is not easy**. It is not enough to consult national or international laws to determine what is just because it is often perfectly legal to subject people to harms arising from pollution, deforestation, climate change, or indeed harms arising from the establishment of protected areas (Smith and Pangsapa, 2008). Thus conservation has to look beyond the judiciary for its moral compass” (Martin et al., 2016, p. 254).

# To Conclude: Abolition Conservation?

What might  
conservation justice  
look like in  
a landscape of  
Indigenous  
dispossession and  
racialized oppression?



From *Traplines*. Art by Joel Fuller

This project is based on research done by Sicily Fiennes as part of their PhD. Sicily has done the project conceptualisation in collaboration with Ishaan Patil who created the illustrations. Louis Lugas has created the website. Creature Conserve and Pardicolor has supported the project.



<https://www.uncagedconservation.com/>

## **Welcome to Uncaged Conservation**

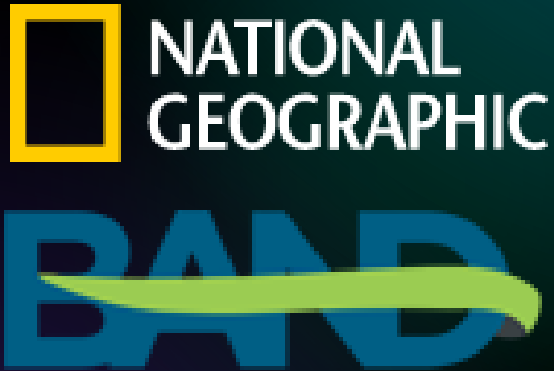
Through this collaborative work of art and science, we want to challenge the misconceptions about the illegal wildlife trade and the people involved. Why do people cage birds and is the appropriate response to the problem of wildlife trade in turn to cage humans in the form of incarceration?

Immerse yourself in the website and experience what it is like to be in a bird market in Indonesia. Use your mouse to scroll through the website to encounter various species of birds. You can click on the birds to read more information and see additional pictures and recordings. Because of how rare some of these birds are, some do not have corresponding recordings. But you can still hear the ambient sounds of the market on the main page.



# Thank you!

Contact: [jdmargulies@ua.edu](mailto:jdmargulies@ua.edu) | [jaredmargulies.bsky.app](https://jaredmargulies.bsky.app)  
<http://sites.ua.edu/ccgc>



**Collaborative Arts Research Initiative**

THE UNIVERSITY OF  
**ALABAMA**<sup>®</sup>

*College of*  
**Arts & Sciences**

European Research Council, grant  
number 694995, BIOSEC:  
Biodiversity and Security,  
Understanding Environmental Crime,  
Illegal Wildlife Trade and Threat  
Finance.

# Meet the panel



**Dr Jared Margulies**  
Assistant Professor  
University of Alabama



**Dr Charis Enns**  
Presidential Fellow  
in Socio-Environmental  
Systems  
Global Development  
Institute



**Dr Helen Holmes**  
Senior Lecturer in Sociology  
Sustainable Consumption  
Institute  
Deputy Director



**Dr Oliver Hughes**  
Technical Manager  
The Firs Environmental  
Research Station



**Dr Gregory Bulmer**  
Former Chairman  
of the British  
Cactus and Succulent  
Society

# Feedback



**SCAN ME**



# Thank you!