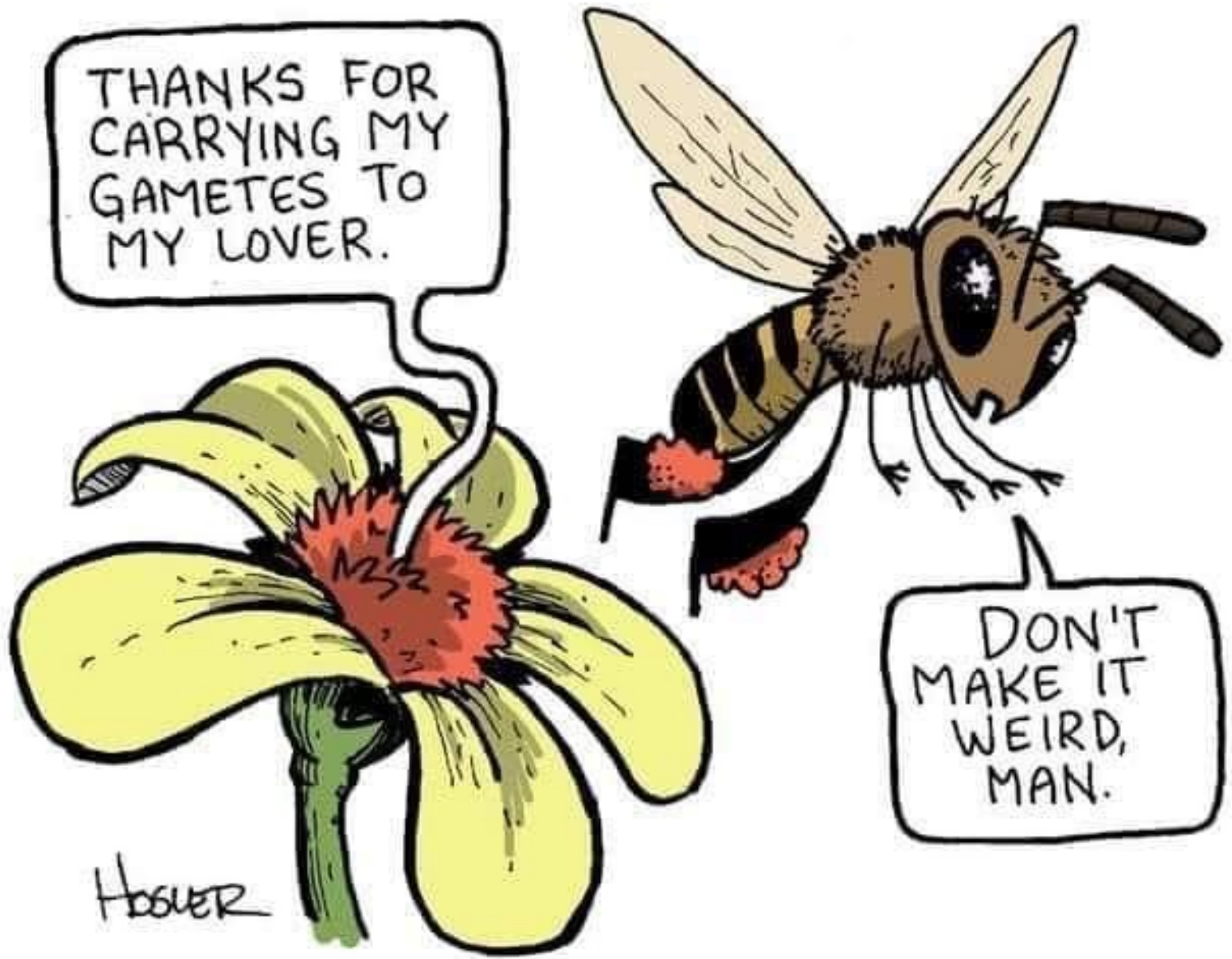




# Protecting New Mexico's Pollinators

Olivia Carril, PhD

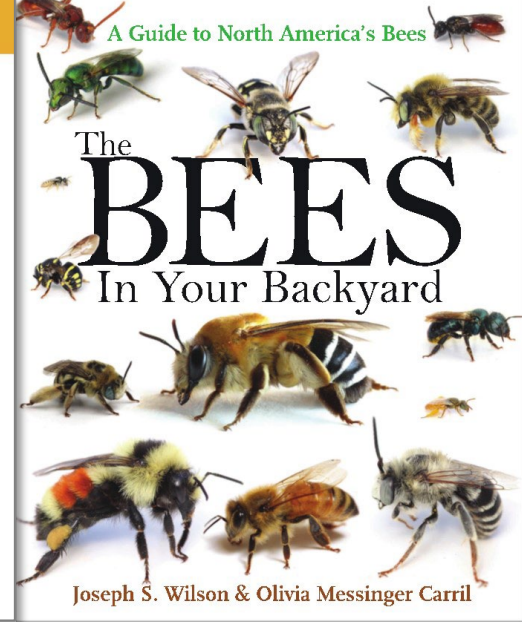
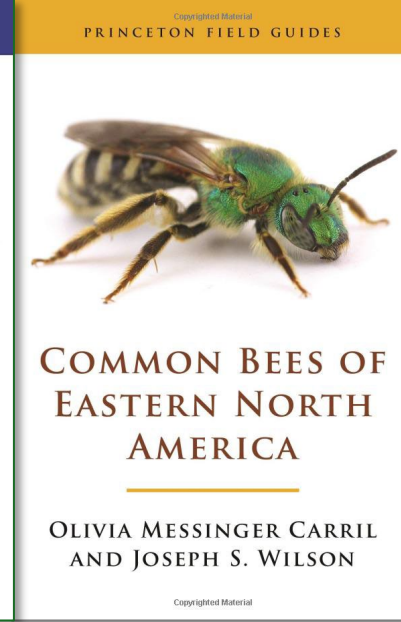


THANKS FOR  
CARRYING MY  
GAMETES TO  
MY LOVER.

DON'T  
MAKE IT  
WEIRD,  
MAN.

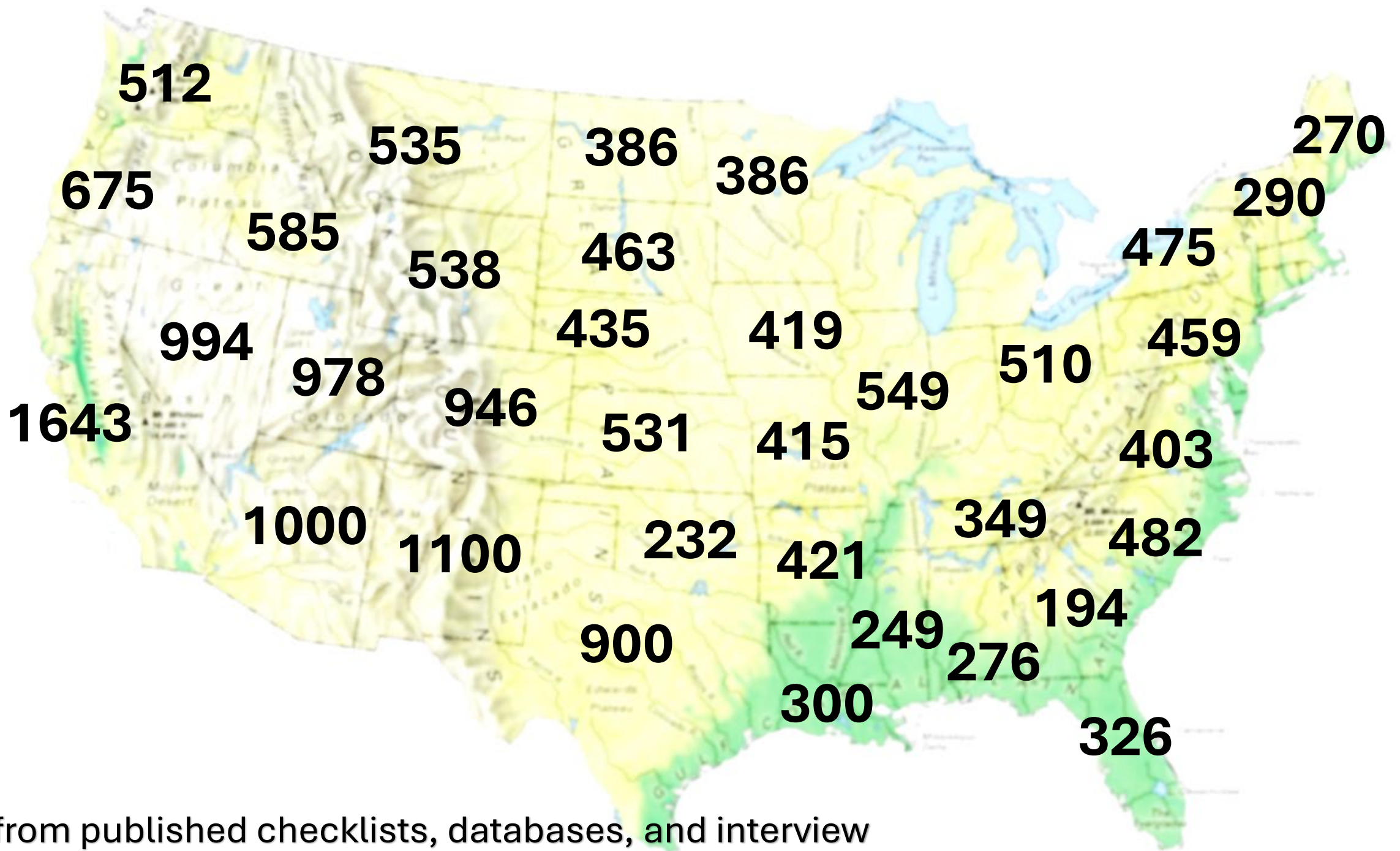
HOSUER

# My resume





**~20,000 to 30,000 worldwide**  
**~3500 to 4000 in the U.S. and Canada**  
**~1100 in New Mexico**



Pulled from published checklists, databases, and interview



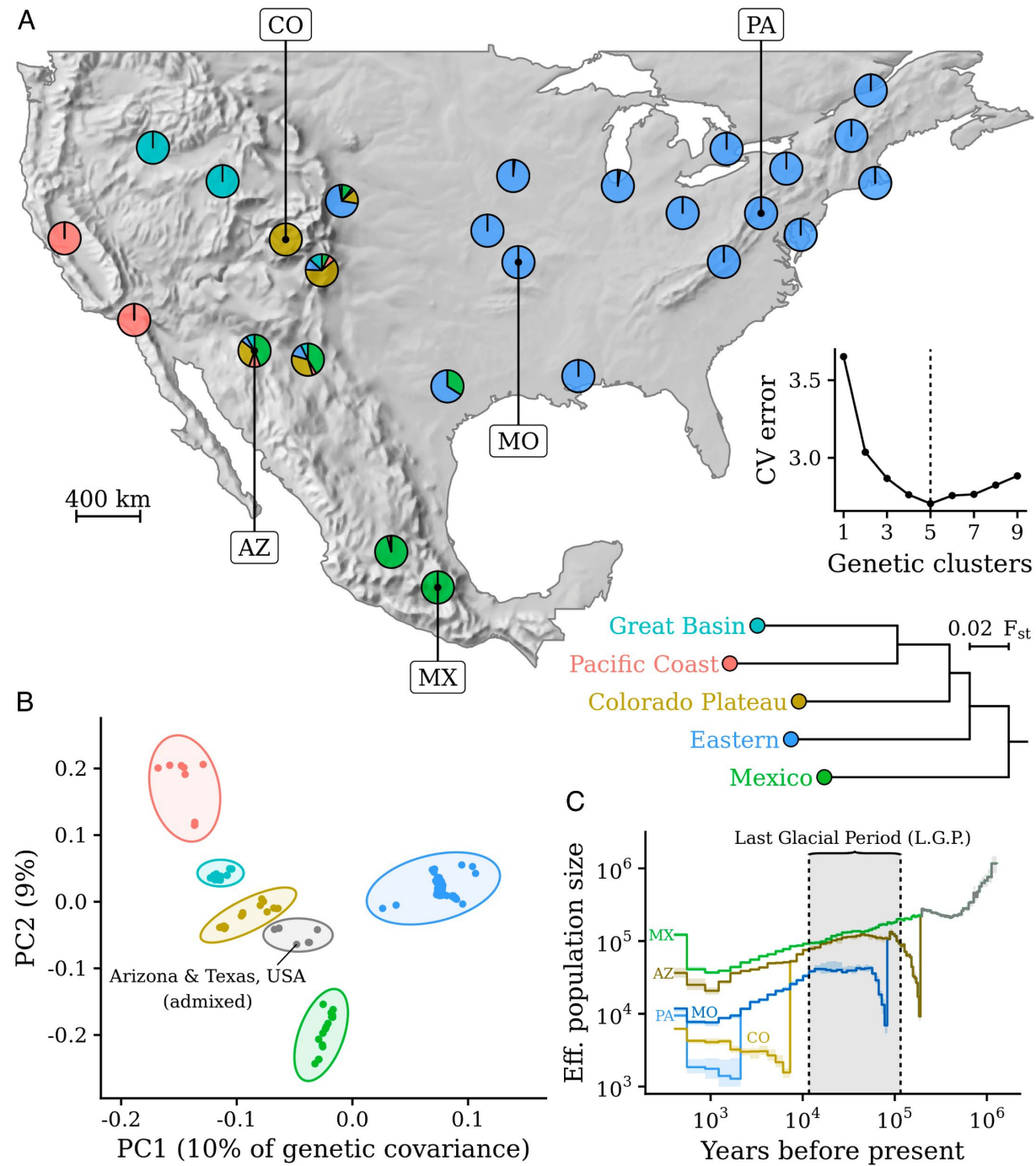
*Xylocopa californica*



*Perdita minima*



The expansion of agriculture has shaped the recent evolutionary history of a specialized squash pollinator





Theodore  
Dru  
Alison  
Cockerell

1866-1948



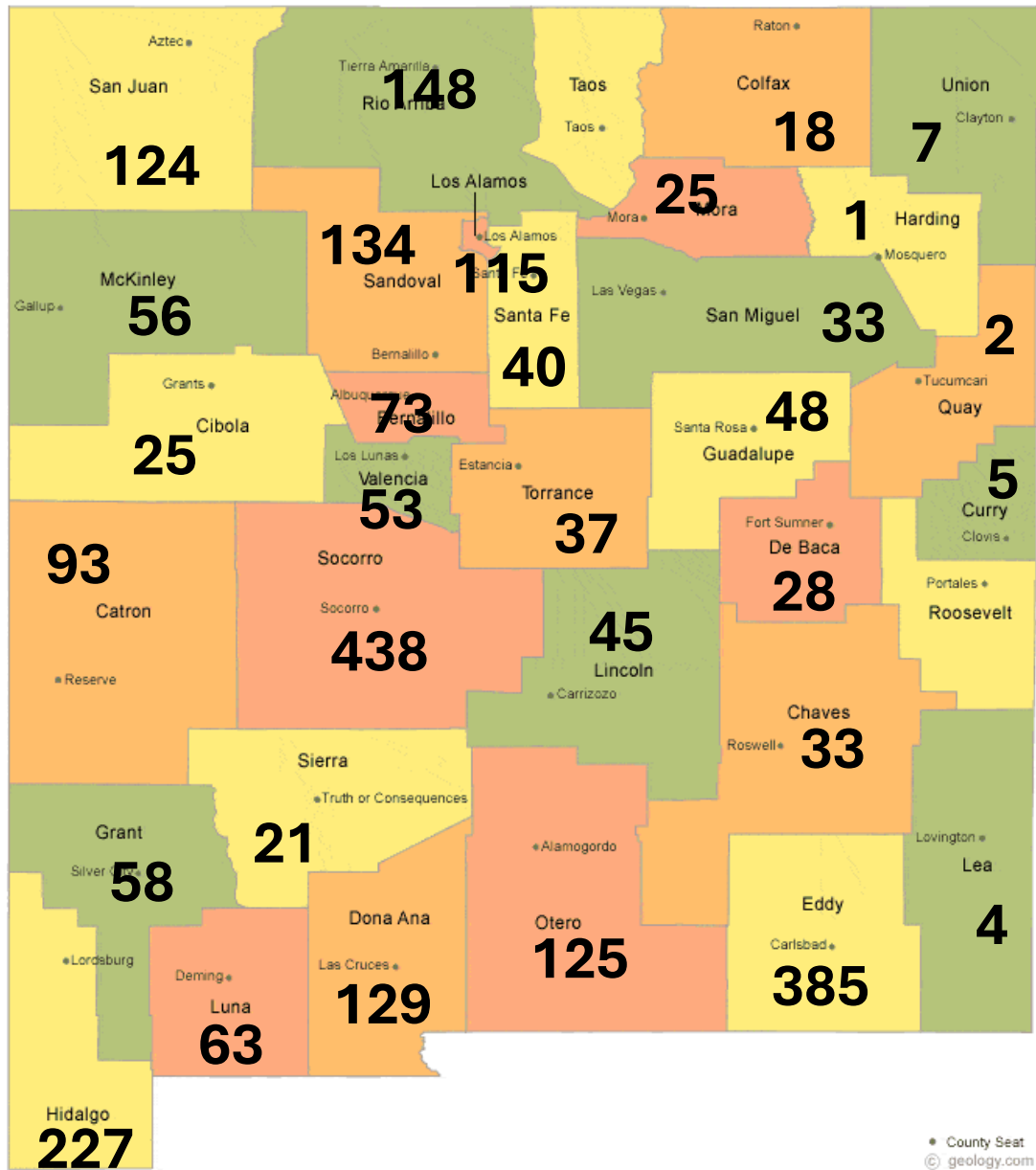
? Cockerell. with his sunflowers. Bomber. 1948



“You never can tell with  
bees...”

--Winnie the Pooh



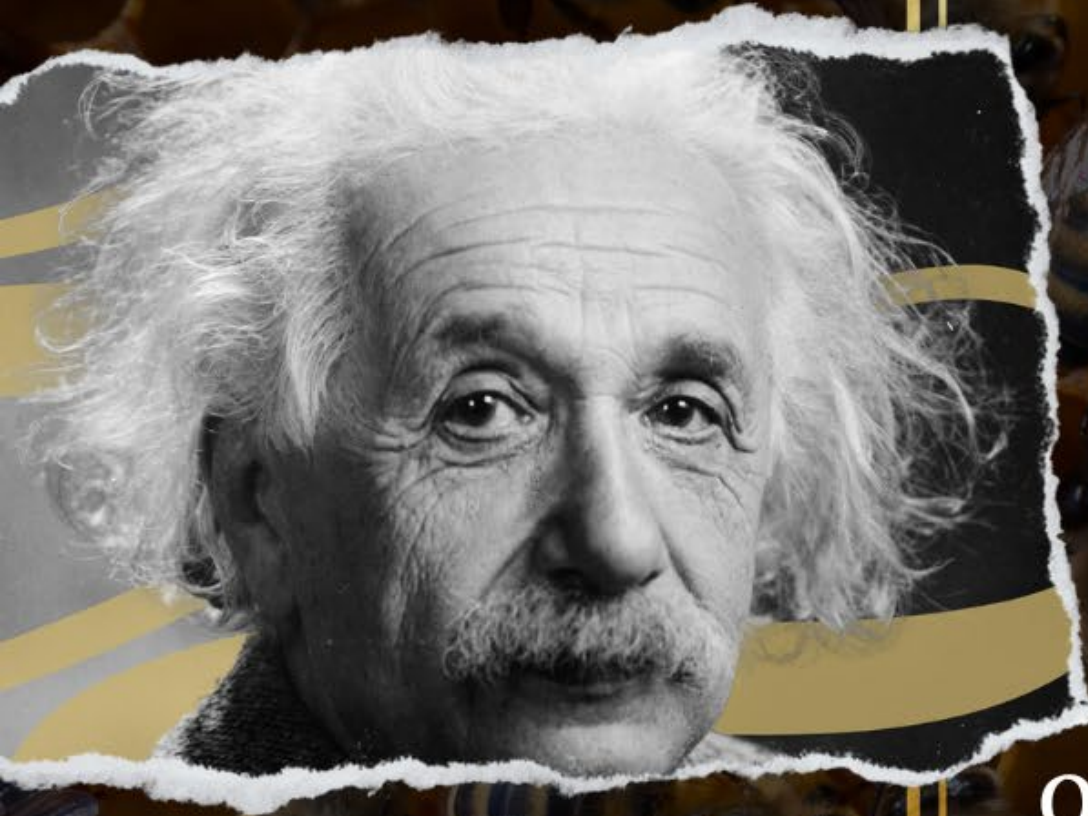


**New Mexico's bees are not well known.**

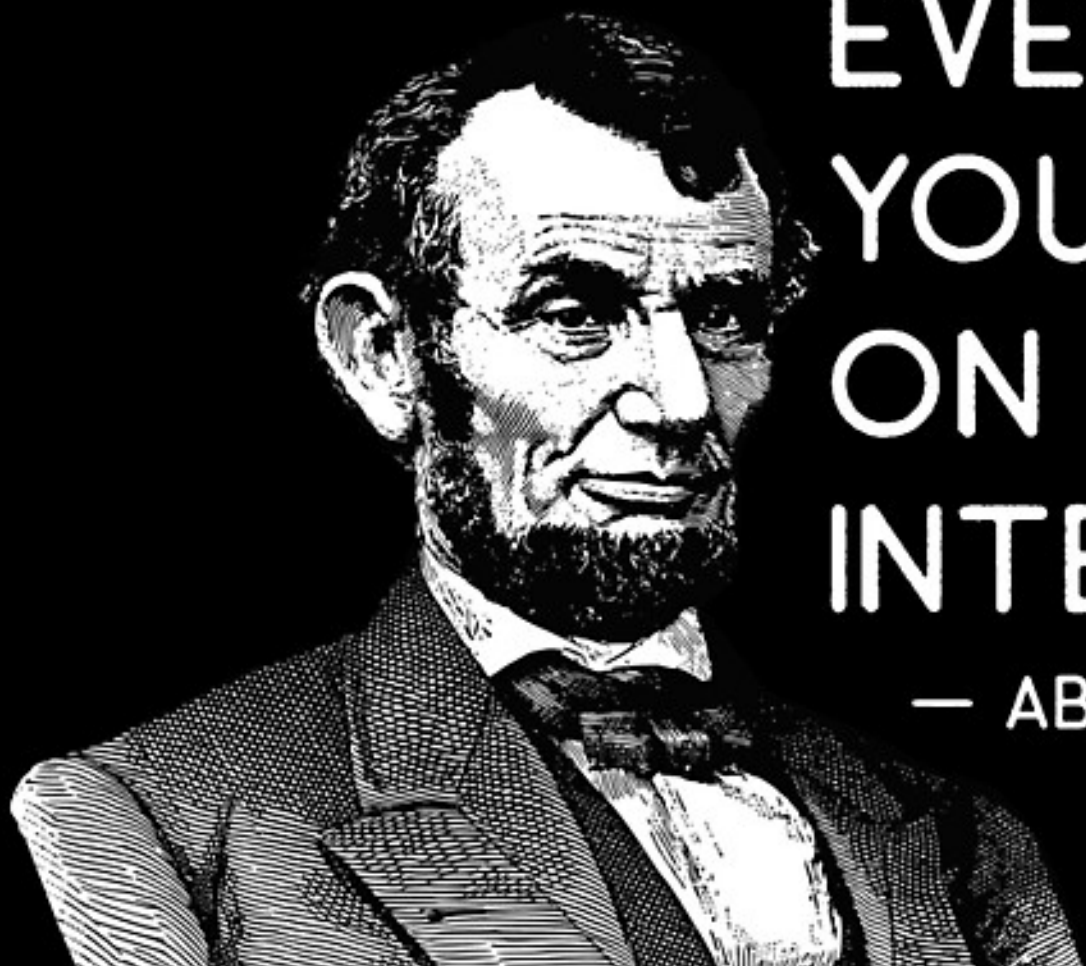
**Documented bee species per county.**

Pulled from USDA ARS PIRU database

# EINSTEIN & BEES



"If the bee disappeared  
off the surface of  
the globe,  
then man would have  
only four years of life left."



“DON'T  
BELIEVE  
EVERYTHING  
YOU READ  
ON THE  
INTERNET.”

— ABRAHAM LINCOLN

New Mexico is poised to provide safe harbor for 25% of North America's bee species.

Winfree, 2010



More research



Woodard et al. 2020

# Foster drought resilience in cities

Proctor, 2022





# Minimize habitat fragmentation

Cane et al., 2006

Aizen and Feinsinger, 2003

Howell and Alarcon, 2017





Education  
at every  
level

Wilson and Carril, 2017