



university of  
 groningen

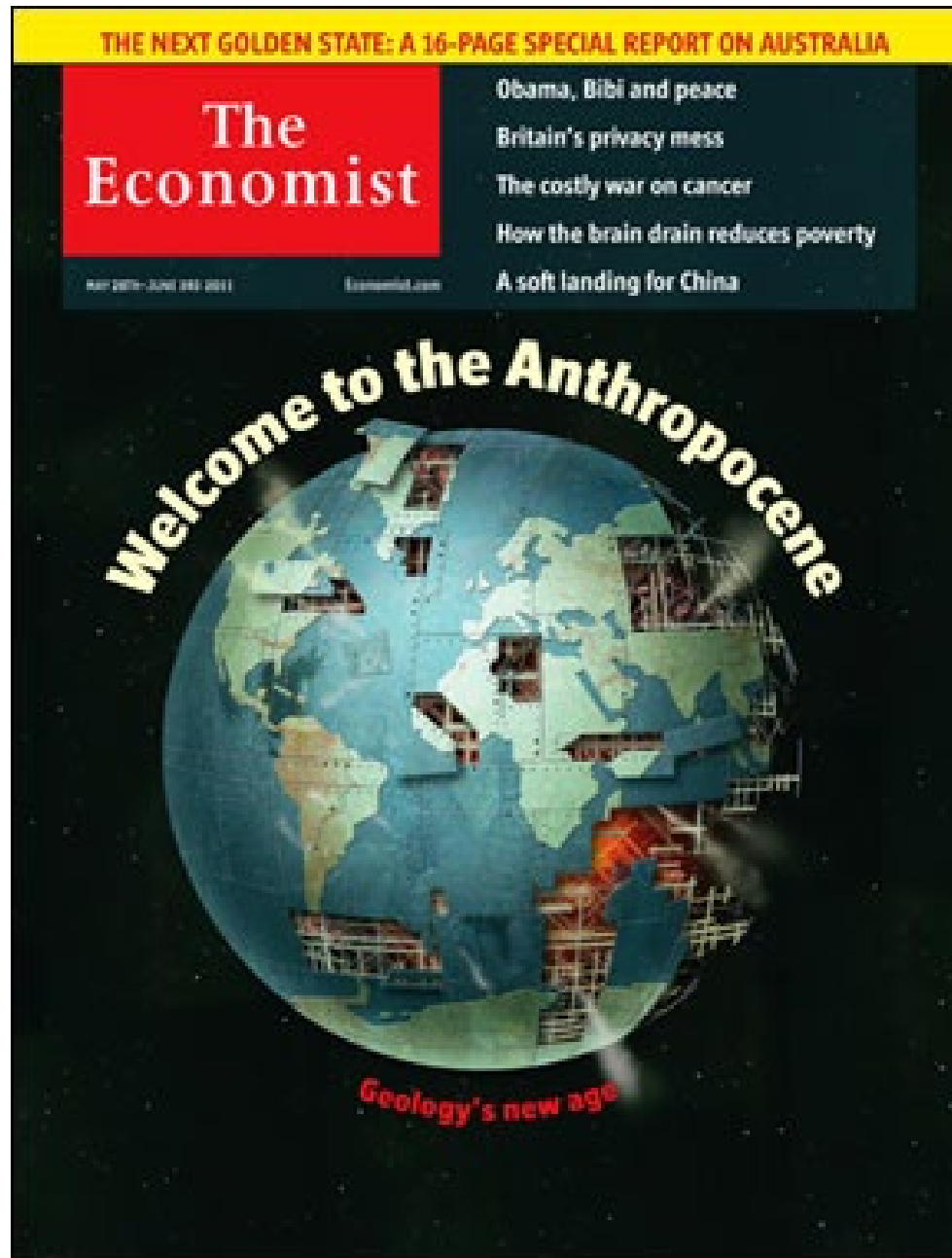
faculty of arts

groningen institute of  
 archaeology

# Archaeology of “Human Impact”

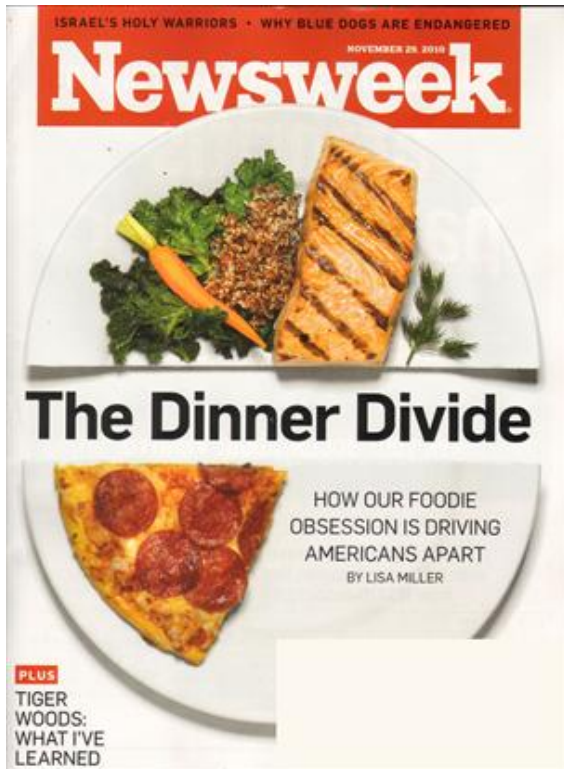
Canan Çakırlar

03-06-2022, VU Amsterdam / ARCHON gravity

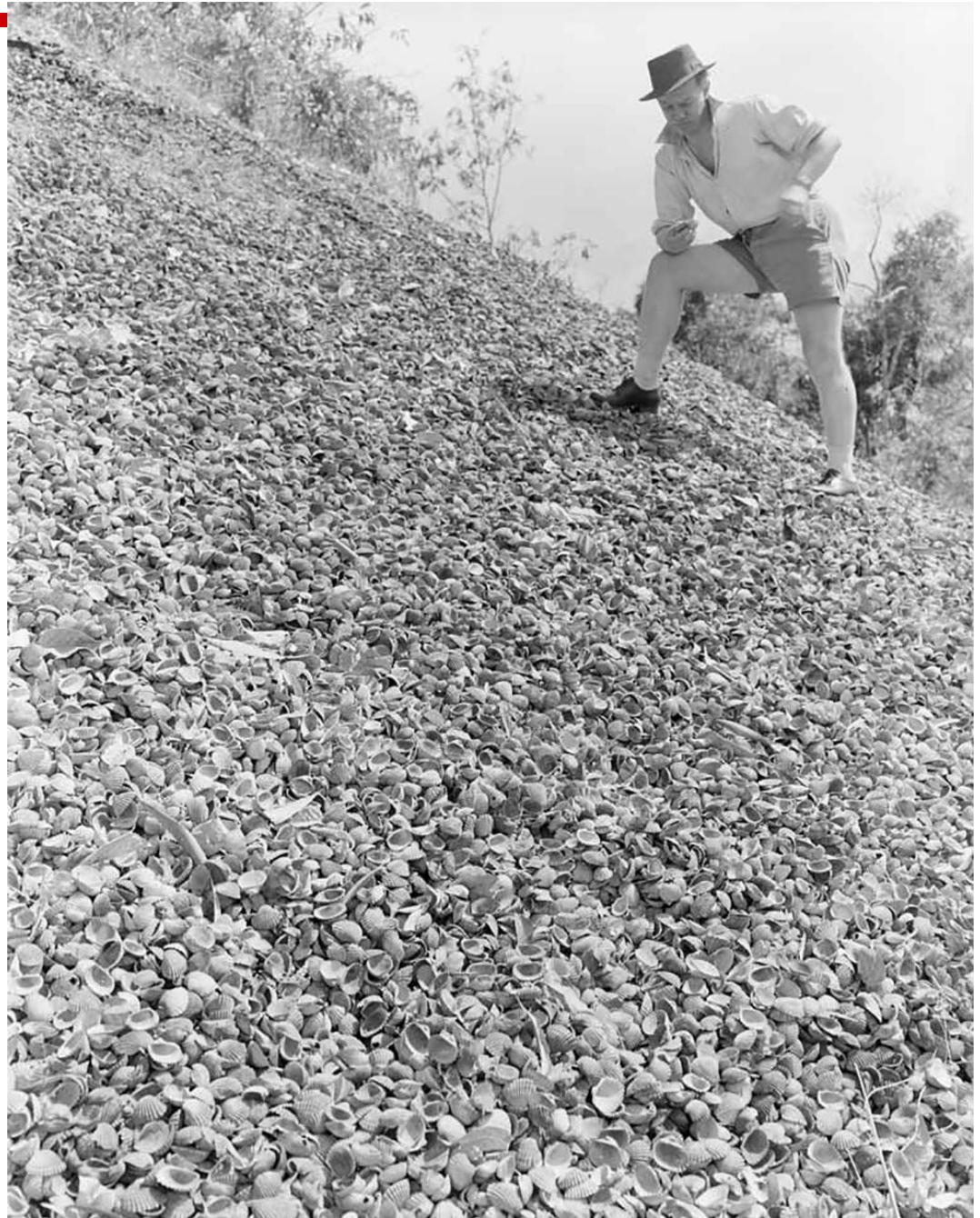


May 26-28 2011

# Zooarchaeology studies



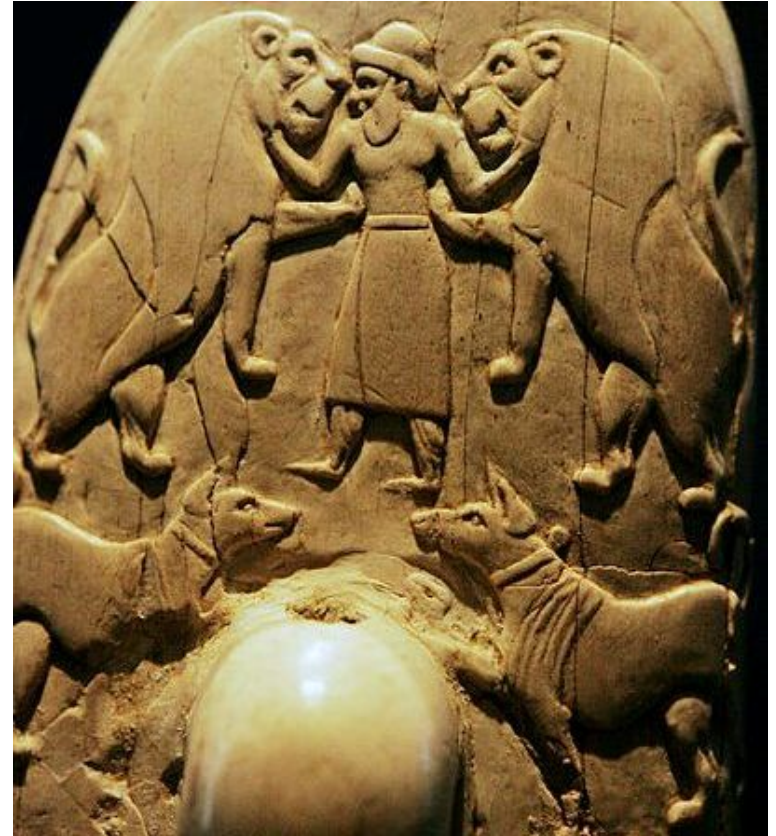




Weipa in Queensland, 1958.  
([naa.gov.au](http://naa.gov.au))

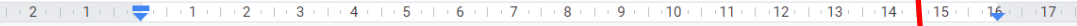


Seated woman of Çatalhöyük  
ca. 6000 BC, Turkey



Gebel el-Arak Knife, Ivory  
ca. 3300-3200 BC Egypt

 Editing



anima 0 of 0

**PATHWAYS TO THE PRESENT**  
**ARCHAEOLOGY AS A LENS FOR UNDERSTANDING THE DEEP HISTORY OF**  
**ENVIRONMENTAL AND SOCIAL RESILIENCE**

**Problem definition**

Over 99 percent of the history of humankind and the evolution of human society, including its influence on the environment and the Earth System, is predominantly covered by just one





# evolutie van de kiloknaller



Archicyn  
ca. 60 miljoen jaar v. t.

Dicyn  
ca. 40 miljoen jaar v. t.

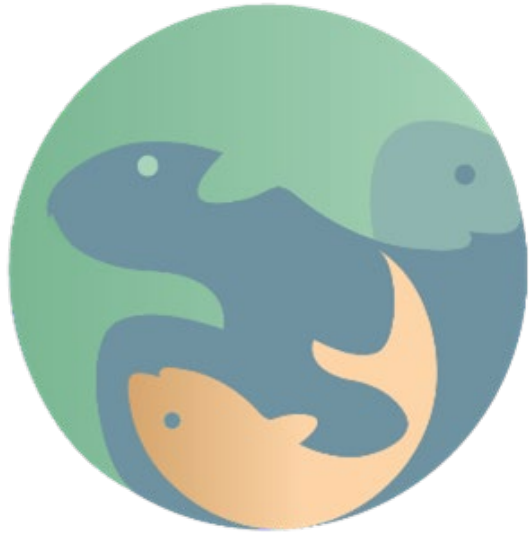
Bos primigenius  
ca. 2 miljoen jaar v. t.

Bos taurus  
ca. 8.000 jaar v. t.

Bos 'Fries wit'  
ca. 1900

Bos 'Fries zwart'  
ca. 2000





SeaChanges



The  
Wenner-Gren  
Foundation

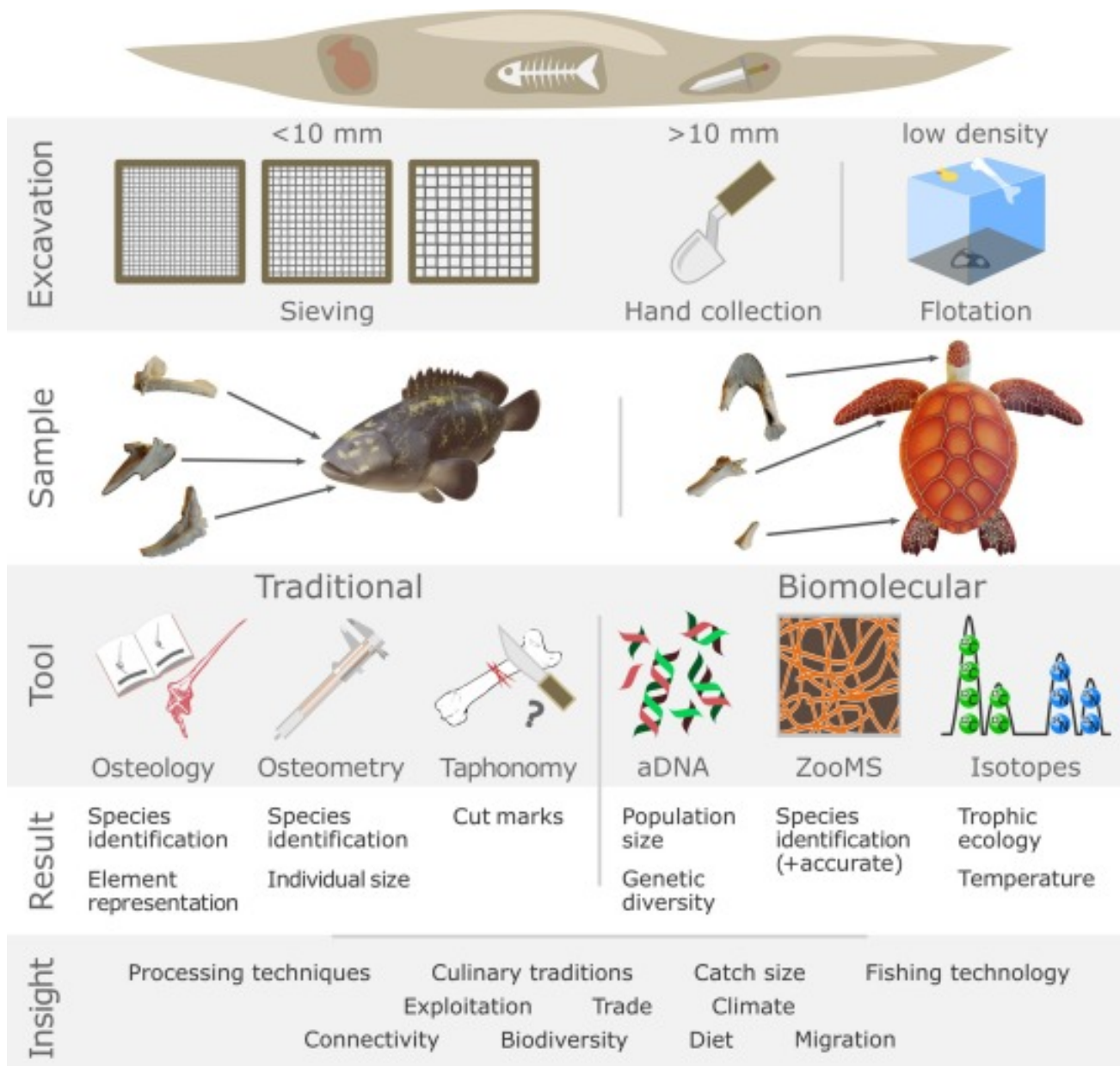
For Anthropological Research, Inc.



MARIE CURIE

ACTIONS












Tell Fadous Kfar-Abida, Lebanon, ca. 24<sup>th</sup> c. BCE

ANTIQUITY 2021 page 1 of 17  
<https://doi.org/10.15184/aqy.2020.95>

## Research Article



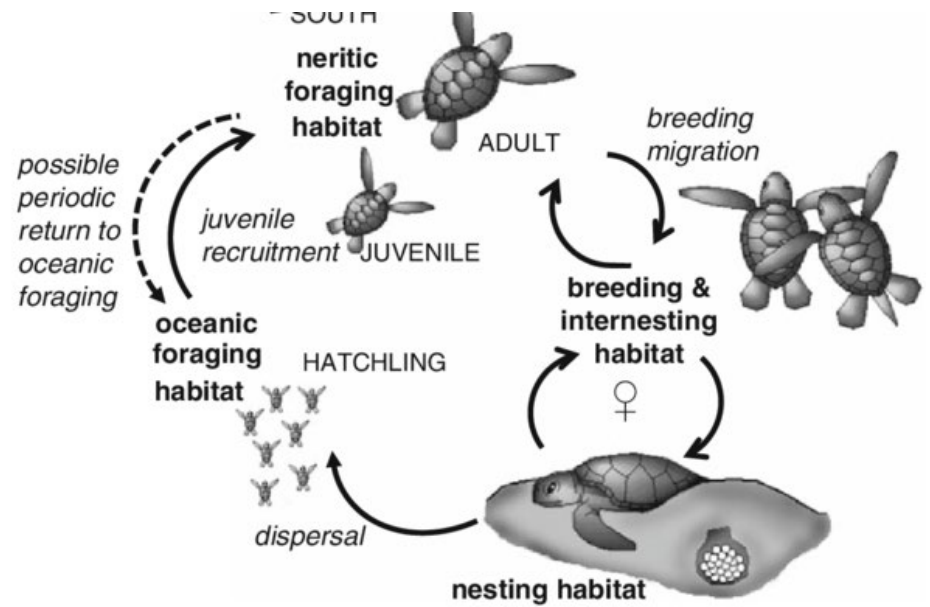
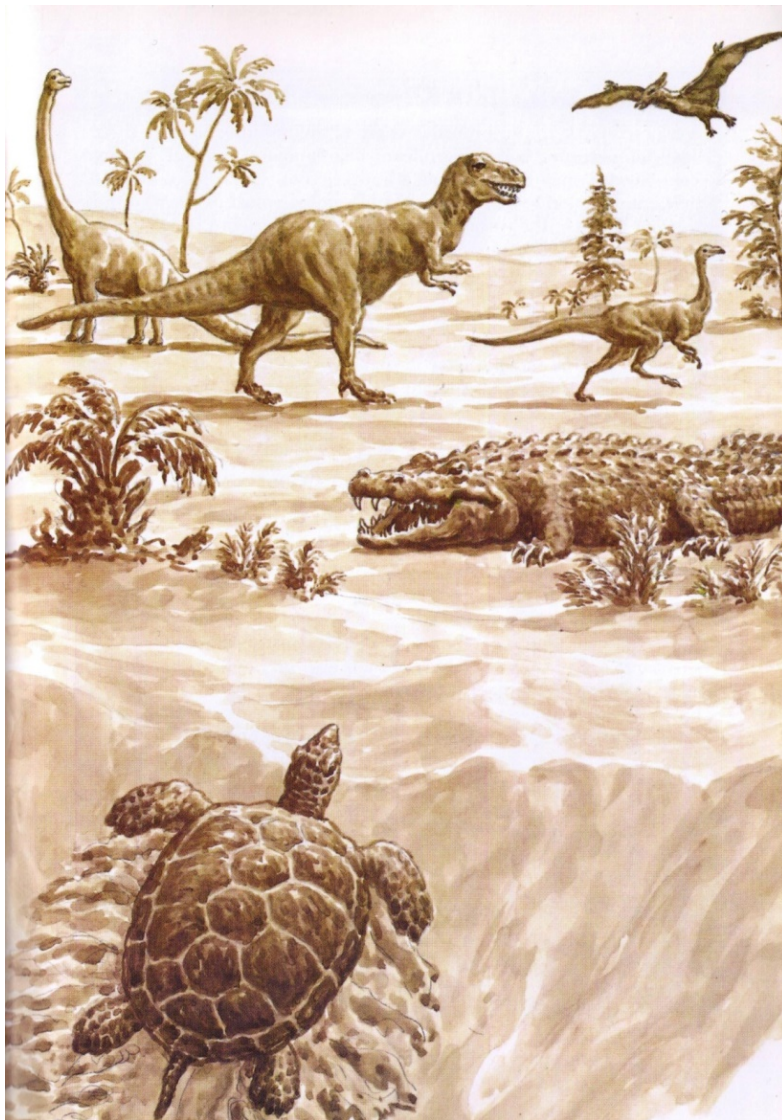
# Tracking turtles in the past: zooarchaeological evidence for human-turtle interactions in the ancient Eastern Mediterranean

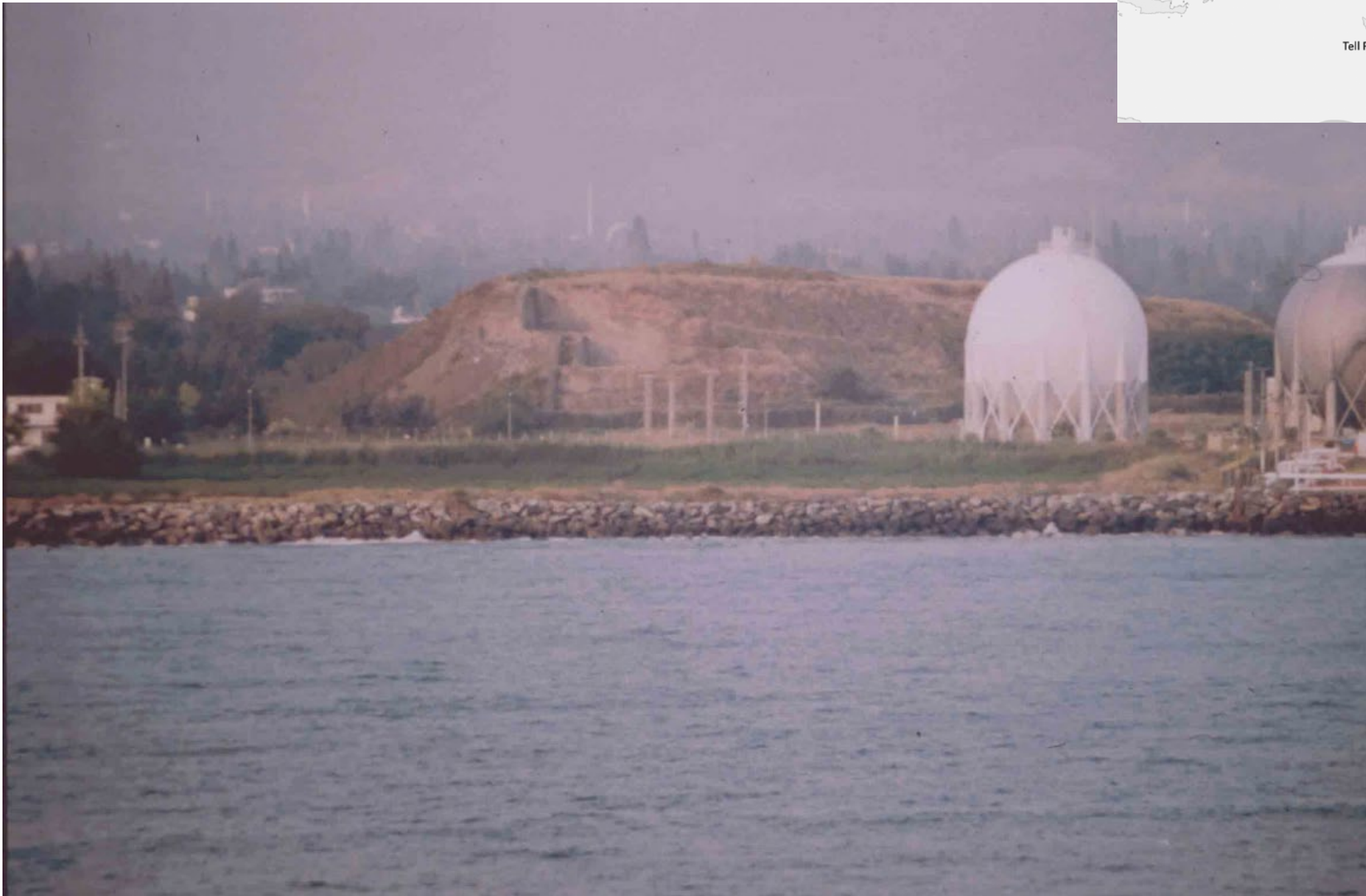
Canan Çakırlar<sup>1,\*</sup> , Francis J. Koolstra<sup>1</sup>  & Salima Ikram<sup>2</sup> 

<sup>1</sup> Groningen Institute of Archaeology, University of Groningen, the Netherlands

<sup>2</sup> Department of Sociology, Egyptology and Anthropology, American University in Cairo, Egypt

\* Author for correspondence: [c.cakirlar@rug.nl](mailto:c.cakirlar@rug.nl)





Kinet Höyük



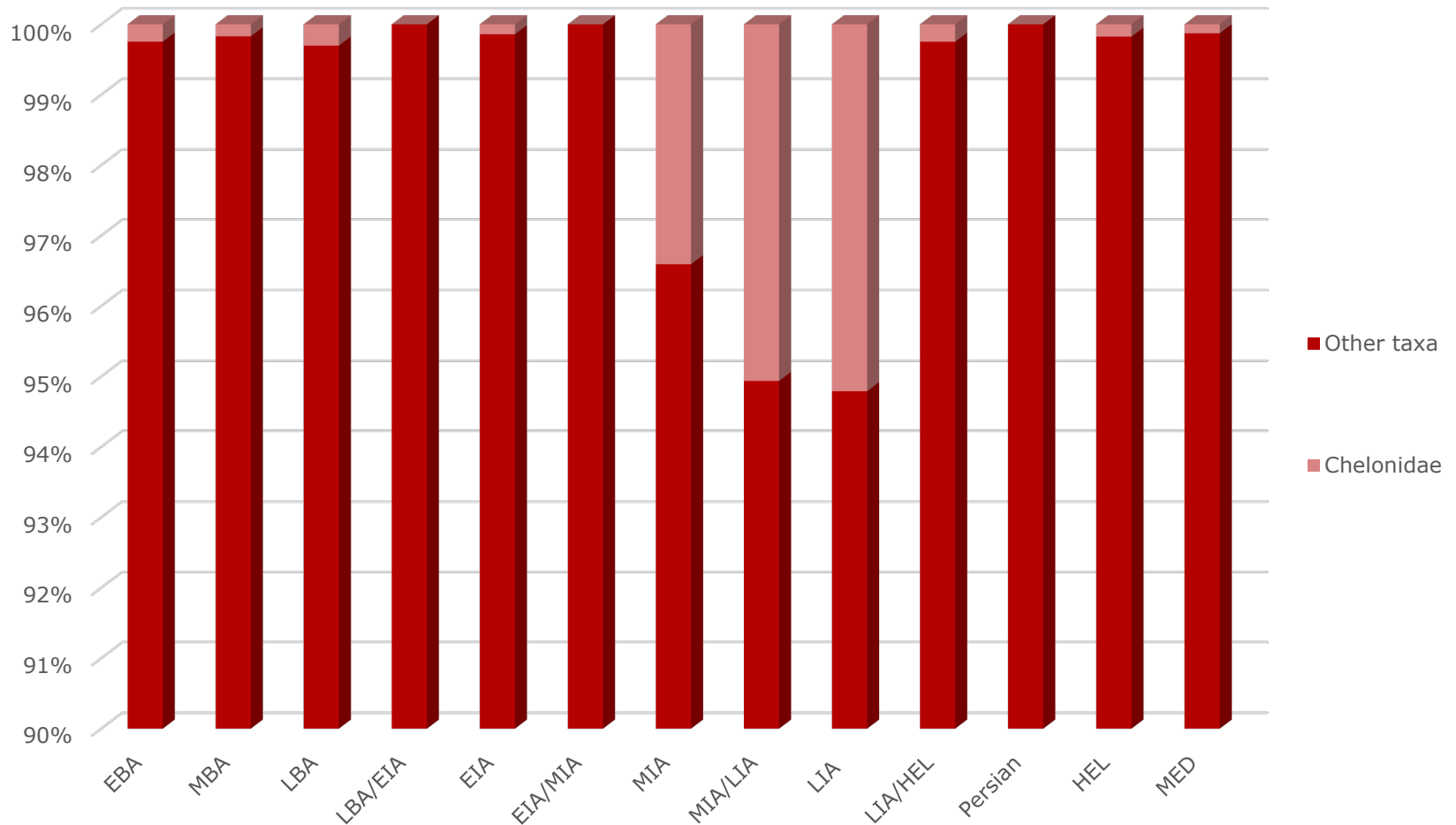


Baseline / pristine population

Time -> increasing human impact

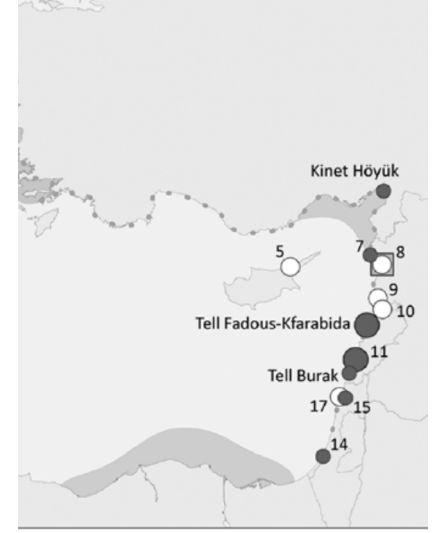
Small population

# Largest 'catch effort' & 'size' : Middle to Late Iron Age

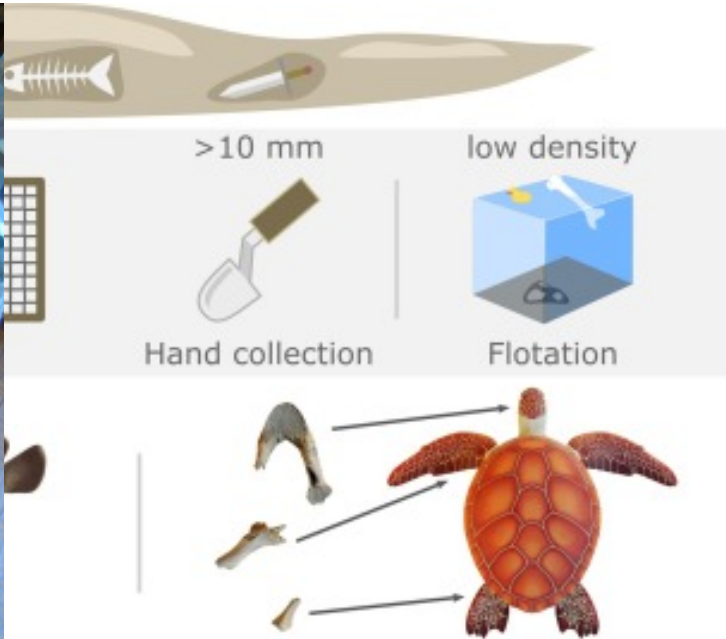








% of turtle remains through time at Kinet

# Tell Fadous-Kfarabida, Early Bronze Age







	Traditional			Biomolecular		
Tool						
	Osteology	Osteometry	Taphonomy	aDNA	ZooMS	Isotopes
Result	Species identification	Species identification	Cut marks	Population size	Species identification (+accurate)	Trophic ecology
	Element representation	Individual size		Genetic diversity		Temperature
Insight	Processing techniques		Culinary traditions	Catch size	Fishing technology	
			Exploitation	Trade	Climate	
	Connectivity		Biodiversity	Diet	Migration	



Green turtle (*Chelonia mydas*)



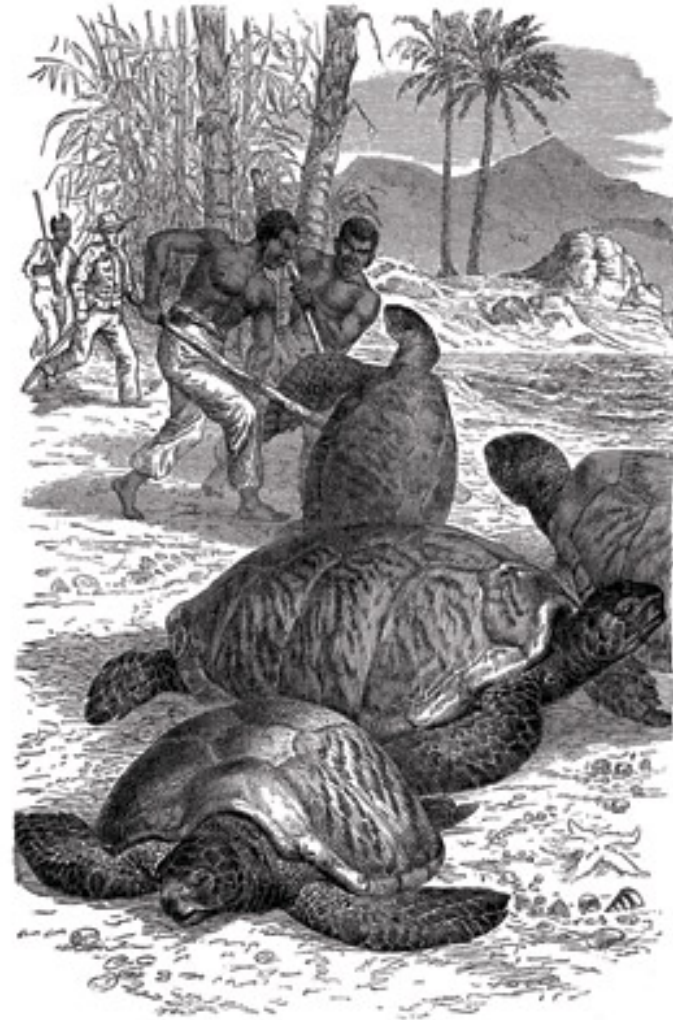
Loggerhead turtle (*Caretta caretta*)



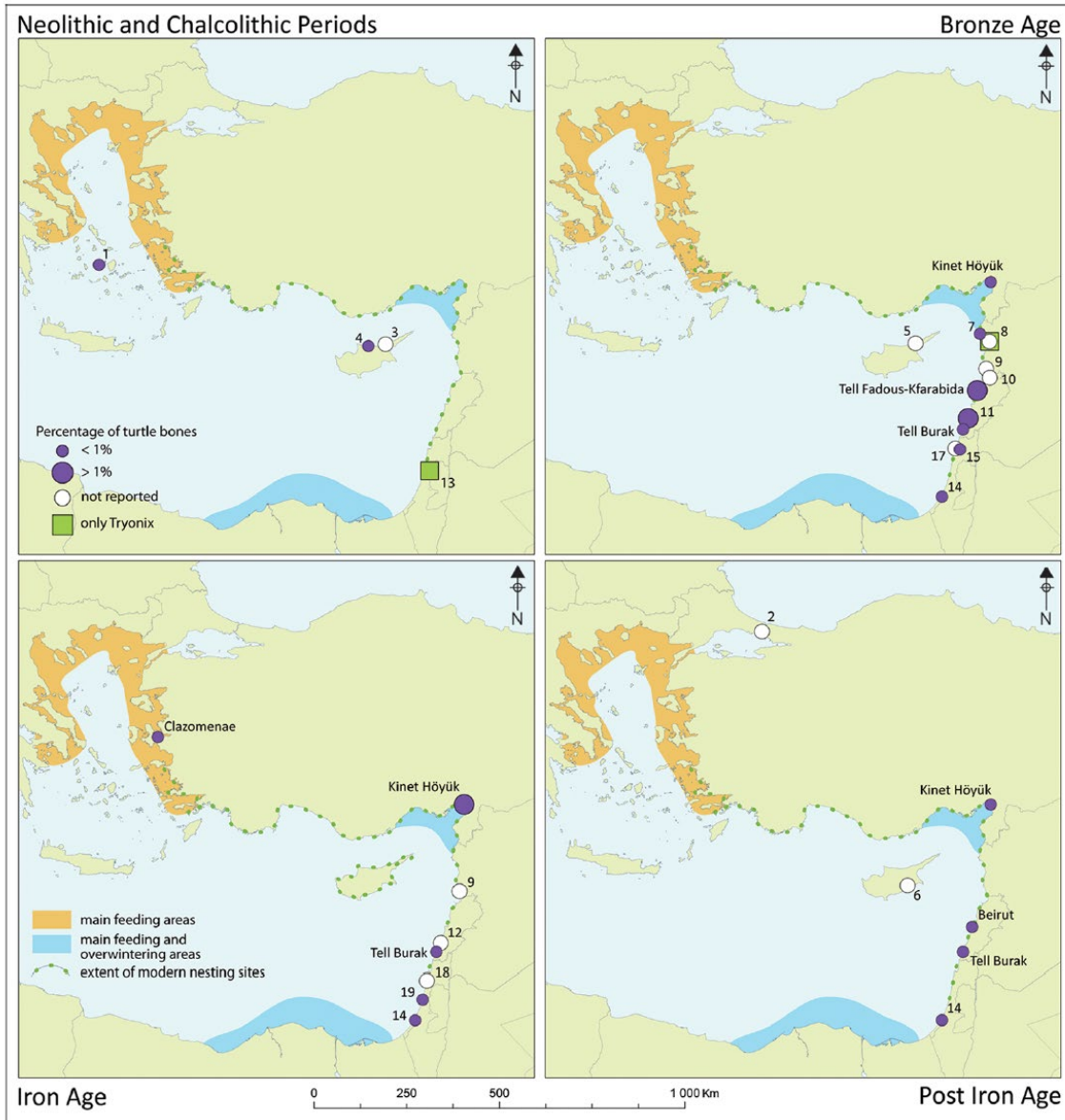
Nile soft shelled turtle (*Trionyx triunguis*)



Dilmun stamp

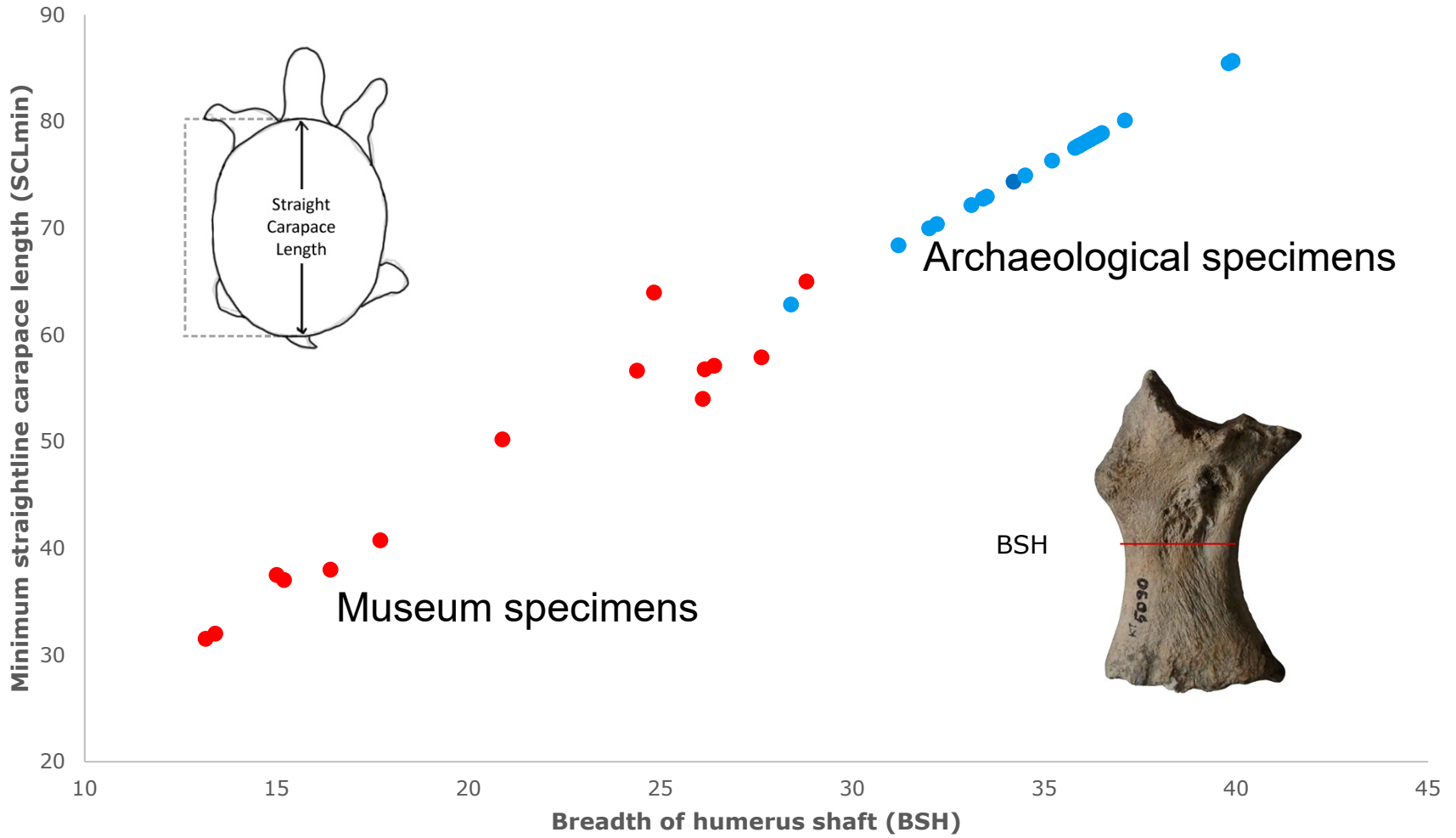


Caribbean turtle turning



Distribution of archaeological sea turtle remains





Green turtle size (c. age) reconstructions

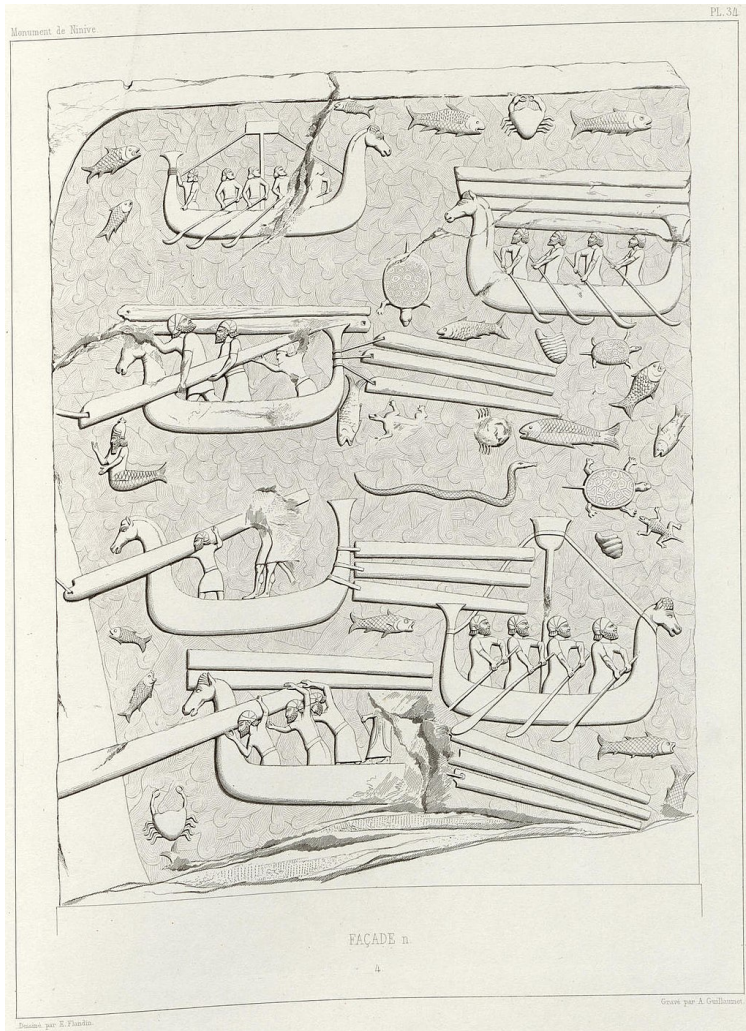


Archaeological site  
Iron Age–Classical  
Period

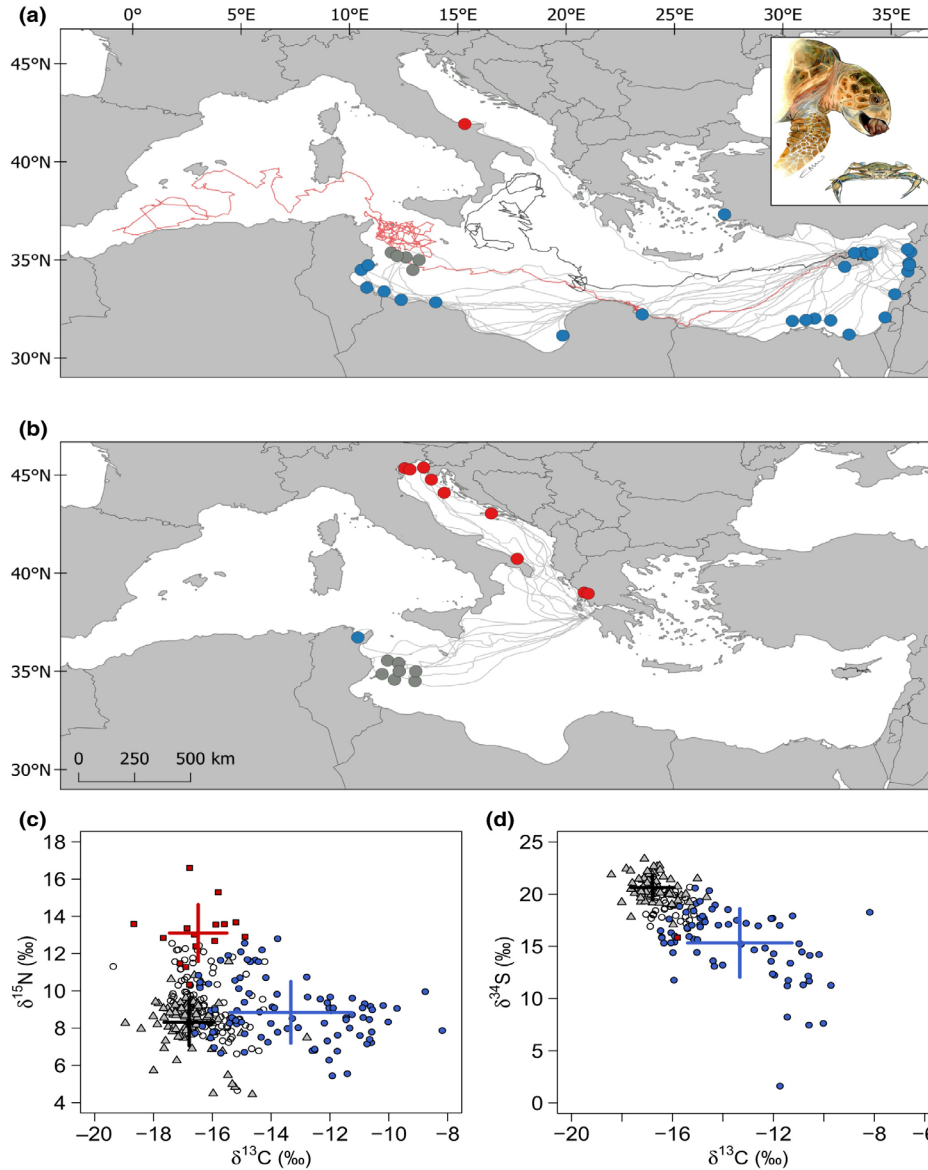
Patara Plajı

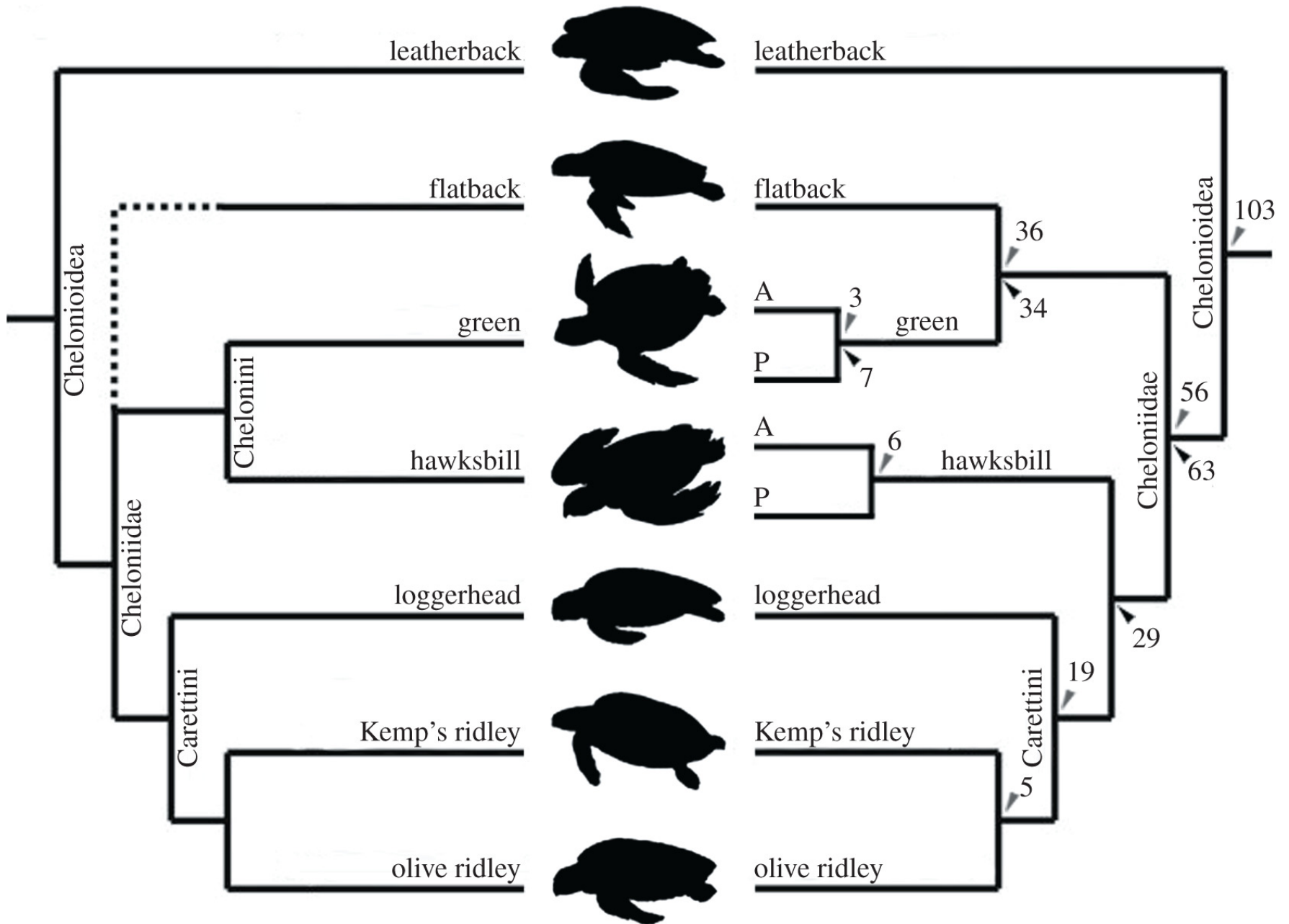
Geleniş

Turtles feed here



Khorsabad Relief, late 8th c. BCE







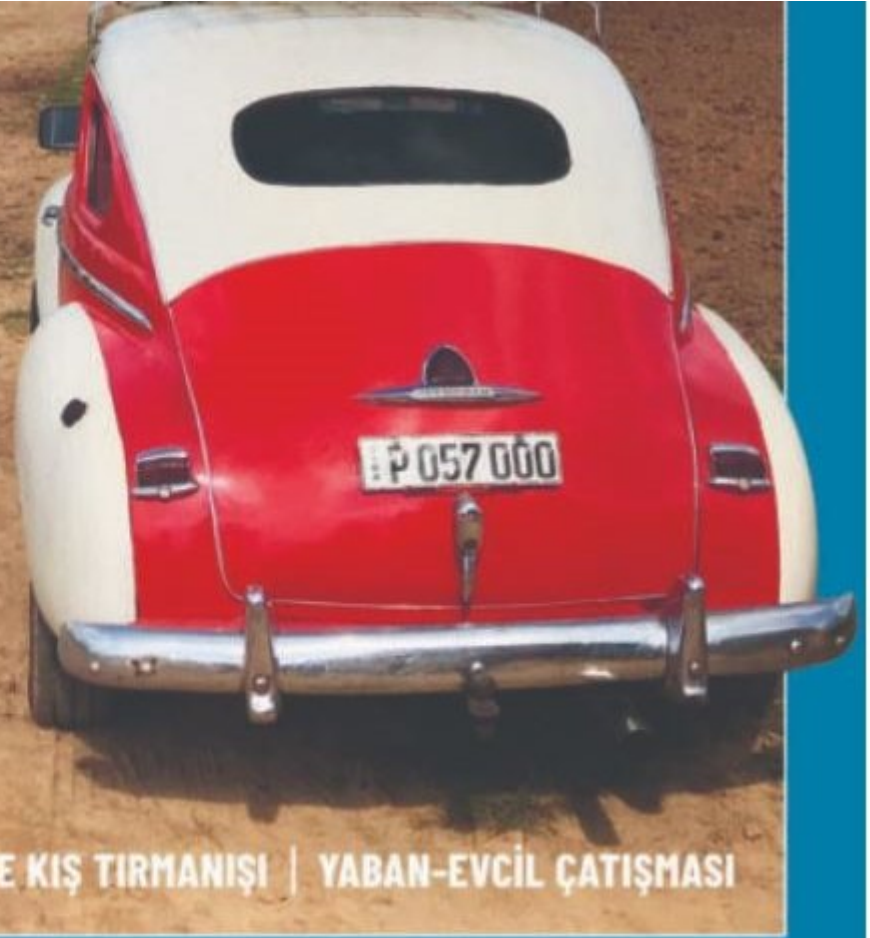
ATLAS RAPORU

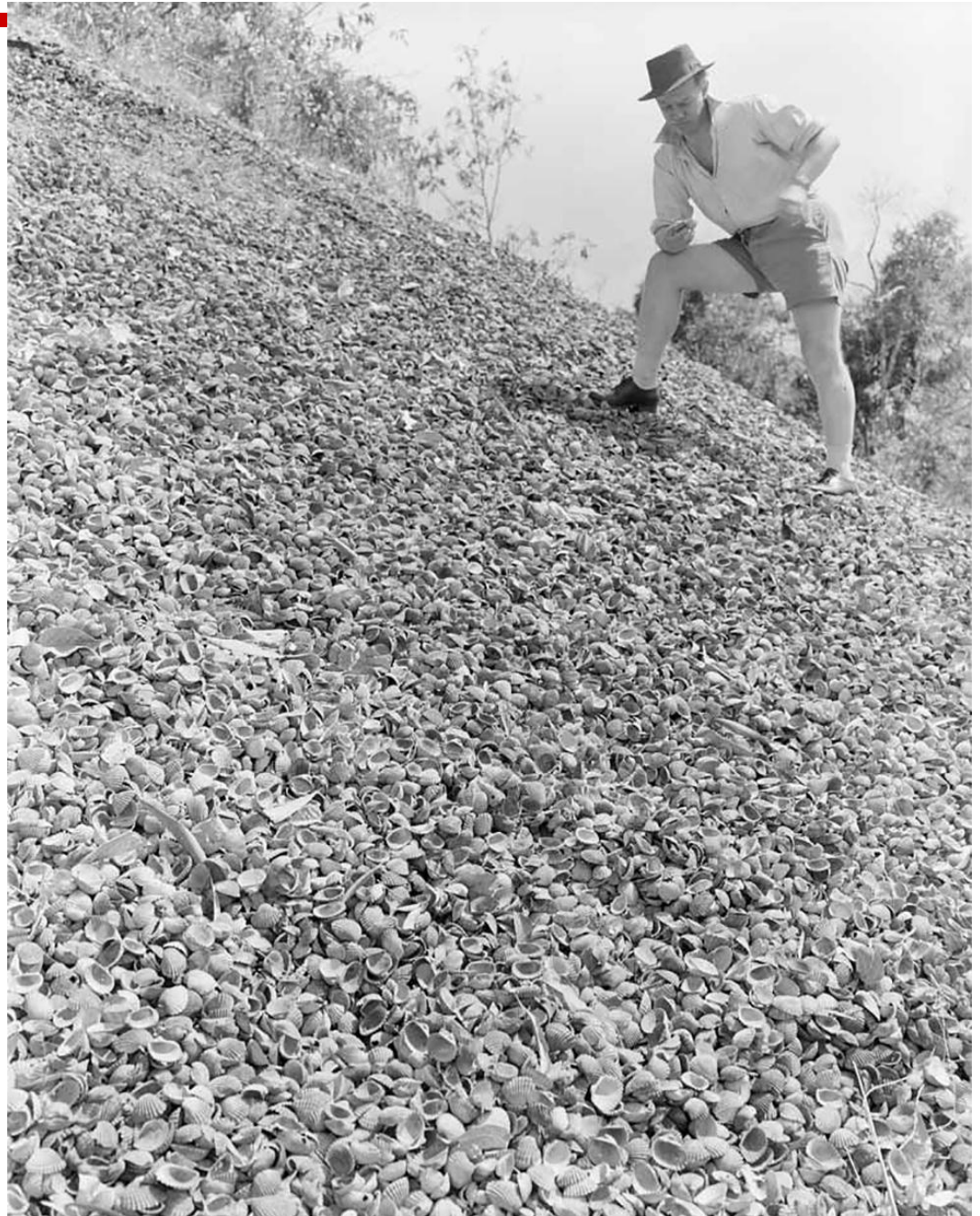
# KENTLERDE YAGMUR HASADI

CESUR YENI DÜNYA  
FORDLÄNDIA

DR. UMUT YILDIZ YAKIN  
TÜRKİYE'NİN EN İYİ MANTOLUSU

ZODARKEOLOJİ: DENİZKAPLUMBAĞALARI | KIZIYE KİŞİ TIRMANIŞI | YABAN-EVCİL ÇATIŞMASI





Weipa in Queensland, 1958.  
([naa.gov.au](http://naa.gov.au))

# evolutie van de kiloknaller



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Dicobovis  
ca. 40 miljoen jaar v. t.

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Bos taurus  
ca. 8.000 jaar v. t.

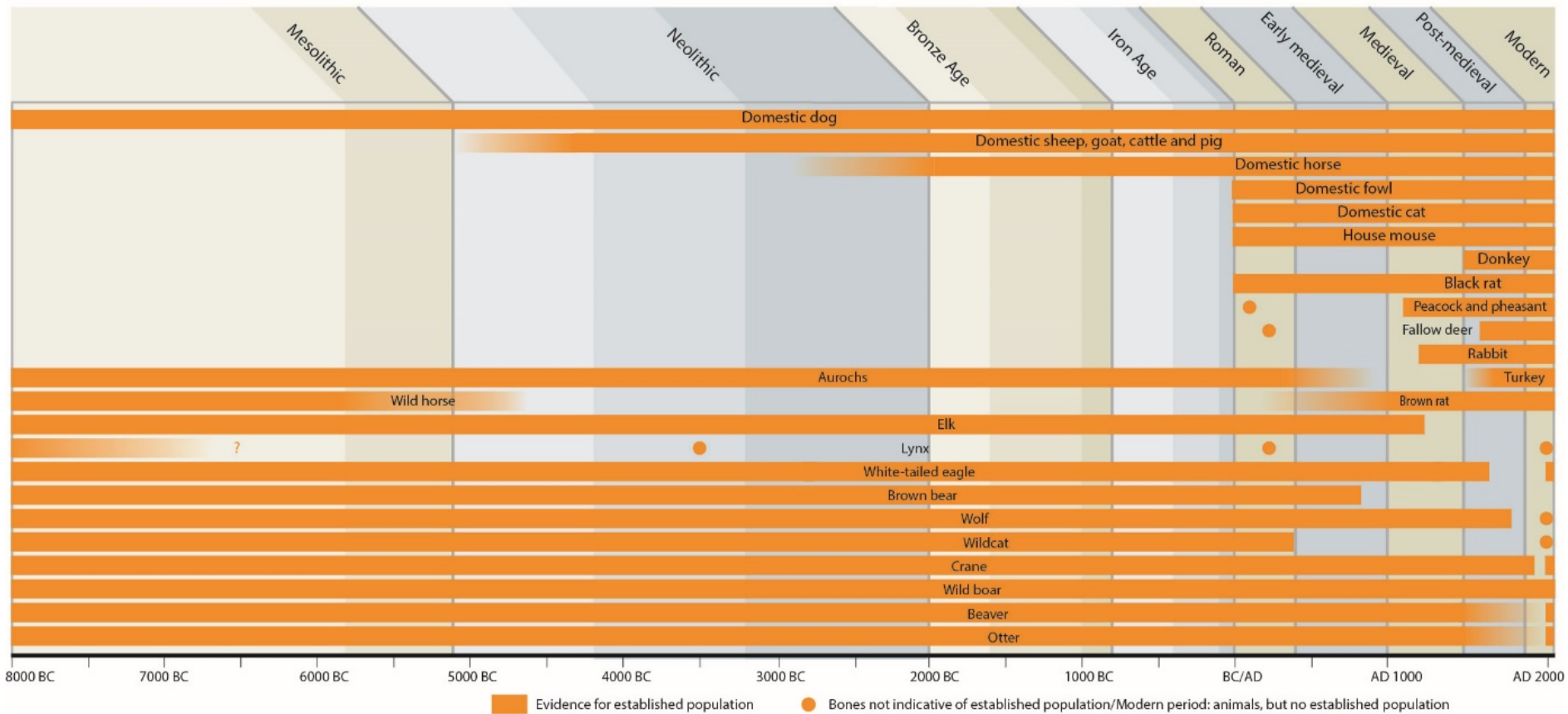
Bos 'Fries oriel'  
ca. 1900

Bos 'Friesoriel'  
ca. 2000





13,000 years ago, at the Hilly Flanks



Leveraging the  
**PAST**



Enrich  
biodiversity



Support  
conservation



Improve fire  
management



Boost carbon  
sequestration



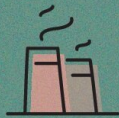
Improve soil  
sustainability



Enhance  
food security



Increase agricultural  
sustainability



Assess & mitigate  
environmental pollution



Build more  
sustainable cities



Increase resilience  
to climate change

... to shape a better **ANTHROPOCENE**

Boivin, N., Crowther, A. Mobilizing the past to shape a better Anthropocene. Nat Ecol Evol 5, 273–284 (2021)

