Uromastyx lizards in Israel

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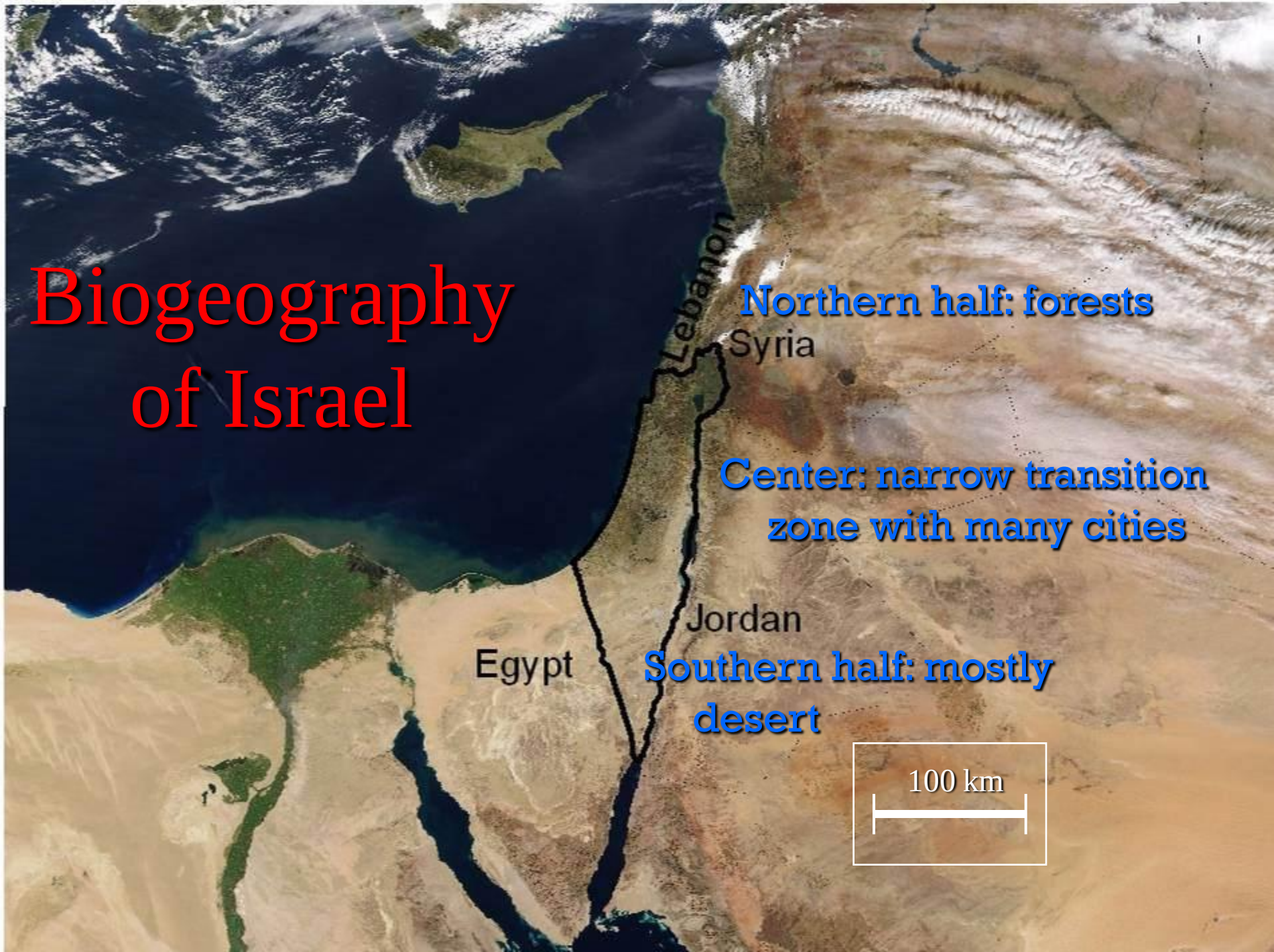
Where is Israel?

Israel

An extremely rich diversity of rich populations of wild fauna and flora

- Size: ~20,000 km² (smaller than the Netherlands)
- Population: < 7 million
- At the intersection of 3 continents (diverse ecotones)
- Strict laws for wildlife protection
- Very low hunting pressure

Sea of Galilee - Lake Kinneret


Biogeography of Israel
Lebanon
Syria
Northern half: forests
Center: narrow transition zone with many cities
Jordan
Egypt
Southern half: mostly desert
100 km

Wildlife biodiversity in Israel

16 species of Carnivores:

- Striped hyena (*Hyena hyena*)
- 5 species of canids: wolf (*Canis lupus*), 3 foxes, golden jackal (*C. aureus*)
- 5 sp. of mustelids: 2 badgers, beech marten, marbled polecat, otter (*Lutra lutra*)
- Egyptian mongoose (*Herpestes ichneumon*)
- 4 species of felids

Wildlife biodiversity in Israel

16 species of Carnivores

4 species of felids:

Leopard (*Panthera pardus*)

Wild cat (*Felis silvestris*)

Caracal (*Felis caracal*)

Jungle cat (*Felis chaus*)

(Sand cat *(Felis margarita)*)

Israel biodiversity
for example, 8 species of corvids

- *Garrulus glandarius*
- *Corvus monedula*
- *Pyrrhocorax graculus*
- *Corvus frugilegus*
- *Corvus corone*
- *Corvus corax*
- *Corvus ruficollis*
- *Corvus splendens*

Israel's Wildlife Trade Policy

1. Protect native wildlife
   - no invasive species allowed
   - limited exploitation of native species

2. Contribute to protection of wildlife overseas
   - import only captive-bred individuals
   - no import from range states
   - no trade in endangered species (those designated by IUCN as *Endangered* or *Vulnerable)*

White oryx reintroduced in Israel

Uromastyx

English names:

- mastigure, spiny-tailed lizard, dhabb lizard, uro

Taxonomy:

- Fam. Agamidae
- CITES standard ref.: Wilms (2001) – 16 species

CITES

- App. II since 1977

IUCN Red List:

- Only 1 sp. EN
- GRA not complete

Species of *Uromastyx* in Israel

- *U. aegyptia* - Egyptian mastigure
  - Largest species in the genus (~ 75 cm)
  - Distribution from Libya to Oman
  - Lives in dry wadis and alluvial plains
  - Important physical ecosystem engineer

Uromastyx aegyptius from North Sinai, Egypt

Species of *Uromastyx* in Israel

- *U. ornata* - Ornate mastigure
  - Much smaller than U. aegyptia (~40 cm)
  - *Distribution*: Egypt, Israel, Saudi Arabia
  - Lives on rocky slopes in extreme desert with < 20 mm rainfall
  - Most active in > 40°C


Uromastyx distribution in Israel
ISRAEL NATURE AND PARKS AUTHORITY
Mediterranean Sea
Israel
Jordan
Negev Desert
U. aegyptia
Egypt
U. ornatus
Arava Valley
Sinai Peninsula
Saudi Arabia
Red Sea
0 30 60 KM
Date 24/09/2008
Dr. Simon C. Nemtzov

Threats

U. aegyptia

- Loss of habitat: Desert converted to intense low-water-use agriculture
- Poaching by Thai farm workers

Threats

U. ornata

- Small range (~ 270 km²)
- Very small population (~200 individ's)
- Off-road vehicles 4X4 and ATV

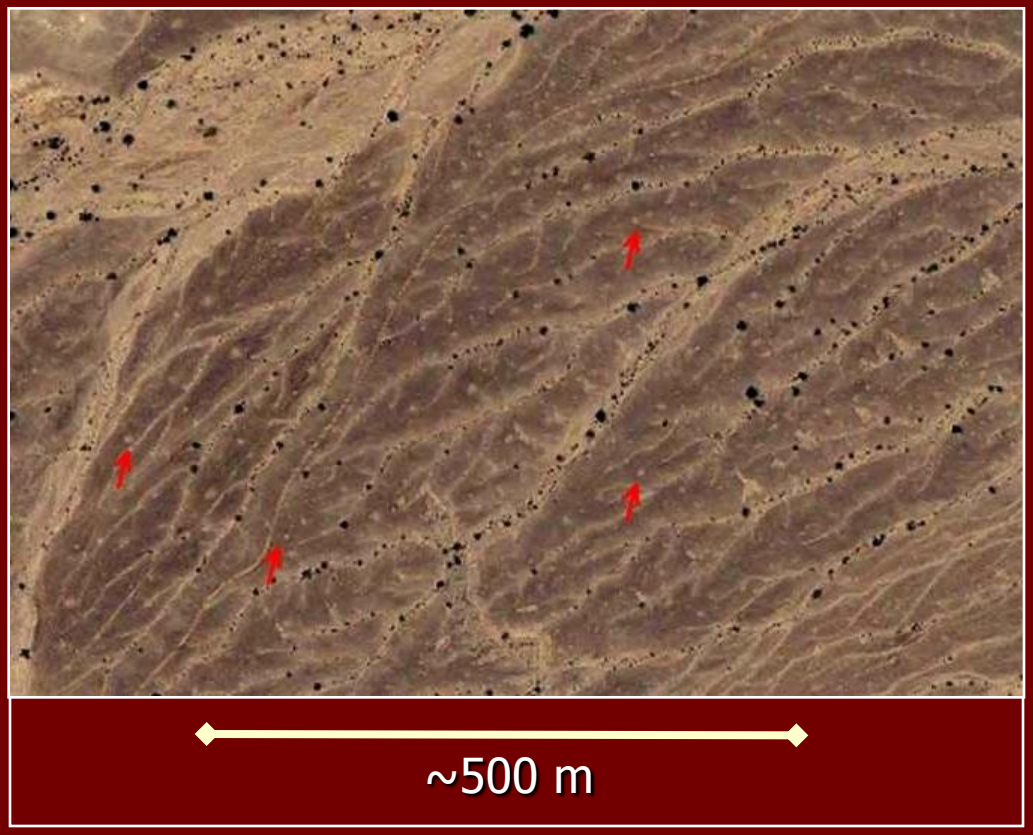
NDF – *U. aegyptia*

- Comparative surveys in Arava Valley:
  1984, 2000 (2007)

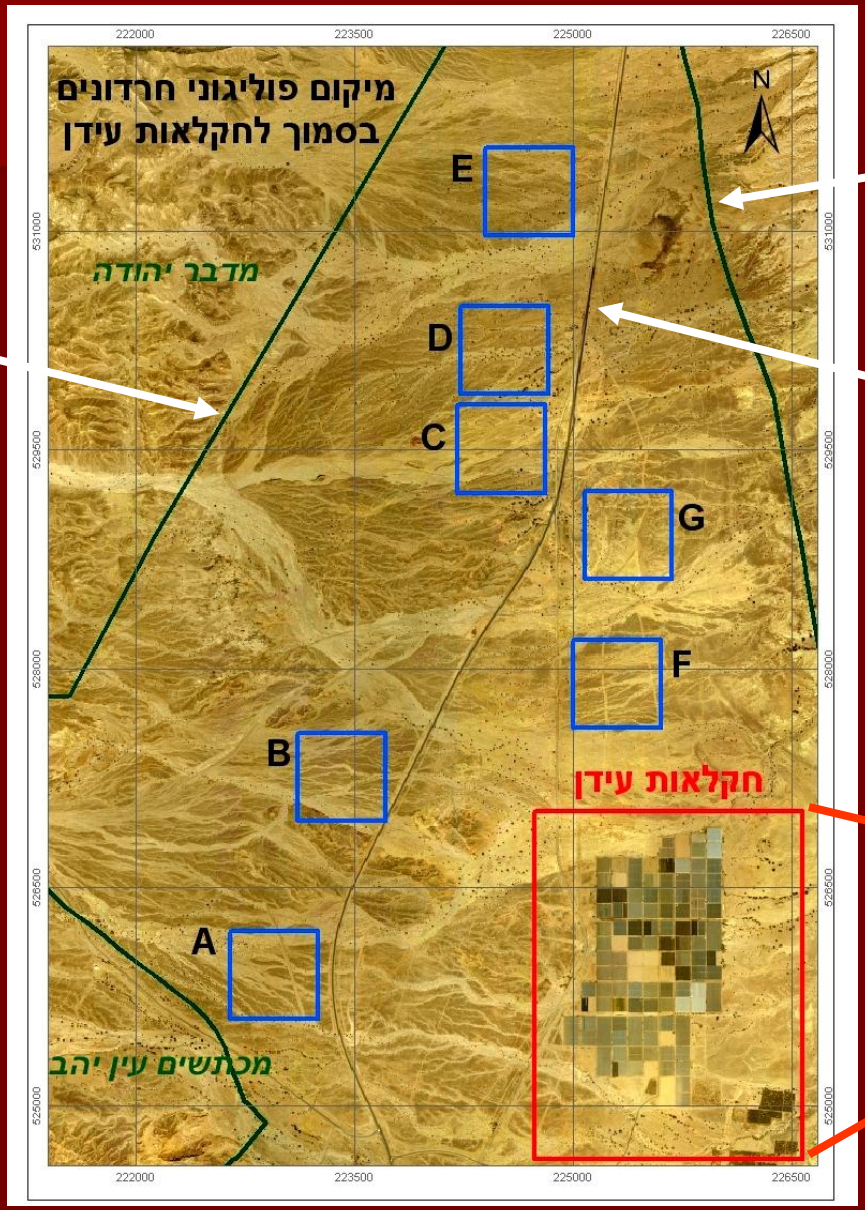
- Methods:
  - Determine population density
  - Aerial photographs of burrows
  - Ground-truthing of activity using transects
  - Multi-year comparisons
  - No demography

Aerial photography surveys

- Light dots = *Uromastyx* burrows
- Dark spots = *Acacia* trees and bushes



Multi-year comparisons



Nature Reserve boundary

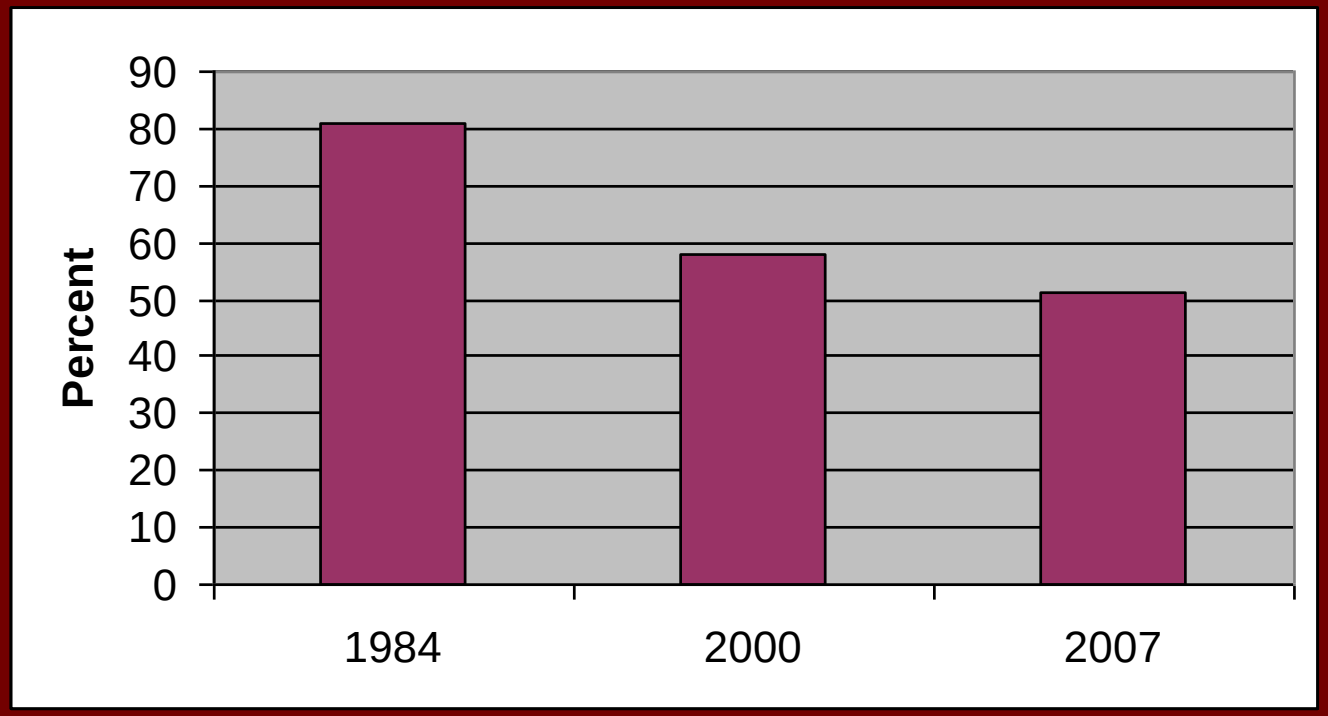
Nature Reserve boundary

Highway

Agricultural area

Multi-year comparisons

Percent of burrows that are active

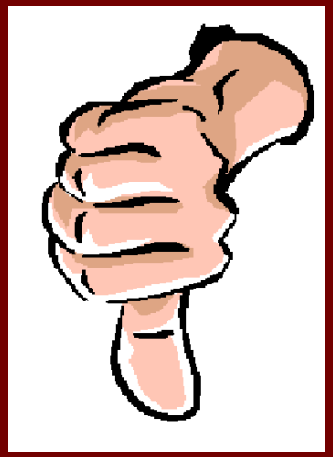


Effect of agr. on *Uromastyx*

- Results of surveys:
  - Lower population density
  - Loss of habitat - Smaller range
  - Increase in poaching levels
  - No complaints of agr. damage since 1997

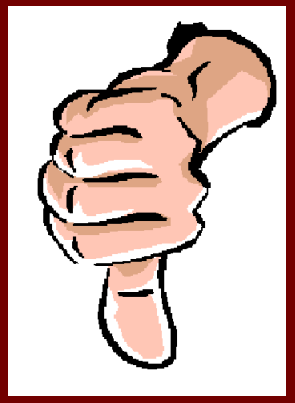
NDF – *U. aegyptia*

- Population is not increasing or stable, but is shrinking
- Further losses expected
- No safe level of exploitation could be assessed



U. ornata

- Total population ~ 200 individuals
- In 2000: Stable but small pop.
- No NDF possible
- Since 2000, population has shrunk even more, due to severe drought and diminished food sources



Conclusions

- No demographic data, or population modeling of harvest, or estimate of MSY.
- Non-scientific determination showed that the populations were “in trouble”
- Final ruling based on precautionary principle in keeping with wildlife conservation policy.