Pinniped Lactation

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Suborder Pinnipedia

- Family Odobenidae
  - AQUATIC NURSING
  - 2-3 years
  - Low fat milk, gradual weaning

Family Otariidae

- FORAGING STRATEGY (4-24 mo)
  - Low fat milk content
  - gradual weaning

Family Phocidae

- FASTING STRATEGY (4-60d)
  - Rapid growth rates
  - High fat milk
  - abrupt weaning

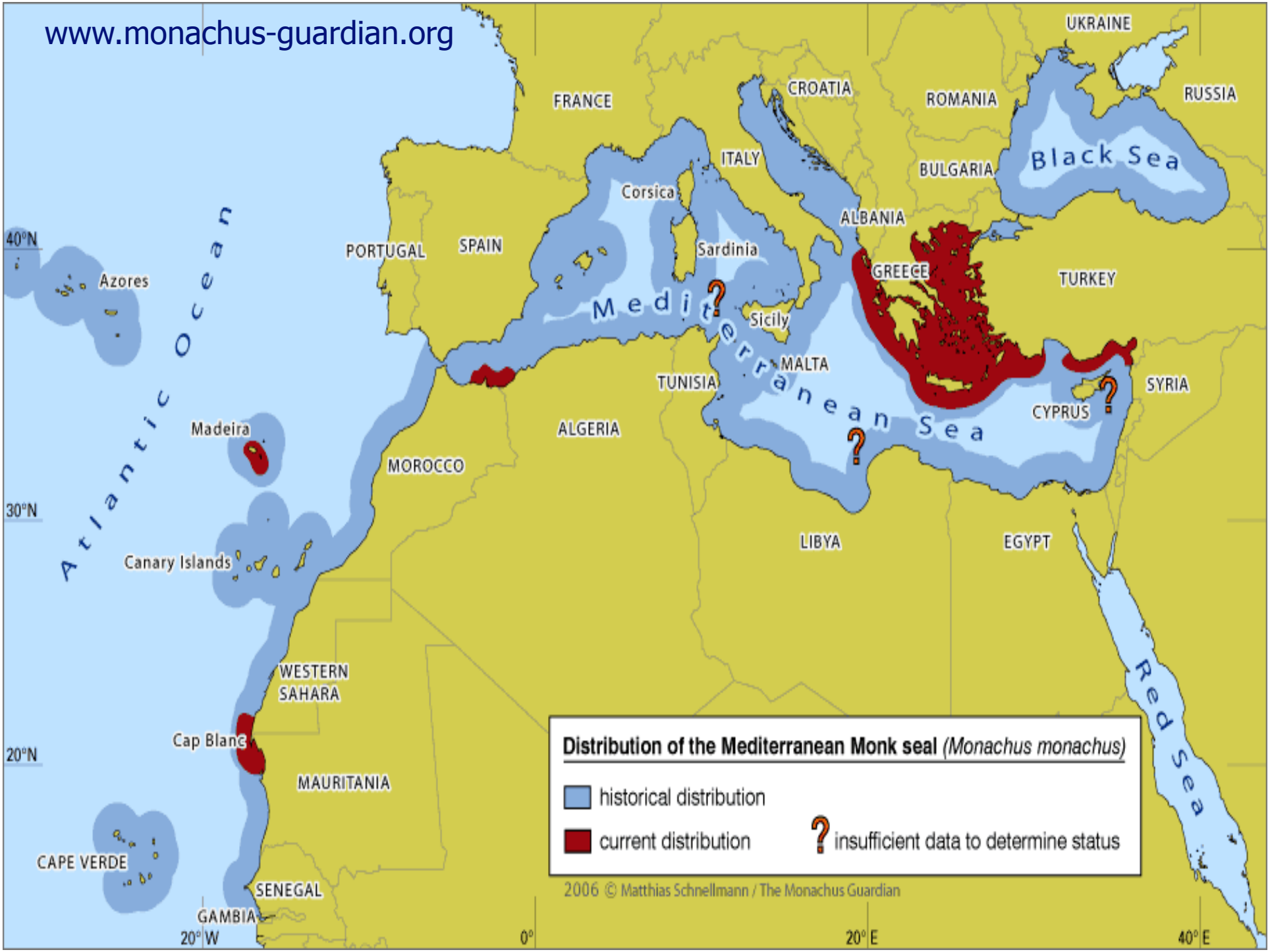
Subfamily Monachinae

- **Caribbean Monk Seal**, *Monachus tropicalis*
  - 1952
- **Hawaiian Monk Seal**, *Monachus schauinslandi*
  - 1,300-1,400

Mediterranean Monk Seal, *Monachus monachus*

- Critically Endangered (IUCN)
- Appendix I (CITES)
- ~250-300 ; 109 in W. Sahara
- Threats:
  - **habitat deterioration** by coastal development (recreation, tourism)
  - **killings** by fishermen and fish farm operators
  - **Entanglement**
  - **decreased food resources** due to over-fishing
  - **random events**, such as disease outbreaks.

www.monachus-guardian.org


www.monachus-guardian.org
UKRAINE
RUSSIA
FRANCE
CROATIA
ROMANIA
ITALY
BULGARIA
Black Sea
Corsica
ALBANIA
40°N
PORTUGAL
SPAIN
Sardinia
GREECE
TURKEY
Azores
Atlantic Ocean
Mediterranean Sea
Sicily
MALTA
TUNISIA
SYRIA
CYPRUS
Madeira
ALGERIA
MOROCCO
30°N
LIBYA
EGYPT
Canary Islands
Red Sea
WESTERN SAHARA
Cap Blanc
20°N
MAURITANIA
CAPE VERDE
SENEGAL
GAMBIA
20° W
0°
20° E
40° E
Distribution of the Mediterranean Monk seal (Monachus monachus)
historical distribution
current distribution
insufficient data to determine status
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Objective

- Baseline information on maternal behavior and lactation of the Mediterranean monk seal

Aguilar, A. et al. 2007. *Lactation and mother-pup behaviour in the Mediterranean monk seal Monachus monachus: an unusual pattern for a phocid*. Journal of the Marine Biological Association of the United Kingdom 87: 93-99.

Materials and Methods

- January 1995-November 1999, (May-September 1997)
- Caves 1 and 3
- Direct/video observations
- 55 pups for behavior
- 17 pups from birth to weaning

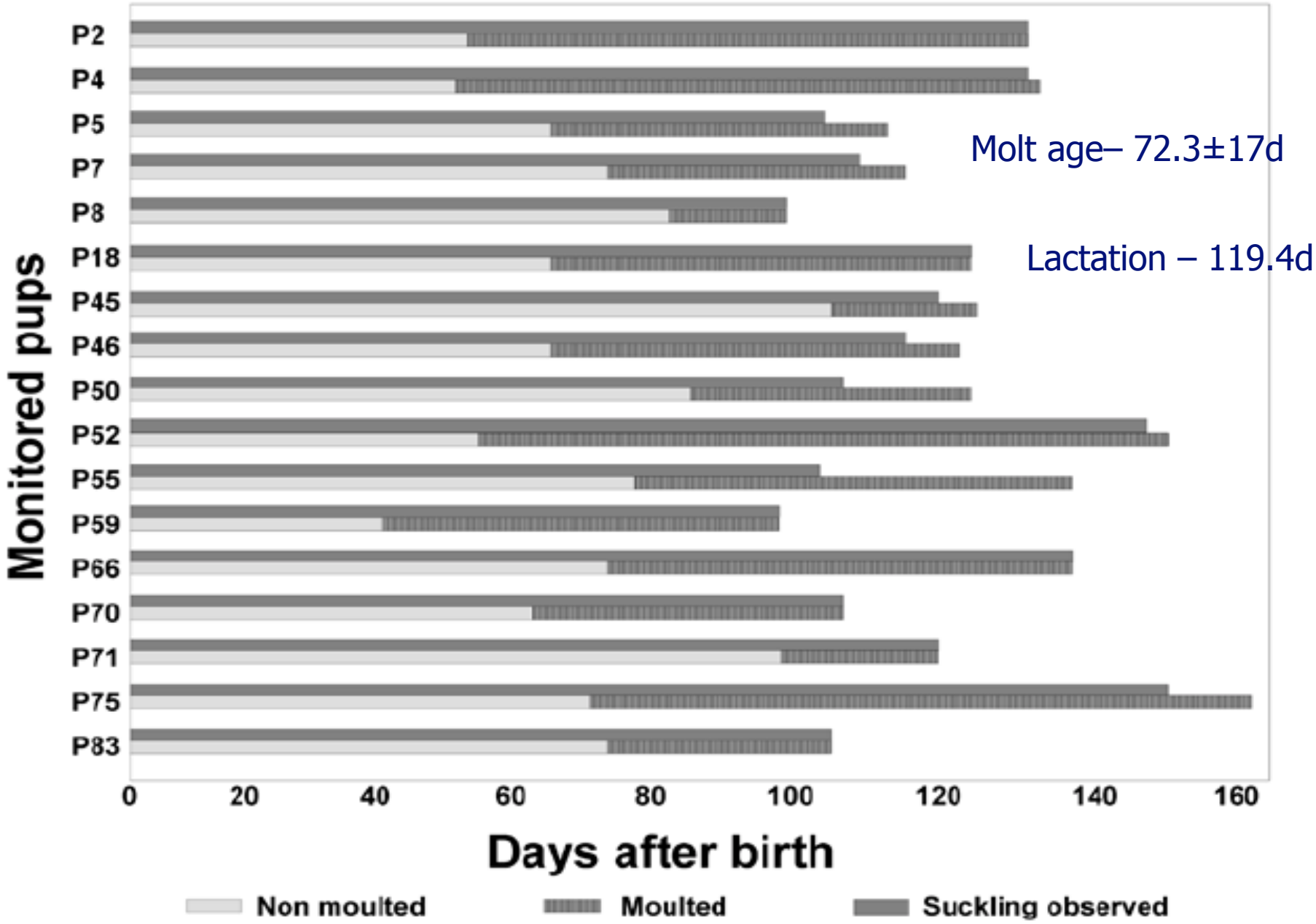

Figure 1. Diagram showing the chronology of moulting and weaning in 17 identified Mediterranean monk seal pups. The limit of the lower bar indicates the duration of the monitoring period for each pup.

Results

- Mother-pup bond established early
- WP spent most time
  - Non-molted significant
- No significant difference in suckling
- 73.3% mother; 46.6% alien female

Discussion

- Whelping season: June-December
- Delay in weaning once molting occurs
- No paternal care
- Lactation: 119d (98-148d), foraging?
- Gradual weaning
- Fostering/milk stealing common

Conclusion

- Similar to otariid lactation
- Important for management and rehabilitation
- Supports Trillmich (1996)
  - Maternal strategies are adaptations to environmental conditions than phylogenetic


Any
questions?