Species Fact Sheets

Order:	Sphenisciformes	**Family:**	Spheniscidae
Scientific Name:	*Aptenodytes forsteri*	**Common Name:**	Emperor penguin

AZA Management: ☐ Green ☐ Yellow ☐ Red X None

Photo (Male):

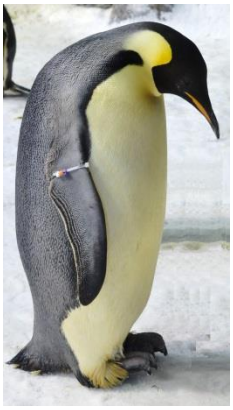

Photo (Female):

NATURAL HISTORY:

Geographic Range:	Europe	☐	Asia	☐	North America	☐	Neotropical	☐	
	Africa	☐	Australia	☐	Other	Circumpolar; endemic to Antarctica, between 66 degrees S and 77 degrees S.			

Habitat:	Forest	☐	Desert	☐	Grassland	☐	Coastal	X	
	Riverine	☐	Montane	☐	Other	Marine, pelagic.			

Circadian Cycle:	Diurnal	X	Crepuscular	☐	Nocturnal	☐	Other	Click here to enter text.	

Cold Tolerance:	To 70° F	☐	To 60° F	☐	To 50° F	☐	To 40° F	☐	
	To 30° F	☐	To 20° F	☐	Other	Likely in excess of -60o F			

Heat Tolerance:	To 30° F	X	To 50° F	☐	To 70° F	☐	To 90° F	☐	
	To 110° F	☐	Other	Optimal temperature below 30 deg F.					

Diet:	Frugivore	☐	Carnivore	☐	Piscivore	X	Insectivore	☐	
	Nectivore	☐	Omnivore	☐	Folivore	☐	Other (Add Below)	☐	

Captive Dietary Needs:

Variety of fishes including herring, capelin, sardines and lake smelt. Squid may also be provided.

Life Expectancy in the Wild:	Males:	20-25 years	Females:	20-25 years
Life Expectancy in Captivity:	Males:	25-35 years	Females:	25-35 years

BREEDING INFORMATION:

Age at Sexual Maturity:	Males: 5 years Females: 6 years
Courtship Displays:	Emperor penguins use visual and vocal courtship displays. They exhibit ecstatic, "face to face" and "waddling gait" displays. In the ecstatic display, males stop, let their heads fall, take a breath and then vocalize. Receptive females will respond with a similar ecstatic display. This may be followed by "face to face" where birds continue to raise their heads and bill point toward the sky, then slower lower their heads to level. Birds will also arch their heads to the side exposing the auricular patch. "Trios", where two females compete for the attention of a single male, may develop. Females will follow the male with a "waddling gait" once the pair has formed. Emperor penguins do not engage in mutual preening. Emperor penguin vocalizations are sexually dimorphic.
Nest Site Description:	Emperor penguins do not build nests. Females will pick the egg up immediately after laying and carry the egg on her feet for up to 1 day until she transfers the egg to the male. The male will then support and incubate the egg on top of the feet and within the brood patch until hatching. Chicks are carried on top of the feet after hatching.
Clutch Size, Egg Description:	Single egg clutch; large, white, thick-shelled egg.
Incubation Period: 62-65 days	**Fledgling Period:** 5 months post hatch
Parental Care:	Males only incubate the single egg during the Antarctic winter while females return to sea to forage. Females return at the time of chick hatching in order to relieve the male and feed the chick. Males are able to feed chicks for a short time with a throat secretion or "crop milk" if the female is late. Both parents care for the chick until fledging. Chicks will form crèches at the time when both parents must leave the colony to forage in order to adequately provision the chick.
Chick Development:	Chicks hatch with a short, silvery down and black mask.

CAPTIVE HABITAT INFORMATION:

Social Structure in the Wild:	Colonial.
Social Structure in Captivity:	Colonial
Minimum Group Size:	The AZA Penguin Animal Care Manual (submitted for publication, AZA, 2014) has set a minimum group size of 10 birds. Emperors may benefit from a larger group size for maximum reproductive potential. In the wild, emperor penguin sex ratios are skewed towards females.
Maximum Group Size:	Limited by space, not behavior.

Compatible in Mixed Species Exhibits:	Yes	**Comments:**	Has been housed successfully with high- or sub-Antarctic species including macaroni, Gentoo, Adelie, king, chinstrap penguins; and Antarctic shag, Southern black-backed gull, giant petrel.

Optimal Habitat Size:	Enough space should be provided so they can walk, swim, and perch. Dedicated breeding areas, back of house support are needed. Birds need to be able to avoid or escape any territorial disputes especially during breeding season. Adequate pool space is also important. See Penguin Care Manual minimum standards for water and land size.

Management Challenges:	Emperor penguin breeding is characterized by a strong food drive at the start of the season in preparation for the long winter fasting period during incubation. Emperor penguin food provision should be judiciously monitored during the reproductive cycle to prevent excessive weight gain that may prevent successful copulation. Photoperiod appears to be important for reproductive success. Playback recordings of emperor colonies may help synchronize reproduction when used in conjunction with photoperiod at the start of the breeding cycle in April and May. For optimal success, emperor penguins require colder holding temperatures than other penguin species; therefore they are currently found in only a single AZA institution.

ADDITIONAL COMMENTS:

Sex can be determined by voice character for both males and females. Sex of chicks may also be determined by acoustic measures.

REFERENCES:

http://seaworld.org/animal-info/animal-bytes/birds/emperor-penguin/

Jouventin, Pierre. (1982). Visual and Vocal Signals in Penguins, their Evolution and Adaptive Characters. Advances in Ethology No. 24, 1-148.

Garcia Borboroglu, P. and Boersma P.D. (Eds.). (2013). Penguins: Natural History and Conservation. Seattle, Washington: University of Washington Press.

Global Penguin Society Species Fact Sheet. www.globalpenguinsociety.org

Bowles, Ann. Senior Research Scientist, Hubbs-SeaWorld Research Institute (HSWRI). Dr. Bowles leads the Bioacoustics Program at HSWRI. Personal Communication.

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COMPLETED BY:

Name:	Linda Henry	Date:	5/26/2014