

Palawan Peacock-pheasant (*Polyplectron emphanum*)

AZA Mid-year Meeting 2014
Mollie Coym, Houston Zoo



Photo used by permission from Joel Sartore.

Taxonomy and Conservation Status

Taxonomy

The Palawan Peacock-pheasant (*Polyplectron emphanum* or *Polyplectron napoleonis*), belongs to the Order Galliformes, Family Phasianidae, Genus Polyplectron. The Genus Polyplectron consists of eight species of peacock-pheasants, all of which are declining (Holmes 2012).

Species	IUCN Status	CITES	Wild Population Trend
Bronze-tailed	Least concern		Decreasing
Mountain	Vulnerable	Appendix III	Decreasing
Germain's	Near threatened	Appendix II	Decreasing
Gray	Least concern	Appendix II	Decreasing
Hainan	Endangered		Decreasing
Malaysian	Vulnerable	Appendix II	
Bornean	Endangered	Appendix II	Decreasing
Palawan	Vulnerable	Appendix I	Decreasing

Physical Description



The male *P. emphanum* is 50 cm (tail 24-25 cm) with an average weight around 436 g. The male can be described as follows: mantle consists of shiny green and blue feathers with black underparts, the face consists of a distinctive black and white pattern, there is a long, pointed crest.

Physical Description



The female is 40 cm (tail 16.5-17 cm) with a weight around 322 g. The female is typically brown with scattered buff markings, face and throat are brownish-white in color; and there are ill-defined black subterminal patches on the tail.

Range Map



Map from www.IUCN.org

Threats

Threats to the wild Palawan population have included:

- Deforestation due to excessive logging and mining
- Agricultural encroachment
- Hunting
- Trapping for live trade

The entire island of Palawan has been classified as a game reserve since 1983. Despite hunting being illegal, laws are not enforced effectively.



Palawan Peacock-pheasant (*Polyplectron emphanum*)

- AZA Species Survival Plan®
- Yellow Program
- Population Analysis & Breeding and Transfer Plan are in final draft stages now



Population



- Current population as of planning meeting on 10/3/2013:
28.19.4 (51) at
25 Institutions
- Historical population
260.261.387 (908)
at 134 Institutions

Population

- Due to historical unknown-ness, an analytical dataset, was created.
- Following assumptions and the exclusion of individuals with less than 50% known pedigree, the current known pedigree portion of the population is estimated to have descended from 20 founders with no potential founders remaining.



Population

Demography

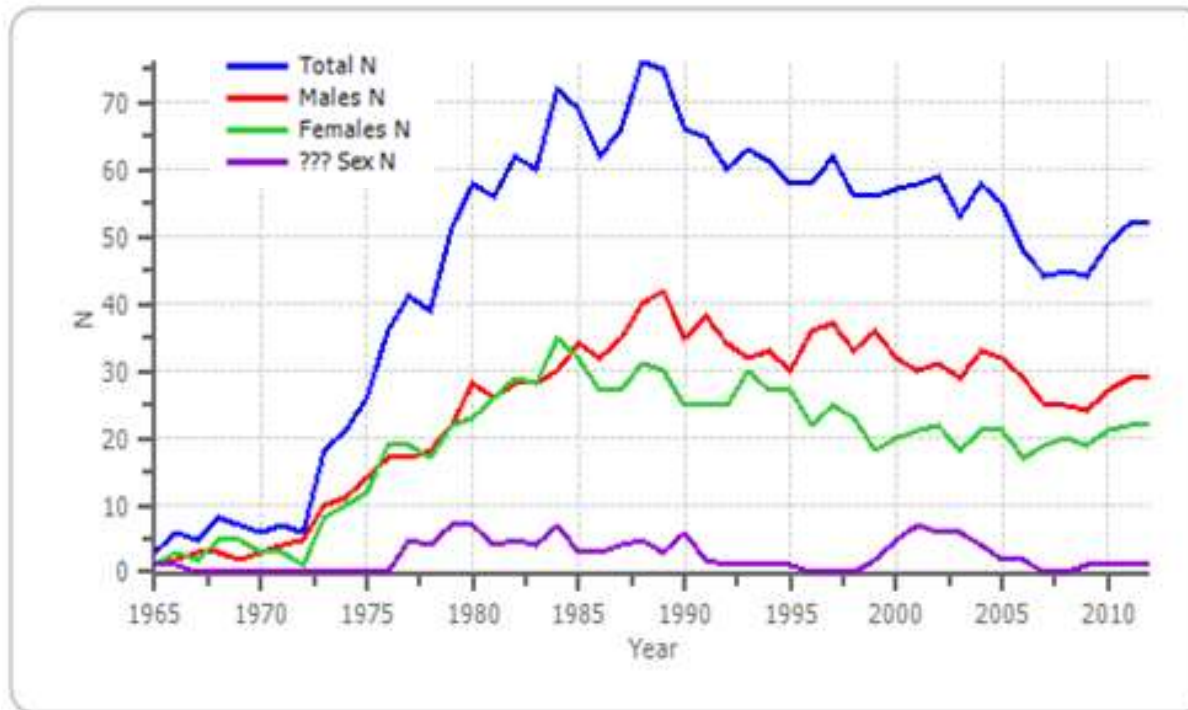
Current size of population (N) - Total (Males, Females, Unknown)*	51 (28.19.4)
# animals excluded from management	8 (4.4.0)
Population size following exclusions	43 (24.15.4)
Target population size	70
Mean generation time (years)	5.5
Historic/Projected population growth rate (lambda)	1.12/ 1.03

Genetics*

	Current	Potential
Founders	17	0
Founder genome equivalents (FGE)	2.58	5.56
Gene diversity (GD%)	80.06	91.00
Population mean kinship (MK)	0.1936	-
Mean inbreeding (F)	0.1287	-
Percentage of pedigree known before assumptions and exclusions	0.00	-
Percentage of pedigree known after assumptions and exclusions	75	-
Effective population size/Potentially breeding population (N_e / N)	0.4357	-
Years To 90% Gene Diversity	Already <90%	-
Years to 10% Loss of Gene Diversity	37	-
Gene Diversity at 100 Years From Present (%) $\lambda = 1.03$, $K_t = 70$	58.6	-

*Genetic statistics are based on an analytical studbook with pedigree assumptions that may over or under-estimate relatedness.

Census of the Palawan Peacock Pheasant SSP population by sex



Management Strategy



Photo from Arkive.org

- Demographic projections indicate that approximately 8 to 10 hatches are needed in the coming year to keep the population stable ($\lambda=1.00$) and 10 to 12 to grow the population to its target size of 70 in 10 years ($\lambda = 1.03$).

SSP Recommendations

- Seventeen breeding females and 7 transfers in order to meet demographic and genetic goals as well as institutional requests.
 - All females in breeding situations have been recommended to breed in order to promote demographic stability and increase effective size, thereby maximizing gene retention in the population.



SSP Recommendations



- It is currently challenging to place males in this population. Due to the difficulty of holding single sex groups and the current male sex bias, additional participating institutions are needed.
- Please contact the SSP Coordinator if interested in joining the SSP whether for breeding or display purposes.

SSP Recommendations

- Some pairs consisting of a male or female with known pedigree paired with a breeding partner of unknown pedigree have been left together this year to minimize the number of transfers and to promote demographic stability.
- However, these individuals should be repaired in the future to contain pedigree unknown-ness in this population.



Cool pictures



Cool pictures



Cool pictures



Cool pictures



Palawan video



The End



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