

Proyecto Peregrino: 1985 Report

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PALLID FALCON FIELDWORK

In November and the first half of December we travelled to the Patagonian steppe of Santa Cruz and Tierra del Fuego (South Argentina), to obtain further data on the Austral Peregrine Falcon (Falco peregrinus cassini) in its different phenotypes, phase ratios and reproductive outcome. We checked 15 pairs from our total of 19 pairs located since 1981. Out of these, 12 were successful. Table 1 summarizes our data on phase ratios in 1982 and 1985. Further observations indicate that the Pallid or Klein-schmidt's Falcon is a recessive mutation that behaves as a single gene with dominance of the normal phenotype, but some atypical normal birds suggest a more complicated genetic function between phases. These birds in their adult plumage present reddish-brown spots on the nape and cheeks, never seen on typical normal birds. These observations were made on captive falcons of which the parents were normal-pallid pairs. We found that two normal pairs located in 1982 are now normal-pallid pairs. Table 2 summarizes the reproductive outcome in 1982 and 1985. From these data we infer that Peregrines breed normally in the area under study.

SEARCHING FOR FALCO DEIROLEUCUS

In 1985 we continued our efforts to find a breeding pair of Falco deiroleucus without success. In 1984, in the subtropical region of Salta (Northern Argentina) and Tarija (Southern Bolivia), we found four pairs of Bat Falcon -- two in Argentina and two in Bolivia -- and were able to see a single Orange-breasted Falcon. In October 1985 we returned to the same region. For three weeks we travelled on secondary roads and walked along several watercourses, but found neither Bat Falcons nor Orange-breasted Falcons. However, both species are present in the area, although undoubtedly uncommon. In future we shall renew our efforts to find these species in other countries, since Argentina is the geographical limit of their southern distribution. We are studying possibilities for continuing our research in Brazil or Peru.

OUR FIRST CAPTIVE-BRED PEREGINES

Since 1983, one pair of our captive Peregrines (female '79 - male '81) has produced fertile eggs. In 1984, well-developed embryos died before hatching, both in the incubator (Marsh Roll X) and in the eggs incubated by the falcons. We felt the cause of our failure to be the food (chicken heads) given to the adults before the breeding season. In 1985 we started feeding them with 35-day-old chickens. We were also able to complete our

equipment of three Marsh Roll X incubators and two scales -- 0.010 gr precision -- and prepare a group of Bantam hens for incubation of the falcon eggs. We decided to take the freshly laid eggs and place these under the Bantams and in the incubators, since we were not able to control the environment of our falcons. Our female '79 - male '81 normal pair laid 8 eggs in two clutches last spring. At that time we had no broody hen available, so we left the first clutch with the falcons for a week, after which we placed the eggs in the incubator, working with two incubators at different humidities and checking the eggs every two days. We calculated the Fresh Egg Weight using Hoyt's equation modified by Burnham (1983) and the Number of Days of Incubation using Burnham's formula. We succeeded in hatching two normal, well-developed males from this first clutch. Five days later we put them with their parents, who adopted and reared them perfectly.

Two weeks after removal of the first clutch the falcons laid again. We put the second clutch under Bantams for twenty days to give them natural incubation, checking the eggs every two days. (We had previously tested the hens with wooden eggs with satisfactory results.) Subsequently the eggs were transferred to an incubator, from which we obtained two normal females, also well-developed.

Seven days later we removed the first two young from their parents, replacing them with the new young. Once again, these were adopted and reared without trouble.

So far as we know, these are the first Peregrines to be bred in captivity in Argentina and probably in South America. Our female '81 - male '82 pallid pair laid four eggs in two clutches, but these were infertile. Our Bat Falcon pair, caught in November 1984, also laid eggs and incubated them. At least one egg was fertile, with a well-developed embryo which died in shell. We had little time to attend to this pair and do not know the cause of failure.

CAPTIVE BREEDING - 1985 RESULTS

Species	Pair Identification	No. of Clutches	No. of Eggs	No. Fertile	No. Hatched	No. Reared
<u>F. peregrinus</u>	Nf'79-Nm'81	2	8	5	4	4
<u>F. peregrinus</u>	Pf'81-Pm'82	2	4	0	0	0
<u>F. ruficularis</u>	f'84-m'84	1	2	>1	0	0

N = Normal; P = Pallid
f = female; m = male

OUR FIRST INTRODUCTION TO THE WILD

In our country, reintroduction of falcons to the wild is not necessary. Our fieldwork, as well as that of others, shows that in the southern part of Argentina the Peregrine breeds normally. Nevertheless, taking advantage of our trip to southern Argentina during November/December, we decided to experiment with reintroduction of our four young into wild eyries. In November we distributed our fledglings among different eyries and checked

the results in mid-December. Our first two young, the males, were already out of the nest. The other two, the females, were still in the nest. All were healthy and duly cared for by their foster-parents.

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Table 1 - Individual and Pair Phase Ratios, 1982-1985.

Type	Phenotype	<u>1982</u>		<u>1985</u>	
		No.	%	No.	%
Adult	Pallid	7	29,2	12	40,0
	Normal	17	70,8	18	60,0
Juvenile	Pallid	9	42,9	14	42,4
	Normal	12	57,1	19	57,6
Total	Pallid	16	35,5	26	41,3
	Normal	29	64,5	37	58,7
Pairs	Normal-Normal	6	50,0	5	33,3
	Pallid-Normal	5	41,7	8	53,3
	Pallid-Pallid	1	8,3	2	13,4

Table 2 - Productivity, 1982-1985.

	<u>1982</u>	<u>1983</u>
Total Pairs	12	15
Successful Pairs	8	12
Total Young	21	33
Young/Attempted nesting	1.75	2.20
Young/Successful nesting	2.62	2.75