Breeding Pretre's Amazon at Palmitos Park, Gran Canaria

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It is interesting to reflect on the avilability of Amazona species this century: only three have been freely available: the Orange-winged (A. amazonica), the Blue-front A. aestiva) and the Yellow-fronted or Yellow-crowned (A.o. ochrocephala). During the 1980s however, more species became available than at any other time in avicultural history. All those from continental or mainland South America, with the exception of the Mercenary (A. mercenaria) were available — and even the latter was imported into the U.S.A. on at least one occasion..

One species which was virtually unkown in aviculture until the decade of the 1980s is Pretre's Amazon (A. pretrei). However, it remains very rare so that most Amazon breeders have never seen it. As with a number of other parrot species during the past 20 years, its sudden appearance in aviculture was indicative of the fact that its habitat was being disturbed. Unfortunately, the numbers of this Amazon, also its range, is declining rapidly in the wild. It is now known to occur only in Rio Grande do Sul in southeastern Brazil. Possibly it survives in adjacent Misiones in northeastern Argentina. It was formerly found in southern Sao Paulo and perhaps in southeastern Paraguay, although there is no evidence that it was a resident there; possibly it occurred as a vagrant, if at all.

There has been a substantial decline in its numbers since the 1970s mainly due to destruction of its specialized habitat. It is associated with Araucaria pine forest - and little virgin forest of this type now survives within its range. The ripe pine seeds are its principal food during much of the year. This Amazon migrates early each year, from the southern part of Rio Grande do Sul, to the north. This movement occurs after the breeding season.

Pretre's Amazon is closely related to the Tucuman Amazon (A. tucumana). It, too, is endangered by habi-

tat destruction and, due to this and to excessive trade, was placed on Appendix 1 of CITES in 1989. The Tucuman is another avicultural newcomer, being virtually unknown until the late 1970s. Although the two species are very close in plumage coloration and size, their personalities are different. Much as I like the Tucuman, I would have to describe pretrei as one of the friendliest, most cheeky and cheerful parrots in existence! It seems almost inherently fearless but usually without the vicious streak which accompanies fearlessness in some of the larger Amazons. It is a truly delightful bird to keep. Most specimens will whistle or call out to attract attention when anyone passes the aviary.

It is a small Amazon weighing approximately between 240 grams and 310 grams and measuring 12 inches (30-31cm). Several books quote a larger length, even up to 35cm — but this is incorrect.

At Palmitos Park, Gran Canaria (one of the Canary Islands, politically Spanish but located not far off the coast of West Africa), Pretre's Amazon is well represented in the offexhibit breeding centre. The genus Amazona is the prime interest of Klaus Paulmann, the founder of Palmitos Park. He had been breeding endangered species of Amazons, such as the Cuban (A.1. leucocephala), Yellow-shouldered (A. barbadensis) and the Tucuman, also threatened species such as the Hispaniolan (A. ventralis) and the Green-cheeked or Mexican Red-headed long before I joined the staff of Palmitos Park in February 1989.

In 1990, the following Amazons were reared: Cuban, Hispaniolan, Yellow-lored (A. xantholora), Lilac-crowned (A.finschi), Yellow-shouldered, Yellow-fronted, Double Yellow-head (A. ochrocephala oratrix) and Pretre's. All were reared by Amazons with the exception of one Hispaniolan which had to be hand-reared due to a bacterial infection and some of the barbadensis.

Most of the pretrei had been flying together in a fairly large aviary for some months. They were not sexed as I was under the misapprehension that they were sexually dimorphic! They were paired up towards the end of February 1990 and we were left with what we believed to be four males. These were placed together in a breeding aviary with a nest-box. Among our group of this species were some obvious males and some obvious females — but sexing is not as easy as has been suggested by some authors. Males are said to have more red on the head and/or on the wing. I tried to assess this feature in association with the size and shape of the head and beak. Certainly some females have noticeably smaller heads and beaks and most have less red in the plumage. However, I would advise chromosomal or surgical sexing of this species — as there is always the exception which proves the rule.

And so it was that by March 30 one of the four "males" was incubating three eggs! A fourth was laid soon after. It appeared that the female was paired to the most assertive male, who was often displaying; the other two males were removed from the

Weights of Parent-reared *Amazona pretrei* hatched at Palmitos Park, Gran Canaria, April 1990

	chick			
day	1	2	3	4
1	11 fic	12fc	•	10 fic
2	16fc	17 1/2	15fc	14 fc
3	23fc	23 fic	18 ne	19 fc
4	30 vfc	32 fc	24 1/2	23 1/2
5	39 fc	43 fc	34 vfc	33 fc
6	44 fc	59 vfc	45 fc	48 vfc
7	51 ne	68 fc *	50 fc	51 e
8	60 1/2	74 ne	64 fc	63 fc
9	70 1/2 *	88 1/2	78 vfc	80 fc
10	78 fc	100 fic	84 nf	92 fc
11	94 fc	108 nf	86 nf	104 fc
12	110 fc	114 1/2	108 fc	110 1/2
13	120 fc	140 fc	124 fc	130 fc
14	126 nf	152 fc	144 fc	-
15	146 fc	170 fc	148 1/2	-
16	160 fc	176 fc	158 fc	166 n∈
17	182 fc	196 fc +	182 vfc	-
18	186 1/2	224 vfc	-	200 ne
19	194 fc +	-	200 1/2	216 1/2
20	214 fc §	232 ne	222 fc	
21	-	238 e	-	226 fic
23	246 nf	-	250 1/2	234 fc
25	-	270 fc	250 fic	268 fic
27	266 1/2	284 1/2		274 fic
29	260 e	-	268 e	-
39	-	-	-	242
43	-	-	240	-
45	-	310	-	-
46	274	_	-	-



Young Pretre's Amazons aged ten, nine, seven and three days.



Pretre's Amazons hatched at Palmitos Park, aged 29, 32, 34 and 35 days.

aviary. At this point it should be stated that it is easier to separate this particular male and female by behaviour, the female being more subdued, than by appearance, although the male does have marginally more extensive red on the carpal edge of the wing.

We were delighted to discover that all four eggs were fertile. Nest inspection was simple, being carried out from the service passage in the next block of aviaries. One had only to tap gently on the nestbox for the female to leave. The box measures 11 inches (29cm) square and 15-1/2 inches (40cm) high. Wood shavings were placed in the bottom.

The aviaries are of the traditional walk-in kind, with part of the roof, one side and the front of welded mesh. On the mesh side, each aviary is divided from the next by sufficient

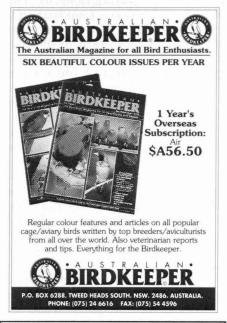
space for a flowering hibiscus. The hibiscus not only break up stark outlines, but create a pleasant environment. Each aviary (most of those in this block house Amazons) measures approximately 8 feet (2.4m) x 4 feet (1.2m) x 7 feet (2.1m) high.

On April 20, probably 25 days after the first egg was laid, a pip mark was seen. Early on the morning of April 22, there was a chick in the nest. The following morning there were two chicks. The third egg was pipping on the morning of April 24 and the chick had hatched by 3 p.m. the next day. The fourth egg was pipping on April 26 but the chick did not hatch until the morning of the 29th or the previous evening. I assume the latter. It would appear that the eggs hatched after 26 and 27 days. Three of the four chicks were weighed on the day they hatched. Weights were ll grams (with a little food in the crop), 12 grams with the crop full and 10 grams with some food in the crop.

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The Pretre's Amazon is often referred to as the Red-spectacled Amazon. It is an endangered species listed by both the U.S. Endangered Species Act (ESA) and CITES. It is found from southeastern Brazil to northwestern Argentina.



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From hatching to about seven days, pretrei chicks have quite dense white down on the back and much sparser down on the head. By the age of six days, the back is darkening with the feathers growing under the skin. Due to this, by the beginning of May the three eldest chicks had a grey appearance; their eyes were still closed. By May 13, many of their wing feathers had erupted. The red forehead and red carpal edge of the wing already distinguished the eldest as a *pretrei*.

The chicks were closed-ringed when aged between 12 and 14 days with 9.5mm bands (internal measurement) — but I later realized that 9mm is the correct size. The young grew well; their crops were always bulging with food for the first month. After this, it is normal for Amazons to feed their young less frequently. Rearing diet consisted of unlimited fresh corn (much of it grown on the premises, along with other vegetables and fruits), the normal mixed food which consisted of sprouted sunflower, boiled maize and chopped greenfood, varied daily with cooked rice in the husk, butter beans, peas and/or chopped carrot, plus a mixture of chopped fruits, our own rearing food made from hard-boiled egg, carrot, non-fat soft cheese, whole grain bread and carrot. They also consumed a mixture of small soaked seeds (oats, canary and hemp) and spray millet.

The rearing period was totally uneventful. By the end of May the three eldest chicks were fully feathered, the youngest nearly so. Immature plumage differs from that of adults in the following respects. The red on the crown and forehead is less extensive and only one of the four had some red feathers below the eye. The same youngster had the feathers of the forehead green, margined with red to produce a pretty scalloped effect, while in the others the feathers were solid red. The red is a ruby shade, perhaps even deeper than in the adults, whereas in the Tucuman Amazon immature birds have the forehead orange, not brick red as in the adults.

Immature pretrei have much less red in the wing: there is a little on the bend, little or none on the carpal edge, and red on some of the primary coverts - but much less than in an adult. The amount varied in the four young. The alula is green, not red as in adults, (I think these pure red feathers are among the most beautiful of any parrot). The thighs are entirely

green, whereas in adults they are partly red. The iris is pale grey (chrome yellow in adults) and the beak is ivory; in the parents it is ivory tinged with orange on the side of the upper mandible.

The young left the nest on June 9, 12, 13, and 21. I believe that they fledged in the following order: second, third, first and fourth, after 53, 48, 49, and 55 days in the nest. Even if I am wrong and the eldest left first, it would have been after 49 days. As is usual with Amazons, they started to feed on their own within two or three days of leaving. At the time of writing, the beginning of August, the family group is still together and appear most harmonious. I believe that the longer young birds can stay with their parents, the better it is for them. After all, in the wild they stay as a family unit for many months. Often this is not possible in an aviary because restricted space leads to aggressive behaviour.

Our experiences with this pair made the breeding of Pretre's Amazon seem deceptively easy - but another pair seemed determined to prove the contrary. They were housed in our new breeding centre, a fully enclosed building containing more than 100 suspended cages. The temperament of this pair is totally different to that of the calm couple who reared the young. They are extremely excitable and, uniquely among our pretrei, both male and female are aggressive. It is generally true that the small Amazons are easier to breed than the large ones — but it is also a fact that breeding problems are more likely to arise with aggressive individuals. There is a risk that the young will be killed on hatching.

This female laid three eggs, only one of which was fertile. It hatched on May 13. Sadly, the chick was killed within minutes of hatching. The female did not nest again in 1990 but, in future, her eggs will be fostered to other Amazons, preferably pretrei. Several other females laid but all the eggs were infertile. It should be noted that it was a first breeding attempt for all our pairs.

Ultimately, captive breeding may be of crucial importance for this species. The success at Palmitos Park may be the first outside Brazil. Only a small number exist in aviculture — possibly in the region of 100. However, I am confident that it will be well established by the end of the decade as it seems to nest readily.