Loro Parque: Breeding the Plum-crowned Pionus

(Pionus tumultuosus)

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The Plum-crowned Pionus *Pionus tumultuosus* has a unique blend of qualities which make this species a fascination to aviculturists. Beauty, quiet and interesting behavior—combined with a considerable captive management and breeding challenge—have ensured that this species has given great satisfaction to the few keepers who have successfully bred it.

In length the Plum-crowned Pionus measures around 29cm (11.31 inches). Weights recorded from our adult pair at Loro Parque at the end of the 1996 breeding season were male: 224 grams and female: 265 grams.

The general plumage coloration is green, paler on the underside of the body. Head plumage is red with white bases to the feathers showing through, particularly underneath the eyes, and tipped with purple. The crown of the head is darker red, which becomes purple-red on the neck and breast. The under tail coverts are bright red with yellowish-green tips. The bill is olive-yellow, the legs are gray. In immature birds, the cheeks, breast, nape, and hindneck are green like the back. The under tail coverts of immature birds are yellowish-green with only slight red marking.

The wild status of the Plum-crowned Pionus is uncertain. Its ranges are confined to Peru where it is found living in the mountainous regions in the central and southern part of the county. Little recent field information is available to assess the size of the wild population, although it is known that this species clearly prefers high altitude regions of 2,000m. (approximately 6500 feet) or higher, which is perhaps the main limiting factor on the wild population size.

Plum-crowned Pionus chick at Loro Parque on June 27, 1997.

In aviculture the Plum-crowned Pionus has always been extremely rare and the poor success at captive breeding has now brought it to the point where it has almost disappeared from aviculture.

A single male was present at Loro Parque for many years until a young female was located in South Africa, bred there by Dr. Deon Smith. When the female arrived at Loro Parque, the pair settled down well together but no signs of breeding were recorded prior to my arrival there in 1994.

As with all of our Pionus, the pair of Plum-crowneds have two feeding periods each day. At 7 A.M. they are given a main dish of approximately 60 grams of diced salad which is comprised of items such as apple, pear, lettuce, tomato, orange, beet root, alfalfa, red pepper, banana, palm fruits and carrot. A second food dish supplies the birds with approximately 30 grams of commercial pelleted food (Prettybird Hiprotein Special) which is available to the birds throughout the day. At 3 P.M. the remaining salad food is removed and is replaced by a new dish which contains approximately 50 grams of mixed dry seeds and cooked beans such as sunflower, safflower, corn, millets, oat, niger, hemp, mung beans, black-eyed beans, lentils, chick peas etc.

Drinking water is available to the birds at all times and is from a special filtered supply which passes through a series of chlorination, reverse osmosis filtration, and finally ultra-violet light sterilization. In addition, the birds are provided with daily showers in the late morning or early afternoon from a fine mist spray system which is built into the design of every exhibition cage in the Parque.

During the beginning of the 1994 breeding season, the pair were transferred to a newly constructed exhibition area for Pionus, and they settled well during the second part of 1994 but without indication of nesting behavior. No serious attempts were made at breeding by the pair during 1995 or 1996, most probably due to construction work taking place from mid-1995 to early 1996 on a new Cinema building in Parque. The building was constructed very close to the Pionus cages.

Once this disturbance ceased in spring 1996, the behavior of the birds improved and some indications of breeding were observed. The female did spend several weeks entering the nest box frequently and the nesting medium was chewed into a scrape, but no eggs were laid.

In spring 1997 the pair again began to show signs of breeding behavior, and on the 19th of February they laid their first egg. The eventual clutch consisted of three eggs but it became evident from nest box inspections that they were not being well incubated.

I removed the eggs to an incubator. When first candled they all had large air-cells, but no sign of fertility could be seen. After five days in the incubator all three eggs began to show embryo development but none of the embryos survived past 16 days of incubation, probably due to the early period of poor brooding in the parents' nest box.

A second clutch of four eggs was laid, beginning on the 27th of April. On this occasion we had the option of using a pair of Maximilian's Parrots *Pionus maximiliani* which were also incubating nearby and which could be considered as potential foster-parents.

Two eggs were removed from the Plum-crowned Pionus and fostered under the Maximilian's Parrots. The other two eggs remained under the natural parents, together with one of

Adult male Plum-crowned Pionus Parrot at Loro Parque.

the Maximilian's eggs so that the clutch-size of the Plum-crowned Pionus was now three eggs instead of four. The remaining Maximilian's Parrot eggs were taken for artificial incubation and rearing. The pair of Plum-crowned Pionus failed to hatch their own eggs, but they did hatch and rear the single Maximilian's Parrot chick therefore demonstrating good parental ability. Once the Maximilian's Parrot chick was a few days old, the two unsuccessful Plum-crowned Pionus eggs were removed, measured and necropsied. Both showed embryo death at mid-term of incubation. External measurements of the two eggs were 38.3 mm x 27.4 mm and 34.6 mm x 27.0 mm.

Meanwhile, the pair of Maximilian's Parrots had managed to hatch both of the Plum-crowned Pionus eggs. With the discovery that the chicks had hatched, our thoughts turned immediately to considering what steps could be taken to reduce the possibility of fungal conditions, which have been the most significant problem with successful breeding of this species in captivity.

Prior to the breeding season, the nest box had been disinfected and supplied with clean wood shavings which had been lightly dusted to prevent parasitic infestation. By the date the chicks hatched the nesting medium had become soiled, not to a degree which would normally cause concern but—in the case of this species—extra caution was deemed prudent. We waited until the fifth day and then the nesting medium was quickly replaced with new, clean shavings.

On the 12th of June the chicks were briefly handled to ascertain if they were ready for closed leg bands to be fitted, and at this time they were weighed and crop and cloacal swabs were taken as a precaution.

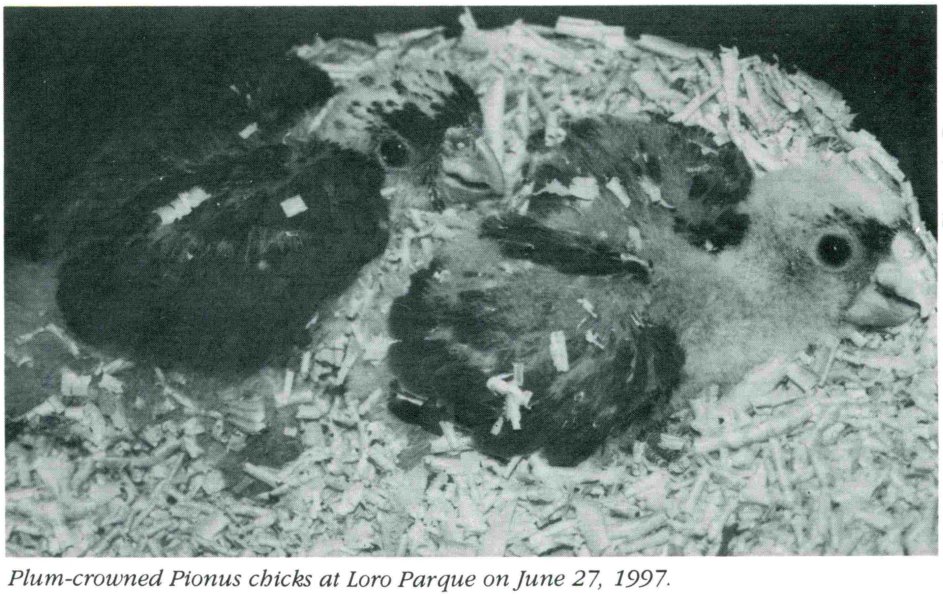
The chicks appeared in very good body condition but the cultures incubated from the cloacal swabs showed a significant growth of *E. coli* (more than is routinely seen from other similar parent reared chicks of this age) and so a three days course of antibiotics was administered without any significant interruption to the chicks growth rate. Subsequently, the wood shavings were changed regularly until the time of fledging.

On the 15th of July we suffered great disappointment when we discovered that one of the chicks had died in the nestbox. The necropsy was inconclusive, although a fungal infection was considered the most probable cause. The remaining chick was then removed from the nestbox and transferred to the clinic.

Now close to being fully feathered, the chick was initially given three feeds a day and was subject to the close observation of its health status. The young bird seemed strong and showed no sign of either fungal or bacterial infection, but it remained very nervous. After two days it was introduced to a young Lilacine Amazon *Amazona a. lilacina* which had also been brought into the clinic just before the time of fledging due to a leg fracture. The Lilacine Amazon was more confident in its behavior and began feeding from the food dish almost straight away. The Pionus remained rather nervous but certainly became more confident in the company of the Amazon and after a week was also starting to eat from the food dish.

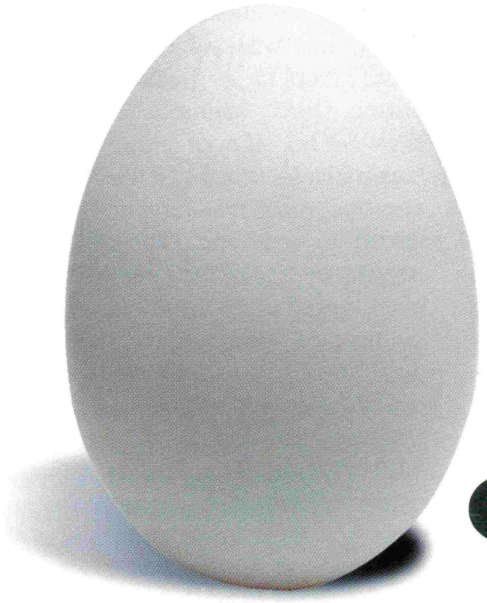
The chick was eating on its own four weeks after being brought into the clinic. The young bird was now in beautiful condition with a rich coloration of plumage which was even more striking than that of the male parent (which I have long considered to be one of the most beautiful birds within the Psittacine collection at Loro Parque).

With the weaning of this first chick in 1997, we hope that more success will follow and that the adult pair will nest in the next season. The adult pair have now demonstrated their parental ability with the rearing of the Maximilian's Pionus chick and so we intend that in 1998 they will be left with fertile eggs of their own to incubate and rear the resulting chicks.



Photos by Roger Sweeney

Plum-crowned Pionus chicks at Loro Parque on June 27, 1997.



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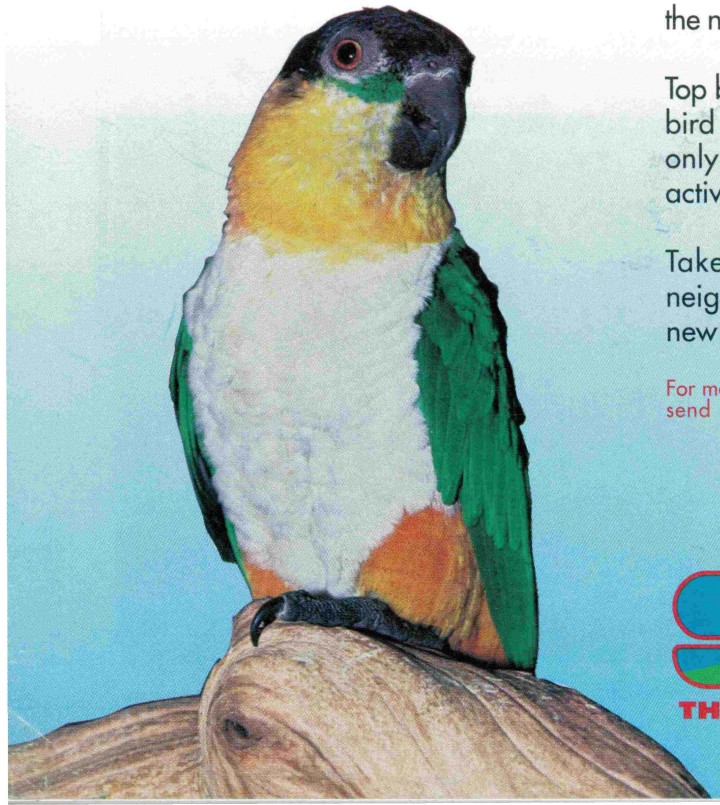

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