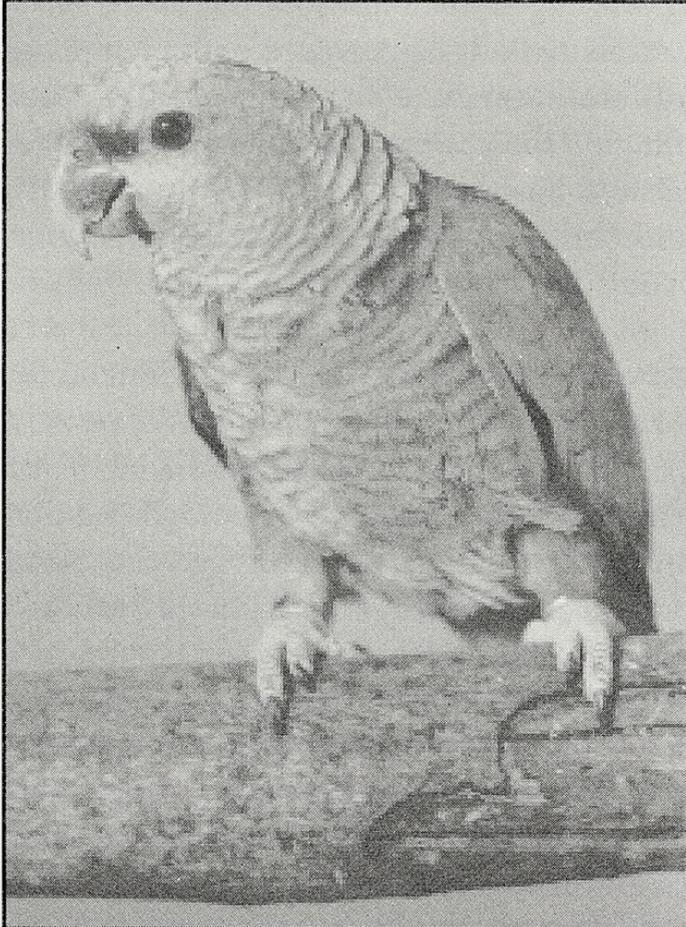


THE VINACEOUS AMAZON *Amazona vinacea* AT LORO PARQUE

by Roger G. Sweeney

The Vinaceous Amazon *Amazona vinacea* formerly occurred across quite an extensive range in the Atlantic forest regions of southern and eastern South America. Its range in Brazil originally stretched from Bahia to Rio Grande do Sul and on into eastern Paraguay and also Argentina. Today the number of Vinaceous Amazons has declined across nearly all of this range, with its last strongholds being in southern Brazil and eastern Paraguay, although small populations can still be found scattered across other parts of its former range. The decline of this species has been partially documented in recent years, but its current status over most of its range is unclear and this should be of great concern. Further field work is needed on the ecology of this species. There is also the need to protect the habitat in the most important regions where the remaining populations live, if the decline of this species is to be slowed down and the wild population is to have a viable future.



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Vinaceous Amazon *Amazona vinacea*

With an adult body length of about 30cm (11¾in), the Vinaceous Amazon is a medium-sized member of the *Amazona* genus with strikingly marked plumage. The basic coloration is green with black tips to the feathers. A red frontal band across the front of the face which connects to the lores (the forehead, lores and chin are red), is one of the main distinguishing features of this species, as is its deep red bill. The most interesting physiological feature is the long erectile feathers on the hindneck which can be fanned to a much greater extent than those of any other *Amazona* species, with the resulting display being very similar to that of the Hawk-headed Parrot *Derophtus accipitrinus*. The feathers of the upper breast and abdomen are purplish-red (vinous) in colour and provide this species with its common name. This area of vinous coloration is however much reduced in young birds, which fledge with a duller greenish-brown underbody coloration which they retain during their first year. Several adults were weighed at the end of the 1996 breeding season at Loro Parque and showed an average weight of 395g for males and 365g for females, from a sample of four adults of each gender.

Two decades ago, before its placement on Appendix 1 of the CITES Convention, this species was available in aviculture. It was never imported into Europe in very large numbers but nevertheless it was frequently offered for sale. Its price was higher than that for other *Amazona* species available at the time, due to its striking appearance and talent as a mimic. As the trade in wild birds was brought to an end, the captive population declined noticeably. While this species has shown itself willing to breed for those who provide suitable husbandry and have enough individuals to allow natural mate selection to take place, captive breeding has been very disappointing, considering the quantity of birds which were formerly available.

In current day aviculture, there appears to continue to be a significant number of birds kept in Europe. A survey of Amazon parrots in European zoos which was conducted in 1993 and published in 1994 by EAZA, listed 59 Vinaceous Amazons being kept in 11 zoological collections: of these, only three collections, Loro Parque (Spain), Vogelpark Walsrode (Germany) and Beauval (France) had recorded breeding successes. It is known however that a significant number of Vinaceous Amazons are kept by private aviculturists in Europe and if these holders are willing to work in cooperation with an EEP scheme that may be initiated for this species, then the known captive population in Europe might be large enough to be considered as viable.

The husbandry of the Vinaceous Amazon in captivity is similar to that for other species of the *Amazona* genus. At Loro Parque we maintain one pair in a display aviary in the exhibition area of the park, and several more

pairs are maintained in suspended breeding cages in our off-exhibit breeding areas. The suspended breeding cages measure approximately 300cm long x 95cm in both width and height (9ft 10in x 3ft 1½in x 3ft 1½in) and are positioned with the length of the cages extending away from the keeper, and with all servicing taking place at the front. Each cage has the nest-box positioned against the outside back panel, and there is a hole cut in the wire to allow the birds to enter the nest-box. With the nest-box situated on the outside of the cage, this eliminates the need to enter it to service or inspect the nest-box.

The feeding of these birds is undertaken twice a day. At 7.00am they receive their main food dish which contains a mixed salad prepared with the following items:- apple, pear, tomato, beetroot, carrots, alfalfa, lettuce, peppers, papaya and other seasonally available fruits and vegetables; in addition we also use, when available, several fruits which are grown in the park, such as the prickly-pear from cactus plants and the berry from the Queen Palm Tree. A second smaller food dish in the morning provides the birds with commercial dietary pellets, and during the breeding season we also give each pair segments of our own supplement 'cake' which is made fresh daily. The afternoon feed is given at 3.00pm, when a mixture of nuts, seeds and cooked beans replaces the salad dish from the morning.

The Vinaceous Amazon was first bred at Loro Parque in 1990, when a single chick was hand-reared. The pair proved to be very unreliable when it came to incubating their eggs and so have always had their eggs removed for artificial or foster incubation and rearing. This pair of Vinaceous Amazons have on subsequent occasions been given eggs of more common species to give them the opportunity of proving themselves to be good parents, but to date they continue to be unreliable.

No breeding took place in 1991 but the pair did lay again in 1992, when further hand-rearing was carried out and another chick was reared. In 1993 when the same pair laid again, the clutch of eggs was transferred to a pair of Green-cheeked Amazons *A. viridigenalis* which have proved to be excellent foster parents and raised both chicks that hatched. The same technique was employed in 1994, but only one egg from the clutch proved to be fertile and the chick from this was successfully reared by the Green-cheeked Amazons.

In 1995 the Vinaceous Amazons' first clutch was infertile but they produced a second clutch of which one egg was fertile. However, by the time the second clutch was laid they were out of sequence with the pair of Green-cheeked Amazons used as foster parents which had laid earlier and which were by now busy fostering a clutch of Red-browed Amazons *A. rhodocorytha*. Therefore the egg was artificially incubated and the resulting chick was hand-reared. It was fed with Pretty Bird Handrearing Formula

(19% protein and 12% fat) and after the first four weeks switched to a lower fat formula (8%) to prevent it becoming too overweight. The accompanying graph shows the pattern of weight gain by the chick during its first five weeks in the nursery.

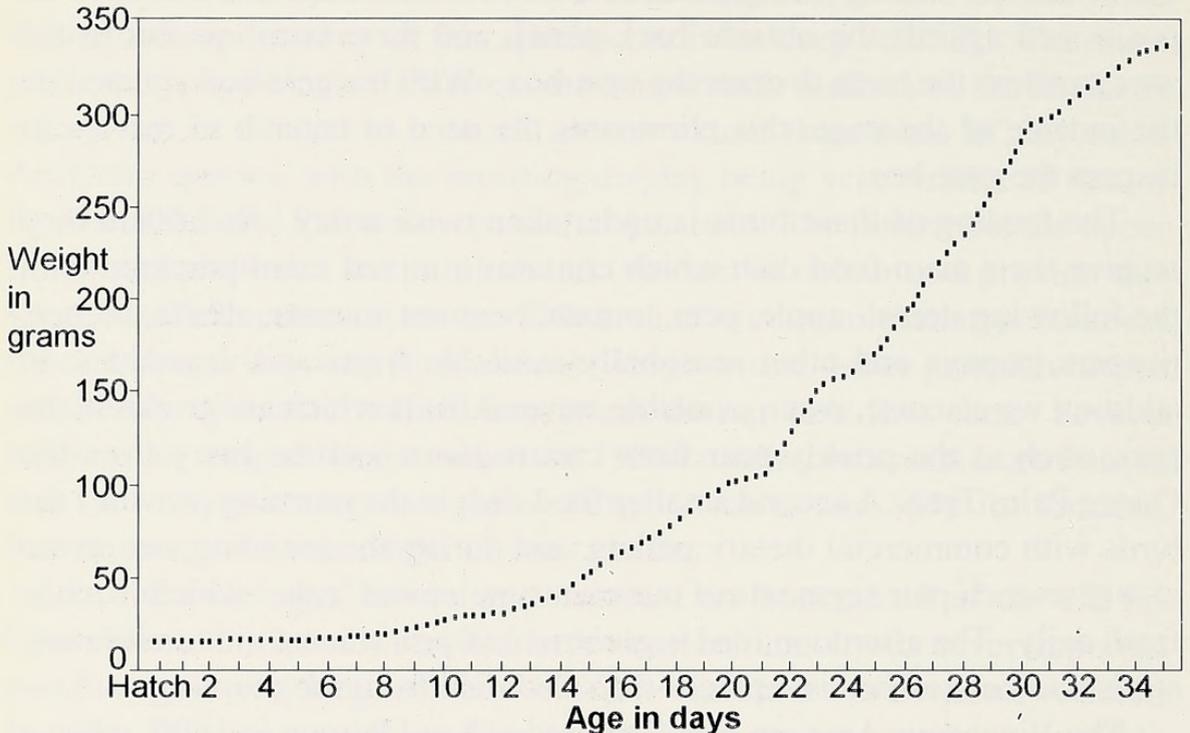


Figure 1. Weight Gain by Vinaceous Amazon hand-reared in 1995

After being weaned the chick was socialised with a group of other Amazons (including the 1994 Vinaceous Amazon chick) and it soon settled into normal patterns of behaviour with no sign of being imprinted. In 1996, the same situation was repeated - by the time the Vinaceous Amazons laid, the foster parents were again busy rearing a clutch of Red-browed Amazon chicks. A single egg was fertile and hatched but unfortunately the chick had severe spinal deformities and was euthanased when it became apparent that the deformities could not be corrected to a degree whereby the chick could live a normal life. On the occasions in 1995 and 1996 when eggs were taken for machine incubation, I measured the external dimensions of several eggs from the same female of which the average dimensions were 45.4mm x 30.3mm.

Up until 1996, all of the chicks had come from one adult pair, but in late 1995 we changed some of our pairing arrangements and this led to the pair of birds in the exhibition aviary breeding for the first time. A clutch of eggs was recorded in the first week of March and by the 31st March two chicks had hatched. This first clutch eventually resulted in four healthy chicks which initially grew and developed well. However, when the chicks were fitted with closed leg bands, we noticed that the older chick emitted a bad odour from its mouth, from which a swab was taken which revealed a

fungal infection. All four chicks were removed from the nest and were treated in the nursery, where they were hand fed until they were weaned.

A second clutch from the exhibition birds was laid on the 25th May and resulted in two chicks the first of which hatched on the 22nd June. As with the first clutch, the chicks were removed from the nest-box after three weeks as a precaution, given the problems previously encountered. On examining the two chicks in the nursery, it appeared that our caution was justified, as one of the chicks showed early signs of a fungal infection. This was treated quickly and no further complications were noted. The source of the fungal infection remains unidentified; both parents have undergone a thorough examination and neither of them appear to be the source of the infection. The nest-box has been replaced and, as is now a precaution with all of our birds which parent-rear their young, the wood shavings inside the nest-boxes are treated with an anti-fungal agent each time the nesting medium is replaced. The rearing of six young from a new pair in 1996 means that once these birds mature we will be able to make up unrelated pairs of first generation Vinaceous Amazons. The hope is that in a few years we will be able to achieve the second generation breeding of this species at Loro Parque.

The Vinaceous Amazon is clearly endangered in the wild and although in aviculture some successful breeding is being achieved, it is unclear how secure the captive population is at the present time. Information from the EAZA survey of European zoos indicates that there should be enough birds in captivity to form a self-sustaining population, but this at present remains only speculation. The Vinaceous Amazon is one of the species which has been included in the EEP Amazon collection planning for European zoos, which identifies this species as one upon which zoos should concentrate their breeding efforts. It has also been urged that this species become the subject of a full EEP (European Endangered Species) programme, but this has so far not materialised. In order to gain a more accurate assessment of the captive status of this and other endangered Amazon species, a survey is presently being carried out by Gustavo Sanchez, a post-graduate biologist working in cooperation with the Loro Parque Foundation. This student is surveying the known European populations of these species so that a detailed demographic and genetic evaluation can be presented to the Psittacine Taxon Advisory Group to accurately identify the immediate priorities. Although this work remains ongoing, it is certain that the Vinaceous Amazon will be one of the highest priorities.

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BOOK REVIEWS

The Minds of Birds

How much do we know of what is going on in the minds of birds? I have long been fascinated by this question. Although we can often guess at why a bird has behaved in a particular way, when the behaviour is not instinctive, just what is going through the bird's mind? Undoubtedly many birds can work things out in a subjective way, just as we do - but they do not have a vocabulary of words to help them. When I saw *The Minds of Birds* advertised I sent away for it at once. The author is Alexander Skutch, one of the world's greatest ornithological writers. He has been observing birds for 60 years. If anyone knows what is going on in a bird's mind, it must be him, I thought.

The book is fascinating, yes, but it throws little light on the *minds* of birds. It would have been more aptly titled *The Behaviour of Birds*. As the author admits: 'I regarded their feelings and thoughts as the most important, but unfortunately the most baffling, aspect of their lives. After watching and reading about birds for so many years, I am far less certain of what goes on inside their heads than of what they visibly do...' His chapters describe such aspects as recognition of individuals, memory and anticipation, social life, counting and timing, and the brain and senses. He draws on his own extensive experiences, mainly with Neotropical perching birds, and quotes anecdotes of many other observers.

In the chapter entitled *The Mind of a Parrot*, he describes the much-quoted work of Irene Pepperberg with the now famous Grey Parrot, Alex. There is little mention of parrots elsewhere. His chapter on Emotions might have been filled with anecdotes from bird keepers, many of whom have interesting tales to tell about emotional responses of their pets in certain situations. On the whole his comments on this chapter are confined to wild birds and, for example, their emotional attachment to their nests and young. However, in quoting Cynthia Bluhm's experiments with Canvasback Ducks, he makes a point which aviculturists would do well to remember. So often we expect birds to breed with the partner which we choose for them - and often we wonder why the pair shows no interest in breeding.

Cynthia Bluhm had 19 pairs of Canvasbacks which had chosen their own partners, and ten pairs which were separated and given new partners. In addition there were 12 females who had been actively courted but who had not yet indicated their choice of males. Each of the latter was given a drake who had not courted that particular duck. All birds had been raised from artificially incubated eggs. Of the 19 self-formed pairs, 17 soon had eggs. Of the 12 females who had been courted but had not accepted males,

ten co-existed peacefully with the males assigned to them but they did not exchange courtship displays or lay eggs. The females who had been separated from the males they had chosen became extremely aggressive towards their new companions, chasing and pecking them. Five of these unfortunate drakes died as a result. None of the other females accepted the drakes forced on to them. Thus psychic factors inhibited mating in all except the spontaneously formed pairs.

The Minds of Birds is in paperback and hardback, published in the USA by Texas A&M University Press (ISBN 0-89096-759-8); paperback price US\$19.95. In the UK it can be obtained from Natural History Book Service Ltd., 2-3 Wills Road, Totnes, Devon TQ9 5XN, price £18.50 plus £4 post and packing.

Rosemary Low

OISEAUX DE LA RÉUNION

by Nicolas Barré, Armand Barau & Christian Jouanin

This 208-page guide to the birds of the island of Réunion is very comprehensive and informative. It includes not only an extensive list of the birds but descriptions of the terrain, climate, fauna and flora, as well as the evolution of the island. A volcanic island in the southern Indian Ocean, Réunion is the largest of the Mascarene Islands and covers an area of 2,512sq km (approx. 970sq m). Of the 96 bird species found there, only 21 are indigenous, 13 are passage migrants, 19 are occasional visitors and 16 are introduced.

The detailed descriptions of plumage, habitat, nest, status and distribution of all nesting, accidental and introduced species make identification easier. Each species is listed under its scientific, French, English and Creole name. The illustrations are good with the bird shown alongside the text as well as on nine separate colour plates with others of the same family group. The cartoon-like black and white drawings add atmosphere and give a feel of the island. The reproductions of some old plates - five in number and including one of the extinct Mascarene Parrot *Mascarinus mascarinus* - are colourful and show clearly the difference in bird illustrations of today and yesterday.

This is an interesting and informative guide for anyone intending to visit this area but, as the book is entirely in French, a knowledge of the language is necessary.

Oiseaux de la Réunion (ISBN 2-87868-027-8) is published by Les Éditions du Pacifique, 62 rue du Couédic 75014 Paris, France.

Anita Dunstan



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