

FEATHER DAMAGING IN AFRICAN GREYS - GROUND-BREAKING RESEARCH

by Rosemary Low

The most serious behavioural problem encountered by companion parrot keepers is feather plucking and other feather damaging behaviours. It is no coincidence that this is frequently encountered with the most intelligent species: Greys, macaws and cockatoos.

Because the problem is so common and so serious, in-depth research relating to its cause has been needed for several decades. It is fortunate for parrot keepers worldwide that Yvonne van Zeeland decided to make this topic the subject of her PhD thesis.

This has been published under the title of *The feather damaging Grey parrot: An analysis of its behaviour and needs*. Because this book is unlikely to be encountered by many parrot owners, I believe it is important that its content should be shared as widely as possible.

But first let me describe its totally unique cover. It shows a Grey Parrot, partly denuded on the underparts, plucking or preening its shoulder. The floor below its perch is littered with plucked feathers. Tilt the book forward to another angle and the picture changes (presumably laser imagery) to a perfectly feathered Grey: the plucked feathers have gone. Quite the most imaginative and appropriate book cover I have ever seen!

Its content, being a PhD thesis, is not so readily absorbed. However, its 281 text pages are quite enchantingly punctuated with the colour cartoons of Mandy Beekmans. I hesitate to call them cartoons because although they are humorous, they retain the essential characteristics of the species, and illustrate important research findings.

The author is a veterinarian and a certified parrot behaviour consultant. She is a qualified European Specialist in Zoological Medicine (Avian). She starts by explaining that an estimated 10-15% of captive parrots either chew, pluck, bite or pull their feathers. She states: "Although the consequences of this self-inflicted feather damage may be solely aesthetic, medical issues may also arise due to alterations to the birds' thermoregulatory abilities and metabolic demands, haemorrhage and/or secondary infections." Once parrots display feather damaging behaviour (FDB) it is often difficult to break the habit, with treatments generally yielding disappointing results. The outcome is often that the bird is given to a parrot sanctuary or it is euthanized.

FDB can be classified as among the abnormal repetitive behaviours which often develop in captive animals due to stress or aversive stimuli and/or the inability to perform species-specific behaviours. Parrots are particularly

susceptible due to their intelligence (high-level cognitive abilities) and due to the relatively limited time span that they have been bred in captivity. Because of these characteristics, life in captivity is inadequate to meet the parrots' social, cognitive and behavioural needs, leading to FDB.

Yvonne van Zeeland and her other researchers regard it as a grooming disorder: when a bird is chronically stressed, excessive grooming can result, leading to FDB. It often develops at the onset of sexual maturity, suggesting hormonal influence. Cyclic or seasonal changes in the extent of FDB may occur, possibly associated with dry air in the colder months or hormonal changes during the mating season.

FDB may also be interpreted as a way of coping with stress, loneliness or boredom in a barren environment. Poor socialisation and absence of parents during the rearing period (resulting in failure to learn appropriate preening behaviours and routine) might also play a part. Eventually the behaviour may become ritualized and develop from a so-called maladaptive (trying to adapt to an inappropriate environment) to malfunctioning behaviour (with abnormal brain function) - similar to addictions. This might, in part explain, why birds do not respond to treatment.

Part two of the thesis focuses on the value and efficacy of environmental enrichment for Grey Parrots. Results of the research are extremely important and should be known to all companion parrot owners.

Here I will divert from this important thesis to relate what my friend Winny Weinbeck told me about parrot foraging toys. She has dozens of them for her Grey, Galah and Blue-fronted Amazon. Faced with a difficult puzzle in a foraging toy, the Grey would never give up until it had worked out how to get at the food, whereas the Galah and the Amazon lost interest if the task was hard. This underlines the importance of stimulating tasks for captive Grey Parrots in particular.

Yvonne van Zeeland carried out various experiments in a controlled setting. One was extremely interesting in revealing what captive Grey Parrots find most important in their lives. The study was designed to determine how much effort parrots were willing to invest to gain access to specific types of enrichment, as an indication of their relative value to the parrot.

Six Grey Parrots were housed in a two-chamber set-up in which they were able to access specific resources by pushing a weighted door. The effort needed to gain access to the resource was gradually increased until a breakpoint was reached at which the parrot ceased to make successful attempts. Incidentally, the maximum pushing capacity of these six parrots was 732g (about 150% of body weight).

There were ten enrichment categories: destructible toys; non-destructible toys; foraging opportunity; auditory stimulation (a radio playing easy-

listening music and three sound-producing toys); three cage mates; ladder, rope and net; a large room, 6.5m long; a large bath; hiding opportunity; empty cage.

At the time of publication, there were results for three Greys. The most effort was expended to get into the large room. However, more time was spent moving around than flying. Yvonne van Zeeland told me that she thinks that this emphasises that parrots need to be let out of the cage and to be able to move around freely rather than being in a confined space. Living trees, play stands and the opportunity to go outside would therefore appear to be beneficial.

A lot of effort was put into spending time with other Greys, more or less equalled by food availability. There was no interest in hiding opportunities and only one bird wanted to bathe.

Some of the contents of this thesis are too technical for the reader who is not a veterinarian or scientist. So I have focused here on the important aspects of enrichment. As well as the above tests, eleven types of foraging enrichment were offered to the Greys, such as placing pellets in puzzle feeders. The enrichments were offered to the Greys to determine how effective these are in increasing foraging time, which is an important behaviour to stimulate captive parrots.

The Greys were housed in cages 80cm long, 60cm wide and 155cm high. Video recordings were used to analyse foraging times and activities. I will describe some of these devices to encourage parrot owners to provide similar opportunities.

- Four transparent plastic cups with lids dangling from a PVC pipe hung from roof of cage.
- Transparent acrylic wheel (diameter 15cm). Parrots needed to spin and turn the wheel to access food via a circular hole (2.5cm diameter).
- Honeycomb transparent acrylic feeder (8cm x 18cm) containing a cardboard box filled with food. The birds had to shred the box to reach the food. (The latter two are commercially available parrot foraging toys.)

One of the aims was to increase the time taken to extract the foods. In the wild, depending on the species and season, it takes parrots from four to eight hours daily to find and consume food. In a captive environment, these activities may take less than one hour and are too predictable and easy, unless the parrot must “forage” to obtain food. Foraging toys or puzzle feeders appear to be the most effective measures to increase activity, stimulate, alleviate stress and boredom and reduce and prevent aggression. Foraging enrichment is quite a wide term, which also included using multiple bowls or mixing food with inedible items. Both are examples of foraging enrichment, but less effective than the toys and providing food as larger-

sized particles.

Experiments in contrafreeloading have been carried out with a number of captive animals. This means giving them the choice between free accesses to food or making them “work” for it. Let me mention again the Grey Parrot belonging to Winny Weinbeck. I watched Winny fill the cardboard centre from a roll of kitchen paper with various small items of food, wrapped up in paper. When placed inside its cage, the Grey immediately explored this, removed the items and ate them. Winny said it always “forages” in preference to taking items out of the food bowl.

Yvonne van Zeeland and her researchers studied healthy (eleven) and feather-damaging (ten) Greys on the assumption that the latter would feed from bowls in preference to feeding from toys. This assumption was proved to be true. FDB parrots spent approximately 21% of the feeding time foraging while in healthy birds this was approximately 50%.

The results underlined that in feather-damaging Greys the motivation for foraging toys is different. The suggested reason was they have ritualized their behaviour and it has become an addiction. Thus they may be less interested in enrichment (which therefore does not appear as effective).

These examples are just a small part of the trials and conclusions described. They highlight the fact that to try to prevent the onset of FDB in Grey Parrots the key is environmental enrichment.

It is of interest that the research and part of the printing cost of this thesis was funded by the Dutch Ministry of Economic Affairs, Agriculture and Innovation. This book costs €20, plus postage and is available from the author:

Yvonne R.A. van Zeeland DVM, MVR, PhD, Dip. ECZM (Avian)
Division of Zoological Medicine
Department of Clinical Sciences of Companion Animals
Faculty of Veterinary Medicine
Utrecht University,
Yalelaan 108, 3584
CM Utrecht, The Netherlands
Fax 0031 30 2518126
e-mail Y.R.A.van Zeeland@uu.nl

BOOK REVIEW

PARROTS OF AFRICA, MADAGASCAR AND THE MASCARENE ISLANDS

Little was known about the biology and ecology of African parrots until Professor Mike Perrin and his colleagues at the University of KwaZulu-Natal set up the Research Centre for African Parrot Conservation. Mike has been the director for more than a decade. When I first met him in 1996 he told me that he was determined to initiate studies of parrots because the scientific focus in Africa had been mainly on the larger mammals: parrots were a neglected group. He had studied at the University of London and did his PhD at Exeter University but most of his working life has been spent in Africa.

His postgraduate students amassed a wealth of information, largely in the field, in various parts of southern Africa. The result is an extraordinarily detailed book (long awaited) of 612 pages (large format): *Parrots of Africa, Madagascar and the Mascarene Islands: Biology, Ecology and Conservation*. This is a heavy tome (about 3kg in weight). There is no equivalent relating to parrots of other continents.

A massive amount of information is contained within this work, concerning all aspects of the biology of African, Malagasy and Mascarene parrots, and existing knowledge of extinct and fossil parrots. Particular themes include the behavioural, ecological and species characteristics of parrots.

Chapter 2, entitled Conservation Biology, states that Africa has 175 million hectares of tropical rainforest - but African forests are being destroyed at a rate of approximately 228 hectares per hour or 2 million hectares per year. Mike Perrin writes: "... opportunities to raise awareness of the plight of African species among wildlife managers, legislators, researchers, birdwatchers and the public must be grasped at every opportunity."

This book brings sharply into focus the most crucial problems: deforestation and the poaching of young parrots from nests and capture of adult birds. Where legislation exists to protect wild-caught parrots from trade, lack of enforcement is a problem. "This issue must be resolved before many of Africa's parrots can be considered truly safe from extinction."

Note that CITES data showed that during a 15-year period, 500,000 Grey Parrots were documented in international trade. This figure approached the 1993 estimate of the wild population of only about 600,000 birds.

A remarkable wealth of information is found in the section entitled The

Parrot Species of Africa (pages 308-516). Details are provided under the headings of Description, Distribution, Conservation Status, Movements, Habitat, Habits, Vocalisations, Diet, Breeding and Taxonomic notes. Breeders will find photographs of sub-species (Meyer's, Jardine's) very useful for correct identification.

Lovebird breeders will learn a lot about the wild life of these birds. For example, red-faced lovebirds feed mainly on tall grasses, including cultivated millet, also sorghum. The seeds are eaten while climbing along the grass stalks. The species account for the peach-faced lovebird extends over 16 pages. It is selective in its diet, moving up to 3km from the nest site to feed on the seeds of wool grass *Antheophora schinzii*.

The 42-page bibliography and the 17-page (small type) index gives an indication of the research, detail and thorough coverage of this work.

Published by Wits University Press, the price in the UK is approximately £60. This is not expensive considering the quality of the production, the enormous number of interesting colour photographs and that this will surely be the definitive work on the subject for decades to come. No one with an interest in the parrots of Africa should be without this ground-breaking book. Mike Perrin and his colleagues can be immensely proud of their work and collaboration.

Rosemary Low

INTERNATIONAL TURACO SOCIETY MEETING

Avicultural Society members are invited to attend the ITS AGM at Cotswold Wildlife Park at 2pm on April 13th 2014. There will be talks by Aimy Caceres on her PhD study on deforestation in Angola and by Abby Bailey on a planned genetic study of captive turacos at Oxford Brookes University. Georgie Jefferies will also be offering a closer look at invertebrates. Admission to the meeting is free and booking is not required. Non-members of ITS will be charged admission to the Park.



Low, Rosemary. 2013. "Feather Damaging In African Greys - Ground-breaking Research." *The Avicultural magazine* 119(3), 136–141.

View This Item Online: <https://www.biodiversitylibrary.org/item/268883>

Permalink: <https://www.biodiversitylibrary.org/partpdf/314905>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder

Rights Holder: Avicultural Society

License: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <http://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.