

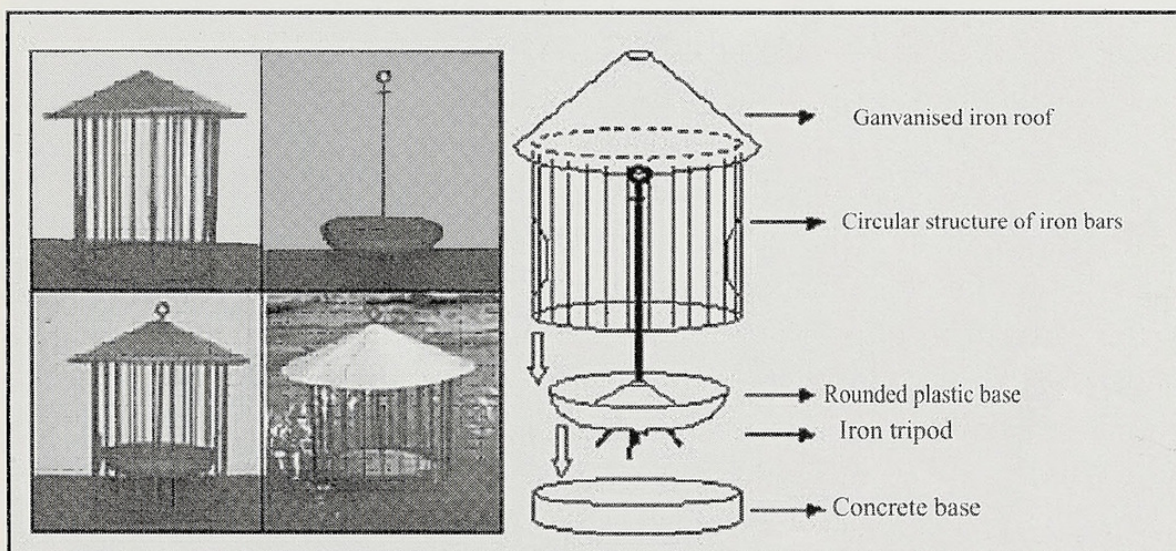
DETERRING SINANTROPIC ANIMALS: TWO BIRD FEEDERS FOR THIS PURPOSE DEVELOPED AT BELO HORIZONTE ZOO

by João Bôsko Ferraz, Cristiano Schetini de Azevedo
and Ângela Bernadete Faggioli

Introduction

Sinantropic animals are considered to be those that live in and around human environments and can transmit diseases to humans (Anvisa, 2003). Sinantropic animals achieve rapid population growth in areas where they can find food easily, along with places to nest and shelter, and where there is a lack of natural predators (Ribeiro et al., 2000; Oro et al., 2004). Diseases such as salmonellosis, histoplasmosis, cryptococcosis and chagas can easily be transmitted from sinantropic animals to humans and domestic animals (Ritchie et al., 1994; Nunes, 2003).

Zoos and other institutions and collections that maintain animals in open exhibits suffer invasions of sinantropic animals, such as pigeons, rats and mice. These can cause serious economic losses to zoos and other institutions and collections, once they start to eat large quantities of food, and can transmit diseases (Wall, 1990; Nunes, 2003).



A new feeder developed by staff of the Bird Section of Belo Horizonte Zoo for Anseriformes and Phoenicopteriformes birds. It was developed to deter sinantropic animals, mainly pigeons.

In an attempt to deter sinantropic animals from reaching the food of birds in open exhibits on the Bird Section at Belo Horizonte Zoo (Belo Horizonte is the capital of the state of Minas Gerais, south-eastern Brazil), two new feeding devices have been created, one for ducks and geese (Anseriformes) and flamingos (Phoenicopteriformes), and another for ibises (Ciconiiformes/Theskiornithidae). Both of these feeding devices are cheap to make, easy to install and clean, and are portable.

Waterfowl and flamingo feeder

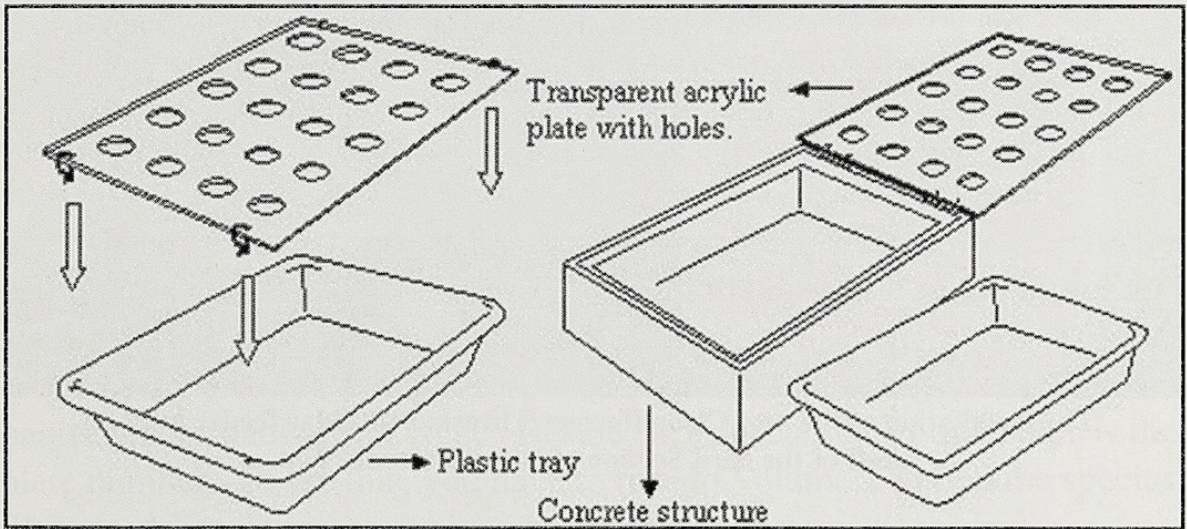
This consists of a circular plastic feeding bowl 40cm (approx. 1ft 4in) in diameter, over the top of which fits a 50cm (approx. 1ft 8in) high metal cage, with vertical bars spaced 5cm (2in) apart. A galvanised metal roof 66cm (approx. 2ft 2in) in diameter and shaped like a 'Chinese hat', is welded to the top of the cage. The circular plastic feeding bowl rests on 10cm (4in) high metal legs, which lift the bowl above the water to avoid the food becoming soaked with water. The legs are on the end of a metal rod or pole, which passes through a hole in the base of the feeding bowl and another in the centre of the roof. At the other end (the top) of the metal rod or pole is a metal ring, which is used to fasten the feeder. The feeder is placed in a previously constructed concrete base 10cm (4in) below the surface of the water. A pole is used to place the feeder on the concrete base. This takes less than five minutes to do.



The installation of the new Anseriformes/Phoenicopteriformes feeder built by staff of the Bird Section of Belo Horizonte Zoo to avoid sinantropic animals, mainly pigeons.

Ibis feeder

This consists of a white plastic feeding tray 30cm long x 22cm wide x 8cm deep (approx. 1 ft long x 9in wide x 3in deep), covered by a 5mm (1/4in) thick transparent acrylic sheet or top, in which 20 holes each 25mm (1in) in diameter have been drilled. The acrylic sheet or top is hinged to a concrete base, which the plastic feeding tray fits into. This feeder takes less than three minutes to install and prevents pigeons from reaching the food in the tray. Only ibises, with their long beaks, can reach the food.



A new feeder developed by staff of the Bird Section of Belo Horizonte Zoo for Ciconiiformes/Threskiornithidae birds. This device was built to deter sinantropic animals, mainly pigeons.

Results

Both feeders have proved very effective at deterring sinantropic animals, especially pigeons. Since the new feeders were installed in the exhibits, the number of pigeons has decreased drastically leading to an improvement in the welfare of the animals in these exhibits. The Bird Section staff are now working on the development of feeders made from natural materials (e.g. bamboo, bark, logs, etc.) or that imitate natural materials, with objective of making them look less conspicuous (more aesthetically pleasing). The feeder designs are at present in the process of being patented in accordance with Brazilian law.

Acknowledgements

We would like to thank Humberto E. S. Mello for the drawings of the feeders. We also wish to thank staff on the Bird and Maintenance Sections at Belo Horizonte Zoo for help in the construction and evaluation of the feeders, and Volder Soares Silva and Robert John Young for their suggestions regarding the manuscript. Our thanks also go to Carlyle Mendes Coelho, Director of Belo Horizonte Zoo, for his help and encouragement during the development of these new bird feeders.



The installation of the new Ciconiiformes/Threskiornithidae feeder built by staff of the Bird Section of Belo Horizonte Zoo.

References

- Anvisa. 2003. Resolution RDC No.2. Sanitary inspection and control in airports and aircraft. *National Surveillance Agency*. Accessed 07/12/2006 online at: www.anvisa.gov.br
- Nunes, V. F. P. 2003. Pombos: o desafio de controle. *Biológico* 65 (1/2) :89-92.
- Oro, D., Cam, E., Pradel, R. and Martínez-Abrain, A. 2004. Influence of food availability on demography and local population dynamics in a long-lived seabird. *Proceedings of the Royal Society of London B* 271 (1537):387-396.
- Ribeiro, P.B., Carvalho, C. J. B., Pinto, L. and Silveira Jr, P. 2000. Flutuação populacional das espécies de *Ophyra* Robineau-Desvoidy (Diptera, Muscidae, Azeliinae), em Pelotas, R. S. *Arquivos do Instituto de Biologia* 67 (2):205-214.
- Ritchie, B. W., Harrison, G. J. and Harrison, L. R. 1994. *Avian Medicine: principles and application*. Winger Publishing Inc., Florida.
- Wall, S. B. V. 1990. *Food Hoarding in Animals*. The University of Chicago Press, Chicago.

João Bôsko Ferraz and Ângela Bernadete Faggioli, Fundação Zoo-Botânica de Belo Horizonte, Av. Otacílio Negrão de Lima, 8000 Pampulha, 31365-450 Belo Horizonte, Minas Gerais, Brazil. E-mail: johnbferraz@yahoo.com.br & faggioli@pbh.gov.br

Corresponding author: Cristiano Schetini de Azevedo, Conservation, Ecology and Animal Behaviour Group, Mestrado em Zoologia de Vertebrados, Prédio 41, Pontifícia Universidade Católica de Minas Gerais, Av. Dom José Gaspar, 500 Coração Eucarístico, 30535-610 Belo Horizonte, Minas Gerais, Brazil. E.-mail: cristianoroxette@yahoo.com

BOOK REVIEWS

DEFINITIVE GUIDE TO BIRDS OF NORTHERN SOUTH AMERICA

Birds of Northern South America is a superlative work (in two volumes) by Avicultural Society Vice President Robin Restall, along with Clemencia Rodner and Miguel Lentino, colleagues at the Phelps Ornithological Collection in Caracas, Venezuela, where Robin has been a Research Associate since 1996. Despite attempts to keep it as concise as possible, the amount of material necessitated it requiring two volumes: the first (880 pages) covers the species accounts and the second (656 pages) contains the plates and maps. The geographical area covered includes continental Ecuador, Colombia, Venezuela and its offshore islands, Aruba, Curaçao and Bonaire, plus Trinidad and Tobago, Guyana, Suriname and French Guiana.

Volume 1 includes chapters on climate, vegetation and habitats, migration and conservation. The real meat of Volume 1 though is the species chapters, some of which include superb black and white illustrations. The species accounts are broken down under six subheadings: identification, subspecies, habits, status, habitat and voice. Beside each species' scientific name is the plate number. To see this, you have to turn to Volume 2 to find the species illustrated in colour.

Robin dedicated 10 years to preparing the illustrations and has, where necessary, painstakingly illustrated each species in adult male and female plumages, those of the subspecies and even the plumages of the morphs, first- and second-year birds, intermediates, immature males and females, and juveniles. As an example, on Plate 27, the Grey-headed Kite *Leptodon cayanensis* is depicted in adult, immature light phase, intermediate and dark phase plumages. The grey morph of the Hook-billed Kite *Chondrohierax uncinatus* is shown, along with the female plumage, the dark morph and the immature male and female plumages. Plate 277 shows the Ruddy-breasted Seedeater *Sporophila minuta*, male brown type, male grey type, first-year male, immature male, adult female and juvenile. This is a groundbreaking achievement and sets an exacting standard for other works to follow.

Many of the birds are depicted in typical field guide fashion, i.e. side-on. In the case of others, such as the hermit hummingbirds, we are treated to views of their underbelly, as so they are perched directly above us. Species such as the Black-headed Parrot (Caique) *Pionites melanocephalus* and Orange-cheeked Parrot *Pionopsitta barrabandi*, Plate 75, are shown in flight from below, so that their distinctive underwing coloration is clearly visible. Other species, such as birds of prey, are also shown in flight.

Clemencia Rodner, also a Research Associate at the Phelps Ornithological Collection, wrote most of the species accounts and has been meticulous in



Ferraz, Joao Bosco, de Azevedo, Cristiano Schetini, and Faggioli, Angela Bemadete. 2007. "Deterring Sinantropic Animals: Two Bird Feeders For This Purpose Developed At Belo Horizonte Zoo." *The Avicultural magazine* 113(2), 85–89.

View This Item Online: <https://www.biodiversitylibrary.org/item/253116>

Permalink: <https://www.biodiversitylibrary.org/partpdf/314893>

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

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>.