

## Loro Parque Fundación scientist Finds Collapse of the Grey Parrot Population in Ghana

*Stuart J. Marsden, Nigel J. Collar  
and Dr. David R. Waugh*

Nathaniel Annorbah, a PhD student studying at Manchester Metropolitan University with funding from Loro Parque Fundación, has been searching for Grey Parrots (*Psittacus Erithacus*) across his native country of Ghana for more than one year. What Nat has found is very disturbing indeed.

The Grey Parrot is distributed from the western edge of Kenya, through southern Uganda and the Congo forests to Cameroon, and through the moist lowland forests of West Africa to the south-east of the Ivory Coast, as well as on the islands of Principe (Sao Tomé and Principe) and Bioko (Equatorial Guinea); the form *timneh* from Guinea to western Ivory Coast is now treated as a separate species, 'Timneh Parrot' (BirdLife International 2013). Despite its large geographical distribution, the population of the Grey Parrot is suspected to be suffering a rapid decline because of the extent of the annual harvest for international trade, and the high rate of ongoing habitat loss. The IUCN Red List category of the species has recently been raised to Vulnerable (BirdLife International 2013).

The aim of Nat's research is to use novel study methods to assess the historic and current distribution, abundance and ecology of Ghanaian populations of the Grey Parrot in order to make informed predictions about the sustainability of trade and land-use changes. In the course of his fieldwork, he has also been collecting relevant data on other forest-dwelling frugivores, in part to serve as a comparison and contrast with those he gathers on the

Grey Parrot.

Following much preparation prior to the start of fieldwork, surveys for Grey Parrots and other fruit-eating birds were conducted by Nat between April 2012 and March 2013. The general study area, which is about 60,000 square kilometres, comprises a mosaic of inhabited, cultivated and forested areas in south-western Ghana. This area falls primarily within two major ecological zones in Ghana, namely evergreen forest and moist semi-deciduous forest. The south-western part of Ghana was chosen for the study because it held previously known populations of Grey Parrots and remains the area in the country with the most suitable habitats for the species.

The study area was partitioned into a grid of 10 x 10 square kilometre cells. A random sample of 31 cells was surveyed for the presence or absence of parrots. Surveys were conducted between April 2012 and March 2013. In each cell, surveys were conducted along a variety of pre-existent routes by walking along hunter or farmer footpaths and also along drivable pathways connecting villages and towns. Survey routes traversed a variety of habitats including small-scale agro-farmland, large-scale oil-palm plantations, forest reserves and settlements. Survey routes were walked in the company of a local guide, and all individual birds of the target species heard or seen along the route, perched or in flight, were recorded together with distance from the observer, direction of flight, and GPS coordinates at the point of detection.

A major part of fieldwork was to locate roosts of Grey Parrots and count birds to estimate roost population sizes. Location of



The search for the Grey Parrots continue in Ghana.

Photo by Shane Hancock

roosts, however, depends largely on information provided by trappers or local knowledge in general. Therefore, whenever Nat visited a cell, he always held conversations with local people in an effort to gain knowledge about the occurrence of any extant or former roosts. If local people did not know about any existing roosts, surveys continued with special focus on potentially suitable habitats.

Interviews were conducted in all the study cells surveyed to obtain information about local people's knowledge of the Grey Parrot and to record any data on the socio-economics of the trade in the species. At each village in a study cell the chief or village leader and his or her elders were informed about the project and the need to locate any roosts or gather any information about the presence of parrots and other relevant species in the area. Nat's assistant subsequently walked in and around the village and interviewed any residents willing to respond to a set of questions from a prepared questionnaire. On some occasions his assistant accompanied him on field surveys and interviewed people encountered along survey routes.

A total of only 101 parrots were encountered during the year-long surveys. Parrots were recorded in just nine of the 31 surveyed grid squares. Over half the parrots were located in a single square.

This result demonstrates that Grey Parrots are now extremely rare in Ghana and very difficult to find in areas hitherto known to be parrot population strongholds. The biggest single flock found in Nat's fieldwork consisted of just 12 birds hovering over and occasionally perching on *Senna siamea* trees in a village about 20km south of Tarkwa, one of Ghana's major mining communities. In a 1992 study researchers managed to visit 24 of 60 sites where Grey Parrots could be found at the time, and actually counted birds at 19 sites: three of those 19 sites harboured 800-1,200 Grey Parrots each (Dändliker 1992). In the current study Grey Parrots were present in only three of 12 sites selected from the 24 previously known sites mentioned in the 1992 study. The Red-fronted Parrot (*Poicephalus gulielmi*) was more abundant and widespread, as 380 birds were counted in 20 out of 31 sites surveyed. Other rare species encountered were the Great Blue Turaco (*Corythaeola cristata*), Black Dwarf Hornbill (*Tockus hartlaubii*), Brown-cheeked Hornbill (*Bycanistes cylindricus*), Yellow-casqued Hornbill (*Ceratogymna elata*) and Black-casqued Hornbill (*C. atrata*). The African Green Pigeon (*Treron calvus*) and African Pied Hornbill (*Tockus fasciatus*) were however, very common.

Generally, there are varied opinions about the plight of the Grey Parrot in Ghana. Some respondents interviewed indicate that Ghana's Grey Parrot populations have been extirpated due to over-capture for the previously vibrant parrot trade, which peaked some 25-30 years ago. Others maintained that the once-common Grey Parrot, which was frequently encountered in towns and villages and on farms, has now moved deep into the forest, or even to the "other end" of it. The irony here is that residents of the "other end" of the forest also believe that Grey Parrots have moved to the opposite end of the same block of forest! Nat's surveys in the interior of these forest blocks, however, do

not suggest the occurrence of any undetected parrot populations. Other interviewees are also of the view that habitat loss and degradation through commercial logging, as well as the clearance from farms (especially cocoa farms) of old mature shade trees, is a major factor in the massive parrot population declines that we now know have occurred in the last two decades.

Even without complete certainty about the exact cause of the massive population declines in Grey Parrot populations in Ghana, the over-exploitation for trade should be emphasised. On the other hand, the so called 'salvage felling' of large, sometimes hollowed 'over-mature' trees by the Forestry Commission of Ghana may have removed much suitable nesting habitat for Grey Parrots and other hole-nesters. This practice also appears to have affected the structural integrity of Ghana's forests, since it was followed about a decade later in the early 1980s by unprecedented levels of forest fires, thus wreaking further damage. Meanwhile, commercial logging in forest reserves continues to impact Grey Parrots, as commercial tree species tend to be the same ones used by parrots for nesting. This is evidenced by the presence of nails, used by trappers for climbing trees, in many logs during processing. It is also possible that the Grey Parrot faces competition for nest sites from other species, especially in relation to the very high abundance of African Pied Hornbills. This possibility is worth investigating even though there are currently no field data to suggest a problem in Ghana.

Some 50,000 Grey Parrots were exported from the range states between 1983 and 1989, exploding to 358,040 (including re-exports) between 1994 and 2003 (CITES 2006). The trade became popular in Ghana amongst pilgrims going to Saudi Arabia during the 1970's when there were virtually no trade controls. This was a good source of much-needed foreign exchange for the pilgrims on arrival at Mecca where Grey

Parrots attracted good prices. Ghana's share of the trade was nearly 20% of the total until an export ban was put in place in 1986 pending population assessments. These figures represent only legal trade, but the illegal trade is completely shrouded in secrecy and seems to have continued, adding to the depletion of Grey Parrot populations. Subsequently, the trade took a nose dive in the late 1990s (in the 1994-2003 period CITES records show only 382 Grey Parrots exported from Ghana), owing simply to the scarcity of Grey Parrots for capture. A few former trappers intimated to Nat that they had to shift the focus of their operations to other West African countries in order to earn a living. Some have since returned home to practise subsistence farming, but will not hesitate to extract the fledglings of any nesting parrots they happen to find.

Nat is currently conducting preliminary analyses of data collected in the first field season, and goes again to the field for a second shorter field season from November 2013 to April 2014. This will include further data collection on (1) 30 previously known Grey Parrot roost sites, (2) extra survey squares in southwest Ghana, and (3) interviews with as many people as possible involved in the parrot trade in both past and present times.

At the end of his research, Nat expects to determine more precisely the associations between Grey Parrots (and other fruit-eating birds) and their habitats, this being fundamental information for answering questions about population size and distribution. Accordingly, he hopes to predict current and past distribution of the Grey Parrot in Ghana and what may be causing any range contractions over time. Last but not least, he plans to document the population collapse of the Grey Parrot and what may have caused its demise. The future is very bleak for the Grey Parrot in Ghana. However, the situation of the Grey Parrot in other West African countries does not seem to be very

different from that of Ghana and needs further studies. Nat's work will, we hope, form the foundation for research that will ultimately be used to reverse the decline of the species throughout its West African range; but realistically it may be many decades before the populations are back to even their 1992 levels.

To help promote regional cooperation for the conservation and management of the African Grey and Timneh Parrots, Nat contributed to a recent workshop: 'Strengthening Capacity for Monitoring and Regulation of International Trade in African Grey Parrot'. In Monrovia, Liberia, participants representing the governments and BirdLife Partners and collaborating organizations of Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo (DRC), Ghana, Liberia and Sierra Leone met to discuss how to safeguard the future of these species. One of the main obstacles to a sustainable trade is the lack of a scientific basis on which to make management decisions, including the setting of export quotas. This workshop made an important step in addressing this need, by bringing these countries together to agree on how to monitor their parrot populations, and initiating the process of developing national management plans. A new framework of standardized methods for rapidly assessing wild African Grey Parrot populations was presented and tested in the workshop, with discussions on the application of the methods in each of the countries. Immediately following the workshop, Nat joined a team of researchers from among the participants to lead a four-day training exercise in Gola Forest, Liberia, training 15 rangers in parrot monitoring methods. The response was very positive and bodes well for the improved conservation of these species.

## References

BirdLife International. 2013. *Species fact-sheet: Psittacus erithacus*. Downloaded from <http://www.birdlife.org> on 14/09/2013.

CITES. 2006. *Psittacus erithacus AC22 Doc. 10.2 Annex 1*. <http://www.cites.org/eng/com/ac/22/E22-10-2-A1.pdf>

Dändliker, G. 1992. *The Grey Parrot in Ghana: a population survey, a contribution to the biology of the species, a study of its commercial exploitation and management recommendations. A report on CITES Project S-30. Unpublished report to CITES.*

## Addresses of authors

S. J. Marsden, Department of Environmental and Geographical Sciences, Applied Ecology Group, Manchester Metropolitan University, Chester Street, Manchester M1 5GD, UK

N. J. Collar, BirdLife International, Girton Road, Cambridge CB3 0NA, UK

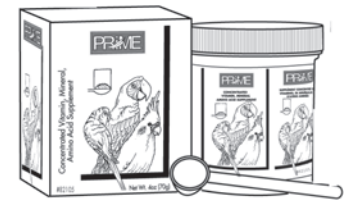
D. R. Waugh, Loro Parque Fundación, Puerto de la Cruz, Tenerife, Spain



**CONCENTRATED FULL SPECTRUM VITAMIN, MINERAL AND LIMITING AMINO ACID SUPPLEMENT**



- Ultra fine highly palatable powder does not cake over time
- Penetrates soft foods for accurate dosage administration
- Contains 14 vitamins and 9 minerals missing in most seed/vegetable/fruit diets
- Extra vitamin C and E for increased breeding and as antioxidants
- Calcium gluconate carrier adds required calcium which is deficient in most other supplements
- Exotic fruit flavoring without added sugar which can promote pathogenic organisms
- Lysine and Methionine amino acids improve diet protein quality
- Unique combination of enzymes and acidifiers to improve digestion
- Micro-encapsulated Beneficial Bacteria (Probiotics) keep birds in top condition



Years of formulating and field testing have resulted in the **most advanced avian supplement**. Prime has excelled above all other supplements in providing all species of companion birds with their required nutrients. Prime, however, is not a dumping ground for every nutrient known to man - **ingredients were selected strictly on the basis of need**. This results in higher levels of those nutrients truly needed by birds. For most accurate dosage administration, we recommend Prime be sprinkled over your bird's favorite fruits and vegetables.

**MAKES A GREAT ADDITIVE TO EGG AND NESTING FOODS.**

**THE BEST WAY TO ENSURE TOTAL NUTRITION FOR ALL CAGE BIRDS.**

Available sizes: #82102 - 20g, #82105 - 70g,  
#82106 - 0.88 lb, #82110 - 4.4 lbs



HARI'S WEB SITE: <http://www.hagen.com/hari/>

