NEWS FROM LORO PARQUE FUNDACIÓN AUGUST 2013

by Dr. Matthias Reinschmidt

Our young Gang-gang Cockatoos *Callocehalon fimbriatum* have been growing rapidly and now they have fledged and are trying to eat independently. It will take several weeks until they become completely independent, but these young birds are on the right track.

Adult Fiery-shouldered Parakeet *Pyrrhura egregia*

Orange-crested Cockatoo *Cacatua sulphurea citrinocristata*

Cockatoos have completely different clutch sizes. The Major Mitchell´s Cockatoo *Cacatua leadbeateri* and the Rose-breasted Cockatoo *Eolophus roseicapillus* sometimes lay five eggs per clutch, other species like our successful Orange-crested Cockatoo *Cacatua sulphurea citrinocristata* breeding pair only lay one or at most two eggs per clutch. The female *C. s. citrinocristata* always lays a single egg per clutch, which for this reason we

regularly remove from the first clutch so that each time a new egg is added in the second clutch. This year she has laid her first egg which hatched in the incubator and now the young bird is growing well in the rearing house. This parrot species is becoming rarer in Sumba, its Indonesian home island. According to recent estimates there are only about 500 individuals left, which are threatened by further habitat loss. Thus, for this parrot species kept in captivity a safety net population and genetic reserve must be systematically built, in order to conserve the species. Since these birds have a slow reproduction rate, this method needs to be set up for the longer term.

We are very happy about two young Blue-streaked Lories *Eos reticulata* that are currently developing in the park. This lory species has become rarer in captivity and is kept only by a few specialists. Therefore, it is so important to take good care of each young bird in order for the species to sustain itself in the long-term. The Fiery-shouldered Parakeets *Pyrrhura egregia*, rarely found in the aviaries of breeders, have a young bird that recently received its leg-ring. The flaming red wings of the adult birds shine with an intensity that makes them very attractive.

The Justus-Liebig University of Giessen has given Mr. Kiessling, President of Loro Parque and Loro Parque Fundación (LPF), the "Wilhelm-Pfeiffer" gold medal. He received the award as an honour for the contribution of Loro Parque and the LPF in the field of research and education of more than 500 veterinary students. These students were able to complete their practical studies in the clinic and in the breeding centre of the zoological institution which has the world´s largest, most diverse collection of parrots.

The "Wilhelm-Pfeiffer medal" also honours the contribution of the Loro Parque Fundación for the protection of species and habitats.

With this award, the University honours organisations and personalities which support development and progress in the scientific field of veterinary medicine. Loro Parque is involved in this field and has incorporated students and doctoral candidates of the German University for more than 30 years, so that they have had the possibility to perform their practical activities. Furthermore, important research in the field of semen collection and artificial insemination of parrots has been made, and the results can be used to contribute to the conservation of threatened species. In addition, the investigation at the University Giessen of avian bornavirus has been supported for many years.

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HALF-RIPE MAIZE AS AN IMPORTANT SUPPLEMENTARY FOOD FOR PARROTS AND PARAKEETS DURING BREEDING AND REARING

by Dr. Matthias Reinschmidt

We are often asked about which kinds of extra food can be given to parrots and parakeets during the rearing period. The answer is not simple, because, depending on the parrot species, the needs are very different. An additional feed that has worked especially well for many years in Loro Parque Fundación is half-ripe maize *Zea mays*. It comes freshly harvested from the plant, when the grains on the cobs have not yet become yellow and hard. Hard maize grains are taken by only a few species with powerful beaks, like cockatoos and macaws. The half-ripe, also called milky corn, is eaten by almost all parrots and parakeets, and even lories like it because it is soft, tastes sweet, and is easily digested. Especially when there are young in the nest, it is a very good rearing feed, which is always eaten greedily and stimulates the parents to feed their young.

In Tenerife, because it can be grown all year round, fresh half-ripe corn is available for us in sufficient quantities. In Central Europe however, maize is a purely seasonal plant that can be planted in April/March and harvested half-ripe in August. The solution is to store an adequate quantity in order to have the necessary food for the birds the whole year. Particularly during the breeding months between March and April when there is still no fresh milky ripe corn available. Therefore, it is recommended to prepare a supply during the previous year for the coming breeding season, by harvesting the half-ripe corn and then freezing it in portions, to be used when needed.

Maize is originally from Mexico and belongs to the sweet grasses. Today it is one of the most widely grown plants, covering 170 million hectares worldwide (about 24% of the area under cereals) and with about 850 million tonnes harvested every year. It is used primarily as a food and fodder plant and in recent years also increasingly as an energy crop.

If we examine in more detail the content of the corn (see table 1), we see the remarkably high proportion of carbohydrates. This is why this plant is an especially high energy food but, as with many grain varieties grown from wild grasses, it only has a small proportion of essential amino acids. Therefore, it is not advisable to feed it over long periods alone, even if almost all parrots eat it greedily. Half ripe corn is always only as a supplementary feed. If it is used too much it can cause acute deficiency symptoms. I remember an experience I had twenty years ago. A friend who bred parrots was at that time very proud that his pair of Red-billed Parrots *Pionus sordidus corallines* they

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Blue-throated Macaw *Ara glaucogularis* eating fresh corn

had bred for the first time and had four young in the nest box. To encourage the parents to feed the young sufficiently, he gave them half-ripe corn in abundance. The parents were eager to eat this and to feed it to their young. The problem was that, when the young fledged and left the nest box, all four had rickets. This was due to the almost exclusive feeding of maize; an acute deficiency had been caused that was detected too late. If we examine the

calcium/phosphorus ratio in maize, it is 1:26; a proportion of 2:1 would be the ideal. This explains the rickets that had occurred.

The recommendation is to include half-ripe corn as a necessity in the diet, but only as a supplement and stimulant, and never as the main food during the rearing period. Here we cut a corn cob into four or five pieces and give no more than two pieces a day to each breeding pair.

When the young fledge, the half ripe corn is usually one of the first foods that is tasted and eaten and thus helps the young to get used to feeding independently.

Table1: Average composition (whole grain)

The composition of maize grain fluctuates naturally, depending on the environmental conditions (soil type and weather) as well as on the cultivation techniques (fertilization, plant protection). Values per 100g edible portion, whole grain.

Components		Minerals		Vitamins	
Water	12.5g	Sodium	6mg	Vitamin A	185µg
Protein	8.5	Potassium	295mg	Thiamine (Vit. B1)	360µg
Fat	3.8g	Magnesium	90mg	Riboflavin (Vit. B2)	200µg
Carbohydrates	64.2g	Calcium	8mg	Nicotinic acid (Vit. B3)	1500µg
Fibre	9.7g	Manganese	415µg	Pantothenic acid (Vit. B5)	650µg
Minerals	1.3g	Iron	1.5mg	Vitamin B6	400µg
		Copper	240µg	Folic acid	25µg
		Zinc	1.7mg	Vitamin E	2000µg
		Phosphorus	215mg		
		Selenium	4–16µg		

1 mg = 1000 µg

The physiological energy value is 1377kj per 100g edible portion.

Literature

Künne, H.J. (2000) *The diet of parrots and parakeets*. Arndt-Publisher. Bretten.

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AN ACCIDENTAL EXPERIMENT ON NEST AND CHICK RECOGNITION IN TAVETA GOLDEN WEAVERS *Ploceus castaneiceps*

by Annie Valuska and Chelle Plassé

Taveta golden weavers *Ploceus castaneiceps* are small birds closely related to finches. They are common throughout their range in Tanzania and Kenya and are popular additions to zoo aviaries due to their bright coloration, small size, and gregarious nature. They are colony nesters and, as their name implies, will build many ornate woven nests if provided with adequate material. Despite their showy nests, very little is known about their reproductive behaviour as they have rarely been studied in the wild or in captivity. Disney's Animal Kingdom's collection offers an excellent opportunity to study this species, as we have a group of over 100 individuals housed with many other bird species in a large walk-through aviary and we also have smaller groups in the Avian Research Centre (ARC), a facility which is inaccessible to park visitors and provides a quieter, more controlled environment. In an effort to learn more about this weaver species, members of our Science Team collected data on their behaviour at the nest. This article will focus on an "accidental experiment" that occurred with one group of Taveta golden weavers housed at ARC.

The ARC group is housed in an 9m x 6m x 2.5m (approx. 29.5ft x 19.7ft x 8.2ft) enclosure along with Carmine Bee-eaters *Merops nubicus*, Bartlett's Bleeding Heart Doves *Gallicolumba criniger*, African Pygmy Geese *Nettapus auritus*, a Green-winged Dove *Chalcophaps indica*, a Hooded Pitta *Pitta sordida*, a Jambu Fruit Dove *Ptilinopus jambu*, and Stone Partridges *Ptilopachus petrosus*. The birds are offered bowls containing soaked insectivore pellets, soaked parrot pellets, and dry insectivore pellets with finch seed, shredded carrots, chopped kale and some fruit mixed in, twice a day. They also have access to other species' diets, including soaked dog food, shredded carrots, chopped pinkies and small meatballs. All of the bowls get a finishing sprinkle of a variety of insects, including waxworms, mealworms, superworms and crickets. The enclosure contains a pond for the geese and is heavily planted with a variety of species, including Areca palms *Dypsis lutescens* and Bamboo grass *Bambuseae* spp., which the weavers commonly use to build their nests. A potted fern was hung from the overhead mesh above the pond, and it became a very popular nest site. Three nests were constructed there by a single male, and all were eventually occupied by three different females. The top of each nest was marked with a red, purple, or green pipe cleaner for identification, and 20 minutes of