



# toxic TIPPLE

TINUS LAMPRECHT

## A case of suspected xylitol toxicity in Cape Sugarbirds

Most bird *aficionados* have a feeder in the garden, and take pleasure in watching their favourite birds. They become attached to their garden visitors, recognising individuals and watching them bring their young to the feeder. There could be little as distressing as watching these beautiful birds fall to the ground, go into convulsions and die.

**E**arly in January 2014, approximately 30 Cape Sugarbirds *Promerops cafer* were found dead within a garden in Voëlklip, near Hermanus, in the Western Cape. The property owner urgently contacted CapeNature staff, who had the foresight to preserve the

carcasses so post-mortem examinations could be performed.

The frozen birds were sent to the Johannesburg Zoo in Gauteng. They were slowly defrosted to avoid tissue damage. It was a sad sight to see row upon row of such beautiful creatures, dead, but in seemingly perfect condition. I set about examining and sampling each bird, inspecting every organ for potential clues as to why they had died. Luckily, a frozen sample of the nectar from the bird feeder was also submitted, along with the package details of the sugar used in the nectar solution.

After careful examination of the birds, together with observers' accounts of the birds after they visited the feeder containing a concentrated xylitol solution, and ruling out all other obvious causes of death, we concluded the most likely cause of death was xylitol toxicosis.

left *The endemic Cape Sugarbirds are striking and understandably popular visitors to nectar feeders in gardens in the Western Cape.*

**G**enerally, flowers offer one of three nectar sugars as rewards for pollination: glucose, fructose and sucrose. Within the southern African Proteaceae, a family of plants on which Cape Sugarbirds are highly dependent, only two genera have been shown to produce small to moderate amounts (1 to 39 per cent) of xylose in their nectar. Xylose is absent from the nectar of the remaining 14 genera.

Xylitol has recently become popular as an ingredient in human foodstuffs, often as part of low-carbohydrate or diabetic diets. As its use spreads, an increasing number of cases of toxicity are being reported in dogs and other species. In dogs, xylitol causes an enormous stimulation of the pancreas and release of insulin. This is not observed in humans, but we suspect the same occurs in sugarbirds. There are marked differences in the ability of species to metabolise xylitol. Some rodents are able to digest it, whereas other rodents and rabbits show clinical signs of intoxication.

**I THEREFORE CANNOT RECOMMEND STRONGLY ENOUGH THAT READERS NEVER INCLUDE XYLITOL IN ANY NECTAR OR OTHER FOOD SOURCE OFFERED TO BIRDS**

To the best of my knowledge, this is the first case of xylitol intoxication reported from a wild bird.

There is still much research to be done. What we suspect may have occurred with these birds is that ingesting a highly concentrated solution of xylitol triggered a massive insulin release, causing an irreversible drop in blood sugar. Dogs with xylitol intoxication often develop liver failure and internal haemorrhaging. The sugarbirds apparently started exhibiting signs of distress within 30 minutes after drinking the xylitol nectar. The most aggressive feeders soon developed seizures and died.

It is possible that other nectarivores, such as sunbirds, would also be susceptible to xylitol toxicity. I therefore cannot recommend strongly enough that readers never include xylitol in any nectar or other

food source offered to birds. Furthermore, I urge any readers aware of similar cases to e-mail me at [brett.gardner@jhbzoo.org.za](mailto:brett.gardner@jhbzoo.org.za) or call me on +27 (0)11 646 2000, extension 239, with details.

I would like to thank the owner of the bird feeder for their insight and honesty in reporting this case. Thanks are also due to Kevin Shaw from CapeNature, Dr Craig Whittington-Jones from the Gauteng Department of Agriculture and Rural Development, and Dr Emily Lane from the National Zoological Gardens, who performed the histopathology. A debt of gratitude goes to Dr Phoebe Barnard of SANBI and the Percy FitzPatrick Institute for putting us all in contact.

**DR BRETT GARDNER**  
ASSOCIATE VETERINARIAN  
JOHANNESBURG CITY PARKS AND ZOO

### REFERENCES

Jackson, S. and Nicolson, S.W. 'Xylose as a nectar sugar: from biochemistry to ecology.' *Journal of Comparative Biochemistry and Physiology*, 2002.

Dunayer, E.K. and Gwaltney-Brant, S.M. 'Acute hepatic failure and coagulopathy associated with xylitol ingestion in eight dogs.' *Journal of the American Veterinary Medical Association*, 2006.



BRETT GARDNER

Almost 30 Cape Sugarbirds were unintentionally poisoned and died in one episode of xylitol intoxication at a nectar feeder in the Western Cape.

## showcase OF THE delta



**B**irds of the Okavango is a photographic celebration of the rich diversity of birds that occur in the Okavango Delta. The pages are filled with spectacular images of the most frequently encountered species in the various areas of the delta.

The Okavango is one of Albert and Marietjie Froneman's favourite destinations and they have spent many hours on the waterways capturing unique photographs of birds. The text, written by Pete Hancock, is informative, easy to read and evokes the atmosphere of the delta, while sharing fascinating facts about its birds.

Price R295, including VAT and postage within South Africa.

To find out more or to order your copy, visit [www.wildlifephotography.co.za](http://www.wildlifephotography.co.za)



TERRY OATLEY