

inside:

② Saving Energy, Time, Money...

③ A "Once in a Blue Moon" event

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100,000 waterbirds in the Tana Delta

by Olivier Hamerlynck

**Kenya Wetlands Biodiversity Research Team
 marvels at the abundance of birdlife
 at the Tana Delta during the rainy season**



A female Saddle-billed Stork, one of the many species of waterbirds breeding in the Tana Delta
-Pic O. Hamerlynck

The Tana River Delta on Kenya's north coast is a land of extremes - drought and flood, scarcity and abundance. For centuries people and wildlife have adapted their lives to the seasonal flooding of the River Tana. In the past decade, however, with five dams on the river cutting down the flood peak and frequent nationwide droughts, conditions in the Tana Delta have been rather unfavourable.

This year, local rainfall was minimal (a total of less than a 100 mm for March to July, with only 3 days with just over 10mm). But the Tana Delta received a very good flood from the abundant rains in the Mount Kenya and Aberdare area. Rains there were so abundant that the hydropower dam operators (who usually try to maximize storage) were forced to release water, which allowed the downstream ecosystems and the livelihoods that depend on them to benefit. This has resulted in several tens of thousands of hectares covered by water for about a month with favourable impacts on fish production, grass growth, etc. What this means for birds is rather spectacular.

Over the past years the KENWEB, the Kenya Wetlands Biodiversity Research Team (<http://kenweb.museums.or.ke/>) has been instrumental in documenting the exceptional biodiversity of the Tana Delta and linking this to floods and human well-being from an ecosystem services delivery perspective.

One evening in early July in the central part of the delta, the team was impressed by the numbers of African Open-billed Storks going over their heads and flying westwards to roost. In the evening counting is a bit difficult, as they ride thermals and twist and turn and from time to time become nigh invisible, then mix up with other flocks so you just go cross-eyed and the counts go awry. In the early morning, however, they fly in a more or less straight line and rather low and slow.

On July 6th we counted left and right, probably about 250m on each side, from 6:05 am to 6:25 am when there is a continuous flow of storks, and clocked up 5400 birds. The next day we started at 5:50 am when it starts with a trickle and then gradually builds up adding another 600 before 06:05. Assuming the pattern was the same on both days, this would mean 6000 Open-billed Storks over a 500m wide strip. Logically this only represents the birds flying to the southeastern corner of the delta and at best a third of the total habitat where one can find them in substantial numbers during the day. Thus we are looking at anything between 15,000 and 25,000 African Open-billed Storks, definitely in excess of the significant 1% of the population norm of 4000 birds.

In between the storks were also large groups of various Egrets (Cattle, Little, Yellow-billed, Great White and Black Heron), African Spoonbills, Long-tailed Cormorants. In reverse movement there were Black-crowned Night Herons with large numbers of Glossy Ibis, most probably coming from the Kipini roost and going to feed in the northwestern corner of the Delta. All of this together, just sitting in a single spot, was probably of the order of 50,000 large waterbirds passing to and from their way to work.

Then there are still the few thousand of White-faced and Fulvous Whistling Ducks, a few hundred Knob-billed Ducks and a sprinkling of Spur-winged Geese. With all the Fish Eagles, Jacanas, Black Crakes, various kingfishers and waders (4 Black-tailed Godwits, a vulnerable species, were seen but there are also hundreds of Spur-winged, Long-toed Plovers, Thick-knees, sandpipers), etc., we are probably looking at at least 100,000 waterbirds present in the Tana Delta.

Conspicuously absent were the Madagascar Pratincoles. Usually there are several thousand of this vulnerable species but their favourite haunts were all under water. A few hundred were seen in the saltworks just north of Malindi.



The Tana Delta. The wetland has enormous eco tourism potential.

-Pic P. Usher

Breeding site

For decades the "Garsen Heronry", described in 1956 by Myles North, was recognised as a major site for colonial waterbirds in East Africa. With the changes brought about by mainly the establishment of the Tana Delta Irrigation Project and the 5 dams upstream, its original locality dried out and only occasional breeding records emerged from the delta. This year however there is again a full-scale breeding colony of an estimated minimum 5000 pairs of waterbirds in the central Delta.

Currently most of the smaller species (Squacco Heron, Black-crowned Night Heron, Cattle Egret, Little Egret, Glossy Ibis) were with quite large young, while African Spoonbill and Sacred Ibis seemed to be on eggs. Other species already active in the colony but in small numbers were African Darter, Black Heron, Yellow-billed Egret and Great White Egret. Other species may come in later (Purple Heron and Open-billed Stork - one of each species was seen carrying nesting material) or may already have finished breeding (Long-tailed Cormorant?).

In addition to this a few pairs of Pink-backed Pelicans were found breeding in the Borassus Palms that are normally used (a bit later in the season) by Yellow-billed Storks (some were already on the site and building) and Great Cormorants.

Value to the Nation

These observations confirm the tremendous importance of the Tana Delta, not only for migratory birds during the Palearctic winter but also for Afrotropical waterbirds whose post-breeding dispersal will supply the entire sub-region. Flood releases from the hydropower dams, especially if they are timed to coincide with the breeding calendar, may represent a certain cost in hydropower production; but on the other hand contribute to the maintenance of biodiversity over a wide area and support the economy of north-eastern Kenya as fish and prawn production, cattle production and other flood-dependent livelihoods are enhanced. For the dam operators it could also be a bonus as the first waters coming down at the start of the rains are heavily charged with sediments and letting those pass through unimpeded to produce the natural flooding will reduce sedimentation in the dams and extend their operational life.

Saving Energy, Time, Money

South Nandi Forest

□ *G. Kitsao / W. Ajiemba*

South Nandi forest resources have long supported livelihoods of people living next to the forest, with firewood being the most important resource. About 72% of the households in the project area use wood fuel and consume over 2,165 tonnes annually. The task of ensuring that there is adequate fuel wood for the household is mainly left to women and girls. The women also do all of the cooking, so they suffer most from the effects of poorly ventilated kitchens with stoves that emit a lot of smoke.

Through the project "Improving livelihoods through sustainable government, NGO, private partnerships in South Nandi forest, Western Kenya", Nature Kenya introduced alternative energy-saving devices, to reduce household level demand for fuel wood and exposure to smoke and other related illnesses that resulted from traditional cooking stoves. The alternative technologies were well received by the community. An exemplary case is that of the Sachangwan Women Group.

The project supported the group through trainings and providing materials for the fabrication of fuel wood energy-saving devices. It also supported the establishment of woodlots at the members' households. Interested members were further trained as Trainers of Trainers (ToTs) and the group has established an enterprise to produce energy-saving devices and to train the wider community on these alternative technologies. The devices include "jiko kisasa", rocket stoves and fireless cookers.

The Sachangwan Women group has fabricated and sold 200 fireless cookers, raising half a million shillings. The Chairlady, Janet Chengo, and other women group members participated in agricultural exhibitions in the Masai Mara and Kisumu and as far as Mwanza in Tanzania. Within their Enego Village, the group ToTs have trained



Fireless cookers made by Janet Chengo, chair lady of Sachangwan women group
-Pic G. Kitsao

500 households, who are currently using the energy saving jikos. From this success they they have moved out and trained people in 6 other villages.

The group has also produced 25,000 seedlings in their tree nursery. The members planted 15,000 seedlings in their household woodlots and sold 10,000 for 100,000/-. The income from energy-saving stoves and tree seedlings were used in buying more materials (waste blankets, needles, polythene papers) for further production of fireless cookers and sustaining the tree nursery. The surplus was banked at a local bank, where members borrow and pay back loans with an interest rate of 10%. All the group members were helped to build a poultry house and to acquire 2 chickens each as a start-up for a poultry business.

In addition to income generation, the energy technology has helped the women of the community save on the time used to fetch fuelwood: most households use 2 headloads per week compared to 6 before the alternative technologies. There is also a reduction of respiratory ailments in the families due to reduced smoke emissions. And the women are empowered and appreciate the higher worth the community accords them.

For updates go to
twitter.com/nature_kenya

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Once in a Blue Moon

□ Fleur Ng'weno

Moon, August 2012

2nd August - full moon, rising in the east, opposite the sunset.

9 August - last quarter ('half' moon overhead at dawn).

17 August - new moon; look for the slim crescent moon in the west on the 18th. The sighting of this new moon will end the Islamic month of Ramadhan.

24 August - first quarter ('half' moon overhead at sunset).

31 August - full moon. It is only occasionally that there is a second full moon in a month, called a "blue moon" - hence the saying "once in a blue moon".

Planets, August 2012

The golden planet Saturn and the sparkling star Spica are twin lights in the western sky (above the sunset) throughout August. The fainter, redder planet Mars is lower in the sky, and appears to slow down. Spica and Saturn draw closer and closer to Mars, passing it on August 17.

On August 22, the crescent moon joins the planets Mars and Saturn and the star Spica in the western sky. (This beautiful group of moon, planets and star appear close together as seen from Earth. In reality, the moon is close to Earth; Mars and Saturn much further; and Spica far out in space.)

The sparkling orange star Arcturus is high in the northwest.

In the morning sky before dawn, the planet Jupiter is high in the east, and brilliant Venus lower in the sky. The waning moon is

near Jupiter on August 11 and 12, and near Venus on August 13, 14 and 15.

The small planet Mercury rises and brightens in the morning sky below Venus, above the sunrise. The waning crescent moon is near Mercury on August 16. In mid-August, you might also see some "shooting stars" from the Perseid meteor shower in the northeast between midnight and dawn.

August Stars

The constellation of Scorpius, the scorpion, is now high in the southern sky (see last month's *Nature Net*). The bright, reddish star Antares can be seen as the scorpion's fiery eye. On August 25, the moon is near Antares.

Below the Scorpion and to the west (right) are the bright stars Alpha and Beta Centauri. To the east (left) of the Scorpion's tail, stars form a shape like a teapot or basket. This is the constellation that the ancient Greeks called Sagittarius, the Archer.

In the northeast, the bright star Altair is flanked by two smaller stars; the very bright white star Vega is low in the north. Orange Arcturus is high in the northwest, and the Plough, like a long-handled spoon, is low in the northwest.

On a clear, dark night, away from city lights, you might see the Milky Way, our galaxy, like a pale ribbon from northeast to southwest.

new parasitic

Bee genus record for Kenya

□ Dino J. Martins



East Africa is home to many different kinds of bees. In addition to the honeybee (which is just one species, *Apis mellifera*), there are almost 20,000 other described species of bees.

On a trip to look at bees with Professor Laurence Packer from Canada, the Insect Committee discovered a rare and enigmatic parasitic bee that had not been recorded in Kenya before.

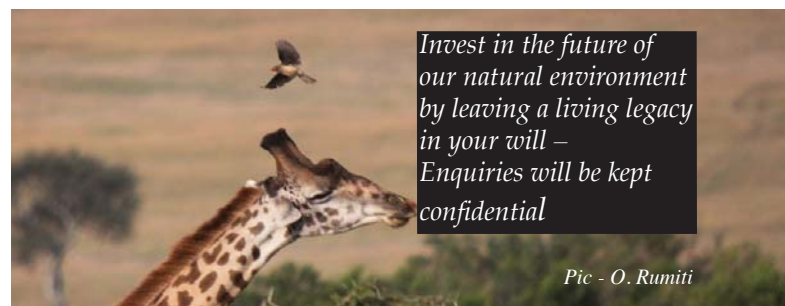
This bee is in the genus *Chiasmognathus*. It is a tiny parasite, just a few millimetres long. Previously in sub-Saharan Africa, these bees were only known from a single male specimen collected from the Sahel region in Niger in West Africa. Most of the other species of *Chiasmognathus* have been collected from the Middle East (UAE, Oman and Yemen) and parts of Central Asia including, Tajikistan, Uzbekistan, Iran and Pakistan.

This bee was first found at Lake Bogoria last year, where the incredible rains in the later months of 2011 had transformed the landscape into a sea of greenery and flowers. Areas like Lake Bogoria, which are seasonally carpeted with wildflowers, are among the most bee-rich habitats in Eastern Africa. I then found the bee at the Turkana Basin Institute at South Turkwel.

This parasitic bee *Chiasmognathus*, appears to exploit the common dryland bee called *Nomioides* in Kenya. These tiny, black and yellow bees are very common and nest in the soil. Each female *Nomioides* tends her own nest, which consists of a burrow leading to a series of special chambers called brood cells that she packs with nutritious loaves of pollen to nurture the larvae that hatch from the eggs that she lays. The parasite exploits these brood cells by sneaking in and laying its own eggs in the brood cells where the larvae develop and feed.

Chiasmognathus has now been found at several sites in Turkana. It appears that there are several species in Kenya, which makes this region the centre of diversity for this enigmatic little bee!

Questions/Comments: insects.eanhs@gmail.com



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Pic - O. Rumiti

in the field



JUL. 2012 AT A GLIMPSE

- Aug 1 Morning Birdwalk
- Aug 4 Friends of City Park Nature walk
- Aug 8 Morning Birdwalk
- Aug 11 FONA Nature walk
- Aug 19 Sunday birdwatch
- Aug 15 Morning Birdwalk
- Aug 22 Morning Birdwalk
- Aug 27 FONA Nature Walk
- Aug 29 Morning birdwalk
- Aug 27 FONA Public lecture

Bird ringing every Tuesday morning
(check with Ornithology section, National Museums)



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www.goplaceskenya.com

Wednesday Morning Birdwalks meet EVERY WEEK at 8:45 am at the back of the main museum. The entrance is on Kipande Road.

Sunday Birdwatch (also called "Pot-luck Outings") meet the THIRD Sunday of each month at 9:00 am at the same location. Bring lunch.

Mombasa Birdwalks Contact Marlene Reid through <donreid@africaonline.co.ke> or call 0720-949195 for more information.

Contact the office for information on other birdwalks in Kakamega, Kisumu, and other sites

Ngong Forest walks - 1st and 3rd Saturday at 9.00 a.m.
Contact Simon 0729-840715



Terry Stevenson (centre) is photographed together with four of the Kakamega Rain Forest Tour Guides after they received some of the 10 Birds of East Africa books that Terry and co-author John Fanshawe donated to the guides association. Already offering an excellent selection of guided walks, the Guides will now be able to not only point out the birds to you, but also confirm the identification by showing you the beautiful illustrations in the book. The guides can be contacted in advance by email at: kakamegarainforest@yahoo.com

Photo taken at Rondo Retreat, a delightful base for visiting Kakamega Forest, with excellent birding right on site. www.rondoretreat.com

The Guides are affiliated with KEEP, a Site Support Group working with Nature Kenya for the conservation of the forest.

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