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**OBSERVATIONS OF ELEPHANTS IN EAST AND SOUTHERN AFRICA**

by Jeheskel Shoshani

Listed below are selected short observations on African elephants (*Loxodonta africana*) made during the past summer in East and Southern Africa. Observing elephants was not the objective of this trip. Whenever possible, we visited national parks and game reserves. The purpose of the trip was to collect mammalian blood and muscle samples for phylogenetic studies. Altogether, 83 species of mammals were seen in their natural habitats (of which six were road killed and five individual small mammals were not identified), 132 species of birds (five road killed, many unidentified), 15 species of reptiles (two species road killed, two unidentified). The observations given below were transferred from the field notebook as written in the field or immediately thereafter. Writings within parentheses were added later for completeness and clarification.

J.S.  
1978**JOURNAL**

- July 30 Amboseli National Park, Kenya.  
11:30 Open country, scrub, dry bush, marsh area and trees (extension of the Enkongo Narok Swamp). Sunny, partly cloudy, 78°F (25°C). Slight wind.
- 11:59 Three bull elephants (#1, #2, and #3) feeding in the marsh northeast of our vehicle. (Kes Hillman, Mary Jo Szuba and I were in Cynthia Moss' land rover).
- 12:10 Another male (#4) approaches from the right (southwest) of the vehicle around and to the right, his penis out. At the same time the largest bull of the three (#1) approached from the left of the vehicle, ears spread. A bird (wattled starling) on Acacia in front of #4.  
#4 sniffed the air; #1 did, too.  
#4 approaches while #1 ??  
#4 puts the tip of the trunk at the temporal gland region of #1. #4 then put his tusks, especially the right, on the top part of the trunk of #1 and kind of rested them there (tusks are about 80-100 cm long). #1 turned backwards and his hind quarters were towards #4.
- 12:15 Both bulls stood side by side and fed on the Acacia leaves and thorns. Both raised their trunks up in the air (forming "S" shape). Grooves can be clearly seen at the tip of both tusks of #4.
- 12:21 #1 started walking towards #2 and #3. #4 followed him while his erected penis was (fully) extended.
- 12:22 #1 stood with its left hind foot resting on the right hind foot. Trunk down to ground.
- 12:25 #1 went into the swamp, #4 followed (#2 and #3 were also moving towards the swamp).

12:27 All (4 elephants) feeding in the swamp. Only their backs (part of them), heads and ears are visible.

July 30 Amboseli National Park, Kenya, from the air.

15:45 Sunny, partly cloudy, about 75°F (24°C).

to All elephants seen from the air were in swamps (both Ekongo Narok and  
16:10 Olokenya). Total of about 75 elephants were counted (from aerial photographs) representing individuals and two large herds; one of about 20 and the other about 50 elephants. (Note: Amboseli National Park, area: 380 square kilometers - 150 square miles - has a population of about 450-500 elephants, most of which are permanent residents. A number of elephants move in and out of the park from the nearby vicinity, e.g. Mt. Kilimanjaro. After Moss, Cynthia, 1977, reference #132).

August 2 Tsavo West National Park, Kenya.

Campsite at Mbiyuni (Chyulu) Gate.

20:00 Dark, clear sky, about 60°F (15°C).

to (The game ranger, Evans Elly Mgaah, was invited to join us for a  
22:30 dinner and social evening around the camp fire. Also present were a young couple, Rafi and Batik Gi-Ron, Mary Jo Szuba and myself. See Mgaah's preceding report.)

Sitting around the fire and telling stories. Suddenly, we heard a noise in the grass. Rafi told Batik, his wife, "Oh, don't worry; it's only a mouse!" As we checked (with flashlights) to look for the mouse, we saw two large bull elephants standing by the water tank adjacent to the showers (approximately 60 meters from us). One of the elephants seemed to be reaching with its trunk to the opening at the top of the tank. (This was identified the next day. The tip of the water tank was measured at 2.75 meters, about 9 feet above the ground, and the diameter of the opening on top of the tank was 3.5 cm). Both elephants took turns in drinking (?) from the hole. They were there for the entire duration of our social evening. (The next morning I found old as well as fresh elephant dung at the vicinity of the water tank, indicating that it was not the first visit of elephants.)

August 3 Tsavo West National Park, Kenya.

10:00 Flat to hilly country, woodland, savannah, dry grassland to open country. Partly cloudy to clear, sunny, about 70°F (21°C).

10:50 Six elephants in tall grass.

11:10 Nine elephants in bushland; one is about 100 meters ahead of the other eight.

Along the pipeline, Tsavo River.

16:00 Open tall grassland and trees. 76°F (24°C). Slight wind.  
A herd of 15 elephants, flapping their ears regularly. One large elephant turned to our direction with its ears fully extended and trunk raised above the grass.

(Note: Tsavo National Park, East and West, including the Galana

ecosystem, area: 39,500 square kilometers - 15,000 square miles - has a population of about 19,370 elephants. After Hillman, A.K.K., 1978; reference #99 and report in this issue).

August 6 Masai Mara Game Reserve, Kenya.

- 14:00 Mostly flat country, savanna, bushland and open green grassland. Partly cloudy, about 78°F (25°C).
- 14:35 1 male elephant, 15-20 years old. Seen for a minute and disappeared in the dense bush.
- 17:20 A herd of elephants "hides" in the bush. 4 adults (facing us, small tusks) are at the edge of the wood; other younger elephants seen behind.
- 17:24 Came out of the trees to the clearing. Adults letting the younger animals pass them. Adults between the vehicle and the young. Total of 9 elephants were counted.  
(Note: Masai Mara Game Reserve has an area of 3,780 square kilometers - 1,450 square miles - and a population of 703 elephants. After Hillman, A.K.K., 1978; reference #99 and report in this issue. The southern boundary is contiguous with Tanzania's Serengeti National Park. Vast assemblages of plain game and their associated predators are common in the park and the reserve.)

August 19 Kruger National Park, Transvaal, Republic of South Africa.

- 07:00 Mostly flat to hilly country. Bushveld to dense vegetation in the north to open grassland in the south. Clear sky, temperature ranged from 65°-80°F (18°-26°C).  
We (Rafi and I) entered through Orpen Gate and drove to Timbavati River Drive, to Letaba, to Olifants (along the Letaba River), to Satara, to Skukuza and exited through the Paul Kruger Gate.  
(Details of this day's observation were written at night.)
- 07:30 One elephant, probably male, dark gray, small tusks, seen in the bushland left of the road (Orpen to Satara). It spread its ears, raised its trunk and approached us to about 20-25 meters, crossed the road (to the south) while coming closer to us (about 15 meters or less), its ears widely spread and trunk raised in "S" shape.
- 07:34 Slowly disappears in the bush, turning to our direction every so often.  
(11 additional elephants were seen during the day; either singly or in groups of 2-3 animals. The paucity of elephants seen is due to the fact that elephants are more common in the northern region of the park, especially during the winter or dry season when food is more abundant in the north. Unfortunately, we were pressed for time and could not proceed northward. [Note: Kruger National Park, area: 18,500 square kilometers - 7,300 square miles - has a population of 7,408 elephants. This information is given, as 1975 census results, in Tourist Map of Kruger National Park.]

August 28 Addo Elephant National Park, Cape Province, Republic of South Africa.

10:00 Flat to hilly country. Addo Bushveld, dense vegetation (almost all evergreen). Common species include: Spekboom, Melkton, Boerboom, Gwarrie, Acacia and others. Cool day, about 60°-65°F (15°-18°C). Clear sky with patchy clouds.  
(In the land rover: Dennis Bower, the park warden; Andy Prychodko, Rafi Gi-Ron and me.)

19:30 A herd of about 20 elephants is at about 200 meters from the road. They are spread at about 200 meters between the extremes. Only their backs and heads are above the bush (and that could be seen from standing on the roof of the land rover. Nevertheless, it was fairly easy to spot them, since their reddish/brownish color stood out among the green foliage.)  
Don't flap their ears much.  
Most females are tuskless, males do have tusks. Males seemed well fed; some females seemed emaciated.

10:50 A lone bull elephant about 30 meters from the road, feeding. (Note: Addo elephant population is unique. In 1931 there were only 11 elephants that survived the massive hunting of the many - hundreds or thousands - that roamed the Addo and other bushes in South Africa. This relict population was protected and allowed to proliferate; today there are 93 elephants in the park. About one third of the park's 77 square kilometers - 30 square miles - is fenced. After Dennis Bower and Anthony Hall-Martin, personal communication and reference #387. See Hall-Martin's report on the Addo elephants earlier in this issue.)

Sept. 9 Rietfontein waterhole, Etosha National Park, South West Africa/Namibia.

16:15 Sunny, 75°F (24°C), flat area, whereas the waterhole is depression-like. The area around it is higher and covered with trees, grass and bushes. Common tree and plant species around the waterhole include: Mopane, Cork wood, Leadwood, Raisin-bush, Acacias and others.

Species seen:

16:15 Elephants, 28 individuals were drinking and bathing, but also on the verge of leaving the hole.  
(The following observations were made while waiting for the next herd of elephants to come.)

16:20 Zebras (Equus burchelli antiquorum): One zebra was odd in color. Dark body, light hindquarters, no distinct stripes.

16:30 Greater Kudu (Tragelaphus strepsiceros).

16:40 Giraffes (Giraffa camelopardalis): 1 large individual was observed to drink 7 (consecutive) times! Each time, increasing its drinking length, i.e., 25 seconds in the 5th, 28 seconds in the 6th and 30 seconds in the 7th drink. Taking 30-60 seconds break - checking for

predators (?). At the 6th time it stopped drinking when an elephant approached.

16:50 Springbucks (Antidorcas marsupialis).

16:55 The last elephant left the waterhole heading in the southeasterly direction.

Additional observations while waiting.

17:10 Fish eagles (Cucuma vocifer), 2 on tree.

Cape turtle or laughing dove.

Namaqua dove (Oena capensis).

Burchell's courser (Cursorius rufus) on ground.

Sand grouses.

Blacksmith plover (Hoplopterus armatus).

Red-billed teal (Anas erythrorhyncha), many in water.

Glossy starling, cape (Lamprotornis nitens).

17:30 Large herd of elephants seen coming towards the waterhole. Only their heads and front sides were seen through the trees in the horizon, about 300 meters, southeast.

17:40 Two young bulls (small tusks) arrived at the water first.

17:42 They started drinking at the edge of the waterhole and then continued closer to us. (We, Rafi Gi-Ron and me, were in the car, a rented VW, on the western slope of the waterhole.)

17:48 The rest of the herd arrived at the edge of the waterhole and started drinking. Most of the other animals had dispersed by then!

17:55 Most of the herd were already in the water at about 1/2 the height of their legs.

18:00 A large female (?) was seen chasing a young bull from the edge of the water.

18:05 Rumbling and other noises were heard. Most of the herd, adult and young (there were about 8 very young calves, i.e. they could walk under their mothers, and many more young elephants of all ages - all together about 48-50 elephants of mixed ages and sexes) were in the water, splashing themselves with water, and as they were doing so their skin changed color from gray, or dark gray, to dark.

18:07 Some are lying in the water. Others are lying on an island-looking area and rolling in the mud, yet others vigorously splash water in all directions. Voices are still heard - a complete disorder.

18:08 A very young calf is seen drinking water with its trunk. There is a loud trumpeting noise, and some elephants (those closer to the SE and S shores) are seen turning around and heading slowly in the opposite direction, thus leaving the waterhole.

- 18:09 More elephants are seen moving towards that direction, S.
- 18:10 Sun is still in the sky, behind us. Not as hot as before (70°F). Sun seen above the trees.
- 18:11 A young giraffe approached the water from the north, squatted and drank water. Three more giraffes joined it, one seen bending far down to eat a low plant. Others were browsing on higher bushes and trees.
- 18:15 A flock of sand grouses landed in front of us.
- 18:17 Elephants continue to move in a slow pace out of the waterhole in the southerly direction. Still about 1/2 of the herd is in the water.
- 18:18 A group of 7 elephants turned around and returned to the waterhole to drink and splash.
- 18:19 Returned to join the herd.
- 18:20 A large bull observed standing on the SE shore (the original direction from which the herd arrived). It did not approach the water to drink or bathe.
- 18:22 Most of the herd out of the water heading south. The first ones are on the horizon about 200-300 meters from the waterhole.  
The young male, the same one that another large elephant chased before (1800), stood all the time at the edge of the waterhole, only drinking; it did not bathe. Left the shore to join the herd.  
3 young adolescent bulls seen bathing and rolling in the water/mud. Only the back of one can be seen above the water.
- 18:23 The herd is slowly disappearing.
- 18:24 One of the bathing bulls retreats backwards and then returns to (seemingly) interact with the other male, head-to-head contact. The third male is still in the water, splashing.
- 18:25 All 3 males are standing out of the water (on an "island"), pushing each other while their penises are protruding out of their sheaths. Splashing water and mudding while rumbling.
- 18:26 One bull started returning to the herd (this was probably a bull from the herd that joined the first 2 bulls that arrived before the herd, 1740). At this time the last elephants of the herd could still be seen in the horizon. (eye contact?) The other 2 bulls in the water, splashing.
- 18:27 The bulls (dark from bathing) started moving in the direction of the herd.

- 18:28 Two other young bulls (light grey, did not bathe yet) appeared from SE, same original directions from which the herd arrived. The darker ones turned towards the light ones - all four elephants moving - the darks to meet the greys.
- 18:29 One of the greys - (the first one) approaches the first dark and touches its musth gland with the trunk. There was a moment of pause, and then the dark one turned around in the direction of the herd. The light ones followed them. N.B. The lighter elephants seemed to be younger than the darker ones. The light ones did not even drink a drop of water.
- 18:31 All four bull elephants almost disappeared in the horizon. Sun did not set yet. A head of a giraffe appeared above the trees in the direction of the moving elephants.
- Sept. 10 On the way to Okerfontein, Etosha National Park, South West Africa/Namibia.
- 15:00 Sunny, hot, 94°F (34°C), grassy plains, bushes and trees (mostly Acacia).
- 15:05 Elephants: Loxodonta africana. One large female (#1) standing in the shade of dry Acacia. (She was standing across and almost blocking the dirt road.) A young elephant is lying on its left side under the female's shade. Another two young individuals are standing behind the large female. Another female (#2) is feeding on Acacia on the other side of the road. Other elephants are in the open field.
- 15:07 Large female (#1) raising her legs from time to time: right front, left front and right hind foot. The young lying also lifts right hind foot and touches the female. (Note: the female's leg movements came subsequent to the young elephant's moving under her. It appears that she tried to accommodate space for it to move freely.)
- 15:12 Young rose and all moved into the open field (to our left). All together 10 elephants.
- |  | <u>Estimated age</u> |
|--|----------------------|
| 4: adults  | 25-35 yrs.+          |
| 1: height above large female's eye                     | 15 yrs.+             |
| 1: height of large female's eye                        | 10 yrs.+             |
| 2: height between large female's base of tusks and eye | 6 yrs.+              |
| 1: height of large female's base of tusks              | 3 yrs.+              |
| 1: height of just above large female's belly           | 1 yr. +              |

(Age estimation was done in the field and was confirmed later; it is based on Laws, R.M. and Sikes, S.K.: References #676 and #331, respectively.)



- 15:25 Trumpeting in the open field.
- 15:35 At a waterhole: (It) seemed dry from the road, about 100 meters away.  
Mud and water bathing (some elephants changed color.)  
Dust bathing, ear flapping.  
Movements towards the road and into the shady bush (Acacia and others).  
Elephants stopped on the way, and the young in front of the leading female lay down and rolled in the grass-sand.
- 15:38 Crossed the road (to our right) while spreading the ears when facing us.  
The last young male, about 10 years old, after crossing the road, posed for a minute and then returned to a small green grass/thorny plant, about 1/2 meter, plucked it with its trunk while using the left foreleg (to uproot the plant). Lifted the leg, hit the plant at an angle while pulling with the trunk. Brought the plant to mouth while joining the herd.
- 15:40 Trumpeting was heard from the bush.  
(Note: Etosha National Park is one of the richest, in fauna, national parks in the world, covering an area of 22,270 square kilometers - 9,000 square miles - and has a population of about 1,300 elephants. Elephants do migrate into and out of the Park during the dry season. After Pieter de Villiers, personal communication. See also Recent Correspondence in this issue.)

Readers who wish to comment on (interpret?) any of the above observations are welcome to do so. The editor is particularly interested in hearing comments regarding the fact that interactions among the observed male elephants were associated with the erection of their penises. (See July 30, 12:10 and 12:21; Sept. 9, 18:25).