



September 22, 2014

Mr. John Tracogna
CEO Toronto Zoo
361A Old Finch Ave
Toronto, ON M1B 5K7

Dear John,

I hope all is well with you, and congratulations on your 40th Anniversary.

I'm sending you a report on Thika, Toka and Iringa, the African elephants relocated to our facility from the Toronto Zoo in October 2013. In the interest of continuity, we have referred to the Toronto Zoo behavioral and medical records in the report document.

A copy of the report will be available on the PAWS website for view.

Sincerely,



Edward A. Stewart
Performing Animal Welfare Society
President



September 2014

Toronto Zoo Elephants Update

The Toronto Zoo's African elephants, Iringa, Toka and Thika, have adapted well to their new home at ARK 2000, our 2,300-acre captive wildlife sanctuary in San Andreas, California. Upon their arrival the elephants had difficulty navigating inclines. They now move up and down hills with ease. All three elephants are active throughout the day, exploring their spacious habitats, grazing and browsing on grass and natural vegetation, pushing on trees, moving logs and eating branches. Iringa, Toka and Thika have been able to be in the African habitat every day since their arrival at PAWS, including during the winter months. This is a general summary highlighting some of the most notable medical and behavioral matters pertaining to the elephants.

RECORDS:

The Toronto Zoo provided us with only eight years of medical records for Toka, Thika and Iringa, and the records we received unfortunately appear incomplete or sparse in places. The same holds true with the behavioral data provided to us — surprising when you consider that two of the three elephants have lived at the Zoo for nearly 40 years and one of them was born there. Despite these handicaps, information about chronic medical issues and references to behavioral problems are mentioned in the records, and we have observed some of the same conditions in the elephants since their arrival at our sanctuary.

GENERAL CARE:

All three elephants receive regular, routine foot care, and regular, routine blood and urine collection, as well as daily visual assessments by our keeper staff, and a minimum of thrice weekly visual assessments by veterinary staff. Toronto Zoo records indicate occurrences of aggression toward staff and keepers by Thika, Toka and Iringa. To date, we have observed none of this behavior from these elephants, and they have been very cooperative with all members of our keeper and veterinary staff.

Toka and Thika are active, gaining strength, and have had very few medical issues. There was concern on the part of the Toronto Zoo as to the ability of Iringa, because of her age and physical condition, to successfully complete the trip from Ontario to California. She is, indeed, the most frail of the three elephants. Therefore, PAWS elephant and veterinary staff pay very

close attention to her. Like Toka and Thika, Iringa is also very active, but not surprisingly, many of the chronic, longstanding medical problems described in her Toronto Zoo medical records are still present, such as arthritis, dermatitis, and abnormal blood and urine tests.

VITAMIN E:

According to Toronto Zoo records, Toka, Thika, and Iringa were chronically and sometimes markedly deficient in vitamin E, a nutrient that is critically important to muscle function, skin and vision, and other organ and immune system functions. One of our first medical goals was to increase their serum vitamin E levels. Consumption of fresh vegetation is an excellent source of naturally-occurring vitamin E, and PAWS provides ample opportunity for browsing and grazing. Specially formulated pellets and concentrated liquid vitamin E are also provided to supplement natural sources. All three elephants' serum vitamin E levels have been steadily improving and are now either approaching, or have achieved levels that are consistent with, currently accepted "normal range" values.

IRINGA DERMATITIS/FEET:

Iringa has had issues with dermatitis since her arrival at PAWS, for which she is being appropriately assessed and treated. Toronto Zoo records indicate a lengthy history of various skin problems, including abscesses and other lesions on her skin and on the backs of her ears. Interestingly, Thika also has several notations in her Zoo record about similar but less severe skin lesions behind her ears, under her front leg, on her shoulder, and on a nipple. Toka's Zoo record also notes dermatitis behind her ears, however dermatitis has not been a problem so far with Toka or Thika. Iringa's Zoo record describe various foot problems and we are currently soaking her right rear foot daily due to an abnormality in one of her toes.

These are a few of many entries in Iringa's Zoo records, referring to skin problems:

9/22/12 - Ear dermatitis. Occurs every year, about this time, for past 5 years.

12/20/11 - Extensive skin lesions behind ears, cracked skin along sides and back.

7/15/11 - Abscess on left side of abdomen, size of an orange.

9/25/10 - Moist dermatitis, bleeding nodules behind ears.

10/28/09 – "Developing small skin abscesses within cracks of her skin, similar to those seen in Tara last year". Biopsy revealed "acute necrotizing septic dermatitis."

4/2/09 - Several nodules on the back of her left ear were rubbed raw yesterday afternoon.

10/14/08 – Ears biopsies reveal "perivascular dermatitis."

IRINGA ABNORMAL LAB WORK:

Toronto Zoo records indicate that on numerous occasions Iringa had abnormal findings on blood tests, including anemia and low serum electrolytes. Zoo records also describe abnormal urine test results, including inability to concentrate urine as well as the frequent absence of crystals that are normally found in elephant urine. We have also noted similar findings, and our

veterinary staff monitors these parameters closely, and consults with appropriate specialists on an ongoing basis. We have fortunately not seen the severe degree of anemia, edema, lethargy, and other blood cell abnormalities that the zoo noted in the period around December 2011 - January 2012, but we nevertheless monitor her closely in case those problems recur.

These are a few of the many entries in her Zoo record referring to blood test abnormalities:

2/11/13 - Anemia again. Treated with iron supplementation.

12/24/11 - Non-regenerative anemia with atypical red and white blood cells in circulation.

11/9/09 – Iringa has been losing her appetite now and keepers are concerned that she could fade like Tara did last year

IRINGA'S OLD INJURIES:

Iringa sustained injuries during her time at the Toronto Zoo, including injuries that resulted in the loss of a section of her right ear, the end of her tail, as well as the amputation of part of the tip of her trunk. None of these injuries have caused a significant problem at PAWS, although the trunk injury seems to have had a mild effect on her tactile ability.

ALL THREE ELEPHANTS – LYING DOWN:

All three elephants now feel secure enough in their surroundings to lie down and rest, and each one has her own preference. Toka, for example, will occasionally lie down in the habitat for up to 30 minutes at a time. Thika lies down to sleep regularly, both inside the barn and outside at night. Both Thika and Toka are able to lie down and get up without a problem.

According to medical history provided by the Toronto Zoo, Iringa had not lain down for several years, and in fact in 2009, on two different occasions, it was necessary for zoo staff to lift her head with a strap when she was unable to get up from a prone position. It is very important for elephants to be able to lie down and get up, as this allows them to rest and take weight off their feet and joints. It is always of concern when an elephant stops lying down as this inability or unwillingness can lead to rapid progression of arthritis and foot problems, or even death of the elephant when it eventually lies down or collapses and is unable to get up.

At PAWS, Iringa has lain down and needed assistance getting up, but on these occasions once her head was up and her legs were in position, she quickly rose to her feet and immediately afterwards was able to stand and walk. As we have 24-hour keeper staff, we have been able to keep a close eye on Iringa and provide assistance as soon as she needed it. It is both encouraging and noteworthy that for five of the last six times Iringa has lain down and slept, she has gotten to her feet without any assistance.

TOKA & IRINGA ARTHRITIS:

Digital radiographs of Toka and Iringa reveal moderate arthritis in their carpal joints, which are more severe in Iringa. Both elephants are very active and have good range of motion in their joints. Their active lifestyles and daily exploration of the habitats act as a form of natural

physical therapy and tend to keep their joints mobile and flexible. In addition, because of the degenerative changes seen on their x-rays they also receive appropriate supplements and medications. Iringa especially enjoys spending time in PAWS' indoor therapy pool, which allows her to temporarily take weight off her legs and feet as she becomes buoyant in the water.

These are a few of the many entries in Toronto Zoo records indicating problems related to arthritis:

Iringa:

8/9/13 – "Sleeps standing due to arthritis. Hasn't laid down since 2009. Won't go outside in cool/wet weather". "RF has noticeably reduced mobility and this may be progressing."

10/13/09 - "Fell on Monday and got a few scratches on her head from getting up."

1/17/09 - "Chronically lame."

Toka:

5/23/11 - Slipping down on hind legs on exhibit. "Possibly tired..."

3/27/11 – Right hind limb does not have full range of motion.

3/22/11 - RH leg stiff (held straight) when walking. Suspect hip trauma.

10/21/06 - pushed into hot wire overnight, lame on LF and RH legs.

STEREOTYPIC BEHAVIOR:

Toka and Iringa continue to exhibit periodic stereotypic behavior which is documented in Toronto Zoo records. Stereotypic behavior such as rocking and swaying is a coping mechanism common in captive elephants, never seen in wild elephants, and which becomes a deeply ingrained habit and part of an animals' behavioral repertoire which may last a lifetime. We have already seen some reduction in this behavior since their arrival, and hope that this aberrant behavior diminishes over time. Toronto Zoo records mention Iringa's swaying as possibly contributing to her tendency to develop carpal arthritis – she would sway so vigorously that the zoo thought that it was putting abnormal stresses and pressure on her joints.

From Iringa's Zoo records:

3/18/07 – Increasingly showing twisting of lower LF below carpus possibly from her swaying... Central nail split likely because of the pressure she puts on it.

1/3/07 – Crack in left front foot, 3rd toenail "...most likely due to excessive repetitive swaying, which may have also resulted in mild supination of this limb at the carpus."

SOCIAL BEHAVIOR:

Interactions between Iringa and Thika, as well as between all three Toronto elephants, and the other African elephants – Mara, Maggie and Lulu – occur across a barrier both inside the barn and outside in the habitats, and are monitored closely. We will continue to monitor the

behavior of all elephants closely and will proceed with any social adjustments in a manner which appears to be safe for all of the elephants.

Elephant introductions must always be made carefully, taking into account each elephant's personality, behavioral history, physical condition, and perceived social ranking. Toronto Zoo records mention numerous instances of behavioral problems that resulted in injuries and death to the elephants, as well as injuries to human handlers.

Behavior descriptions/issues as reported by the Zoo:

Toka: *"She was a high ranking animal in the past but is presently the lowest ranking... She is extremely submissive to Thika in the paddock and less so to Iringa. She will engage Thika in head to head sparring inside the house between pens... On occasion she displays a stereotypic swaying behavior in the house, sometimes in tandem with Iringa. She is never put in the same enclosure with Thika inside the house."*

5/17/13 - Episodes of sudden aggression, strikes out at keepers and inanimate objects.

7/20/12 - Fought with Thika overnight - tusk wound to base of tail.

10/9/09 - Bite/gore wounds right ear .

8/16/09 - Gore wound below anus.

1/15/08 - "Was beaten up a bit by the others", left ear swollen and sore.

5/13/07 - Lost a fight with Thika and Tara. 4-inch gash/laceration inside mouth.

12/12/06 - "Several minor wounds" in altercation with other elephants on exhibit.

10/21/06 - "Pushed into the hot wire overnight", lame on left front and right hind legs.

Thika: *"Although the youngest, she is the dominant elephant. She frequently asserts her dominance over Iringa and particularly over Toka, whose responses sometimes trigger chasing... Keepers must exercise special care when working around her and always remain alert and attentive to her. Has displayed unprovoked aggression to certain keepers on occasion for no apparent reason."*

3/17/06 - Trauma from the tusk of Toka. Multiple abrasions to the dorsal surface of the proximal trunk and a single scrape adjacent to the left tusk.

Iringa: *"Middle ranking animal within the herd... Iringa is wary of Thika and less tolerant of Toka than she used to be. Her response to commands is generally good. Fifteen years ago she injured a keeper while elephants were still being managed by free contact. She can be unpredictable and takes time to become comfortable with new keepers."*

SUMMARY:

PAWS is committed to providing excellent, lifelong veterinary care and husbandry, as well as sound nutrition and an enriching natural habitat for elephants Toka, Thika and Iringa.