



## Floppy Ear in African Elephants. *"Some not so scientific observations".* December, 2010.

I am sure many of you have seen a case of floppy ear in African Elephants. The condition is where a portion of the ear flops over, sometimes it will right itself but in many cases it remains bent over with no apparent discomfort to the elephant.

I don't remember when I saw my first case of floppy ear but the more I travelled the more I saw pretty much in every country I visited, although percentage wise I don't remember seeing too many in Africa, in the bigger herds.

So how does this condition happen, does it happen quickly, does it happen because of dietary issues, does it happen because of a medical reasons, does it happen when the elephant loses condition, so what happens? These are all questions that I have been asking but no one seems to know.

As far as I can tell it is a gradual process but not extremely slow. It starts with probably a lack of condition or a sickness sometimes, something the keepers or trainers do not pick up, but nevertheless the ear is flopped over in the morning.

I believe it could be like trunk paralysis in Asian elephants, it might be a hereditary condition, that some get and others don't. Now these are all observations not substantiated facts.

An African elephant ear can weigh as much as 100 lbs on a very large bull. This weigh of the ear always swinging forward regulating temperature and warding away insects is a lot of weigh to control for the elephant just by muscle power, so the ear comes when you look at the structure of the ear, with a stabilizing fold, a counter balance, if you will, red arrow. This stabilizing fold helps keep the ear against the head and keeps the ear from flopping forward all the time.



See photo. I guess the argument could also be made

that the folds are extra surface area helping with the reduction in body temperature, but with this enormous weigh these ears do need help and this fold doe's help.

For those of you who have not touched an African elephant ear, the best way to explain it would be, if you were to take a thick piece of leather, let's say about 1/2" thick at the base of the ear but then gradually getting thinner as it reach the fringes of the ear, cover this with a thin skin on both sides. Now, between the skin and the cartilage (the thick leather piece) there are veins and arteries on the inside of the ear. In very hot climates the elephant can pass a flow of blood through these veins which will; they say, reduce its body temperature by 10%.

The structure of the ear leaves a lot of question in my mind to be asked because ears vary so much from animal to animal and I would be thinking from region to region, but they are not so much different that we have different problems.



All of the ear-fold issues I have seen were very much the same in character it was also apparent that they folded down the same area of the ear, but I guess this is not that surprising because the physic of the ear, weight wise, would pull most of the weight forward once the problem was in full swing. I was also under the opinion that this doesn't occur in the wild, well I was way off and had not seen that many elephants to make that statement, friends of the zoo I am working for at the moment sent me a photo of a bull in Africa with both ears folded over.

But what could make the ears fold over and in some cases stay flopped over, is it a symptom of ill health, a lack of condition that an animal is going through where blood flow to the ear becomes weak, does blood have anything to do with?

I have followed an elephant through a period where one ear would fold slightly hang for a day then flip back over. The elephant didn't appear unhealthy, quite normal actually, so could it be a vitamin or mineral deficiency, but this is hard to determine



The sequence of photos above show a seemingly normal elephant ear but some moments later the ear drooped over, it appeared to have happened when the elephant was scratching the back of the ear and was pulling her ear over with the movement of her trunk. The ear could be push back over with a broom handle. It happened a couple of times at no apparent time and with the elephant appearing to be healthy.



The three elephants above are from three different European countries and not related. The issues has been wide spread and probably been with us since African elephants were brought to our zoos and circuses. Here are few other examples.



Basel 1970's.



Beekes Bergen Safari 2000's.



Washington Zoo, USA. 1994.



Knowsley Safari Park, 2010.



Berlin Zoo, 1970's.



Duisburg Zoo, 1970's.

So folks, here is the question, what's happening with African elephant ears.