

## *The History of the EA Family*

On the very first day of the Amboseli Elephant Research Project, September 1, 1972, my colleague Harvey Croze and I took photographs of all the elephants we saw. One of them was an adult female with a neat V out of the middle of her left ear. There were others there but we couldn't get good photos. Almost a year later in August 1973 we found the same female with a new calf, a male. It was one of the first birth records we ever made. The following month in September 1973, we were finally able to get photos of other members of the family.



*Evangeline in 1972*

We saw the same family nine more times in 1973 and we were able to work out the composition and structure. There seemed to be 13 members including three adult females. We assigned them the letter 'E' and named the biggest female--the matriarch--Estella. The next oldest was called Esmeralda, and the V-nick left female became Evangeline.

|                |           |
|----------------|-----------|
| Estella        | F         |
| 3-year-old     | F Elfrida |
| Esmeralda      | F         |
| 3-year-old     | M Keyhole |
| Evangeline     | F         |
| '73 calf       | M         |
| 4-5-year-old   | M Erasmus |
| 7-8-year-old   | M Ezra    |
| 10-year-old    | F Eloise  |
| 10-12-year-old | M Ed      |
| 10-12-year-old | M M96     |
| 10-12-year-old | M M62     |
| 12-14-year-old | M Chunky  |

In 1974 we saw the 'E' family seven times. They appeared to have a close relationship with a smaller family led by the matriarch we called Echo when

she was radio-collared in 1974. Because they were closely allied we gave them both the 'E' designation and called them the EA and EB families. Estella led the EA family and Echo led the EB family. The two families formed what I call a *bond group*.

In 1975, I took over the project on my own and set up a research camp in the Park. That year I saw the EAs 11 times and I was excited to record two births. I recorded a new calf with Estella in May and a new calf with Esmeralda in October. Both were daughters.

As I was getting to know this family better, I assigned names to some of the younger members. The young female was called Eloise. Two of the young males who were with the family earlier had apparently gone independent or were not actually members. They were called Ed and Chunky. The immature males still with the family were designated Ezra, M96 and M62 (I'm not sure why the last two never had names).



*Estella was beautiful and regal*

Tragically, the following year, 1976, turned out to be a serious drought year. The rainfall had been sparse in 1975 and then almost non-existent in 1976. There was little vegetation and both livestock and wildlife suffered. There was also poaching of elephants and rhinos. That year 30 calves were born but only 16 survived. Their mothers were not able to produce enough milk and at the time that they should have been supplementing their milk diet with vegetation, there was nothing for them to eat.

The EAs did better than most families. They didn't lose any calves, although Evangeline lost her calf born in 1973 in March 1975. However, the 13-year-old male, M62, thought to be Estella's was speared and died in December

1976. In all in 1976 there were 68 elephant deaths due to the drought and from poaching and conflict.

Finally, good rains came in December 1976 and in the following three years there was higher than average rainfall with resulting abundant and nutritious vegetation. At the same time, for reasons I've never been sure about, the poaching stopped in the Amboseli ecosystem but not in the rest of Kenya. The result was a period of peace and plenty for the elephants—adults and calves alike.

By now I knew the EA family fairly well. Eloise had reached maturity and gave birth to her first calf in December 1978, a male. Evangeline also had a son in December 1979. By the end of 1979 the family consisted of the following 12 members:

| <b>Individual</b>        | <b>Sex</b>      | <b>Estimated or Known Date of Birth</b> |
|--------------------------|-----------------|---|
| Estella                  | F               | 1938                                    |
| Elvira                   | F               | Apr-75                                  |
| Elfrida                  | F               | 1970                                    |
| Esmeralda                | F               | 1948                                    |
| Emerald                  | F               | 1975                                    |
| Keyhole                  | M               | 1970                                    |
| Eloise                   | F               | 1964                                    |
| ELO78                    | M               | Dec-78                                  |
| Evangeline               | F               | 1957                                    |
| EVA79                    | M               | Dec-79                                  |
| Erasmus                  | M               | 1969                                    |
| Ezra                     | M               | 1966                                    |
|                          |                 |   |
| <b>Independent Males</b> | <b>Code No.</b> | <b>Estimated or Known Date of Birth</b> |
| Chunky                   | M83             | 1961                                    |
| M96                      | M96             | 1963                                    |
| Ed                       | M48             | 1963                                    |

The calves in the family have been named according to the system I use. Usually calves are not named until they are four years old. Up until that age they are referred to by a code based on their mother's name and the calf's year of birth. Thus, Elvira was originally referred to as EST75 meaning Estella's '75 calf. At the beginning of 1979, in the year she would turn four, she was named Elvira.

In 1980 an amazing event occurred in the EA family. In June, Estella gave birth to twins, a male and female. It was the first set of twins we had ever had. Twinning had been recorded in a few other places but it is rare. (As it turned out we had to wait another 38 years to record a second set of twins in Amboseli.)

Where twins had been recorded before, one twin usually died in the first year of life. Estella was a big experienced female and a matriarch. Her twins survived. Since Estella means "star" I decided to name them with an astronomical theme and they were called Eclipse and Equinox.

In that year I happened to be doing a study of calf behaviour and I added these two calves to my sample. It was fascinating watching their behaviour. Equinox was often aggressive to his sister when they were suckling. He would continuously push her off. However, Eclipse was smart. She would play with her brother until they both got tired and lay down to go to sleep. As soon as Equinox was asleep she would jump up and go over to Estella and suckle in peace.



*Estella's twins at less than a month old*

Two more calves were born to the family over the next years: Elfrida gave birth to her first calf in August 1982, a daughter; and Eloise had her second calf, a male, in the same month. Also, in that year the young male Ezra went independent as all young males do. We were never sure who his mother was.

All was going well for the EAs but another drought struck in 1984. All the elephants suffered. I recorded 70 deaths. The EAs lost two individuals: M96, who was already independent, and Evangeline's 1969 male, Erasmus. However, it was also a bad year to be born. In our research we have found that calves born in a drought year are less likely to survive even when they are older. Estella and Esmeralda both gave birth to calves at the end of 1984 and both of these calves died before they were four years old.

The next few years were relatively peaceful for the EAs. The only death that occurred was that of the male I called Chunky. I was never really sure he was



an EA since he was only seen once with them at the beginning of the study. We suspected that he was poached. Although poaching of elephants was low around Amboseli, it still happened from time to time. The 1980s was a terrible period for elephants in the rest of Kenya and most of Africa. Between 1973 and 1989, Kenya's elephant population went from an estimated 167,000 to 16,000. During the same period, the Amboseli elephant population increased because they were protected by the local Maasai and the presence of the research project. A ban on ivory, which went into effect in January 1990, was the beginning of a recovery for Africa's elephants.

From the end of the drought in 1984 to the end of the century in 1999, the EAs flourished with 24 births and only a few deaths and those only of calves. The female twin Eclipse had her first calf and Estella was now a great-grandmother with Elfrida's daughter Euphemia giving birth. Seven of the males in the family grew up and left to be independent. At the end of 1999 the family consisted of the following 31 members plus nine independent males:

| <b>Individual</b> | <b>Sex</b> | <b>Estimated or Known Date of Birth</b> |
|-------------------|------------|---|
| Estella           | F          | 1938                                    |
| EST89             | F          | Mar-89                                  |
| Eclipse           | F          | Jun-80                                  |
| ECL97             | F          | Jun-97                                  |
| Elvira            | F          | Apr-75                                  |
| ELV96             | F          | Feb-96                                  |
| Eluai             | F          | Dec-91                                  |
| Eldoret           | M          | Nov-87                                  |
| Elfrida           | F          | 1970                                    |
| ELF99             | F          | Apr-99                                  |
| Eltonin           | F          | Feb-95                                  |
| Eremit            | M          | Jan-91                                  |
| Euphemia          | F          | Aug-82                                  |
| Eridanus          | M          | Jan-95                                  |
| Esmeralda         | F          | 1948                                    |
| ESM99             | M          | May-99                                  |
| Elisha            | M          | Apr-94                                  |
| Eartha            | F          | Dec-88                                  |
| Elizabeth         | F          | Nov-80                                  |
| ELI98             | F          | May-98                                  |
| Edney             | F          | Mar-94                                  |
| Emerald           | F          | 1975                                    |
| Elin              | F          | Mar-89                                  |

|                          |                 |   |
|--------------------------|-----------------|---|
| Eloise                   | F               | 1964                                    |
| ELO99                    | M               | Dec-99                                  |
| Enrique                  | M               | Apr-96                                  |
| Epulu                    | M               | Jul-92                                  |
| Evangeline               | F               | 1957                                    |
| EVA98                    | M               | Jul-98                                  |
| Elkana                   | F               | Jan-94                                  |
| Emoroo                   | M               | Dec-88                                  |
|                          |                 |   |
| <b>Independent Males</b> | <b>Code No.</b> | <b>Estimated or Known Date of Birth</b> |
| Ed                       | 48              | 1963                                    |
| Ezra                     | 177             | 1966                                    |
| Keyhole                  | 228             | 1970                                    |
| Eugene                   | 306             | Dec-78                                  |
| Ebenezer                 | 342             | Dec-79                                  |
| Equinox                  | 305             | Jun-80                                  |
| Ethan                    | 362             | Aug-82                                  |
| Emmanuel                 | 394             | Oct-84                                  |
| Elton                    | 409             | Dec-85                                  |

The EAs were a very successful family under the wise leadership of Estella. However, the next decade would prove to be a tragic and challenging one for the family. Evangeline was the first of the big adult females to die. She was poached in June 2001. Unfortunately, there was still some poaching for ivory going on. Then in 2004, Esmeralda died from a poison arrow wound. It was a slow and painful death. At that time there was no vet to treat her, although with a poison arrow wound there may not have been anything that could be done for her. Esmeralda's youngest calf died at the same time. In that same year, the bull Ed was shot after he killed a deranged man who walked upon him at night.

In January 2006, the most profound loss occurred. Estella, who was estimated to be 68 years old died a natural death of old age. Nevertheless, it is a major tragic event for a family to lose their matriarch. And this family had recently lost their second and third oldest females as well. The next one in line was Eloise who was by then 42 years and so she had the experience to be a matriarch.

Often when a long-standing, old matriarch such as Estella dies, a family will break up into subgroups and eventually this is what happened with the EAs. The subgroups formed along matriline, so Estella's daughters and their calves tended to stay together and Esmeralda's offspring formed another. Elkana was



*Eloise had grown up to be a particularly beautiful and impressive female*

the only female from Evangeline's line and she stayed near Estella's part of the family.

The EAs recovered from their losses over the next three years, but then the worst drought in living memory occurred in Kenya in 2009. Thousands of cattle, sheep, goats, zebras, wildebeest and other animals died. The elephants were not spared; almost 400 of the 1600 individuals known to the project died. The calves were the first to go. There

was nothing for them to eat and their mothers could not produce enough milk for them. In 2008, 151 calves were born, which was a new record. However, the next year these calves were at the age when they needed to supplement milk with vegetation and there simply wasn't anything they could eat. As a result, 97 of them died during 2009. The calves born during 2009 also suffered but they did better because they didn't have to eat as much vegetation. Of the 85 calves born during the drought, 38 died.

Tragically, 60 adult females in the population died. The EA family was not spared. They lost 10 calves and two adult females: Elvira and Emerald. Elizabeth died the year before when the drought was getting started. Amazingly, two of the 2008 calves survived: Eloise's and Edney's. One of the EA's independent males, Evangeline's son Ebenezer, died, but from a poison-arrow wound. Poaching had started up again as a result of a very poor decision to allow a legal sale of ivory in southern Africa in 2008.

The drought broke in December and fairly good rain fell in 2010. African savannahs are remarkable in being able to recover quickly. Within a couple of months, the woodlands and plains were transformed from what looked like bare soil to lush green swards. It always amazes me. Underneath that dusty ground the seeds and roots remain waiting for the moisture to release them.

Slowly the elephants began to recover. They put on weight and there was a spring in their step. The ATE team had their work cut out for them trying to discover who

had died, who had survived, and who all the orphans were. It took almost a year to be able to figure it all out.

At the end of 2010, the EA family was missing its oldest females and had a markedly different composition, but it was still a very viable family with 30 members plus 13 independent males:

| <b>Individual</b> | <b>Sex</b> | <b>Estimated or Known Date of Birth</b> | <b>Mother {grandmother} if dead</b> |
|-------------------|------------|---|-------------------------------------|
| Eloise            | F          | 1964                                    | Esmeralda                           |
| ELO08             | M          | Nov-08                                  |                                     |
| Enugu             | F          | Jun-04                                  |                                     |
| Elijah            | M          | Dec-99                                  |                                     |
| Elfrida           | F          | 1970                                    | Estella                             |
| Eastwood          | M          | Jan-03                                  |                                     |
| Edith             | F          | Apr-99                                  |                                     |
| Eltonin           | F          | Feb-95                                  |                                     |
| Euphemia          | F          | Aug-82                                  |                                     |
| EUP10             | F          | Jan-10                                  |                                     |
| Eloi              | M          | Jan-05                                  |                                     |
| Edressa           | F          | Apr-00                                  |                                     |
| Eclipse           | F          | Jun-00                                  | Estella                             |
| Esposito          | M          | May-03                                  |                                     |
| Eyadema           | F          | Jun-97                                  |                                     |
| EYA10             | F          | Nov-10                                  |                                     |
| Else              | F          | Mar-89                                  | Estella                             |
| Eluai             | F          | Dec-91                                  | Elvira                              |
| Escape            | F          | May-00                                  | Elvira                              |
| Estefan           | F          | Feb-96                                  | Elvira                              |
| Entebbe           | F          | Jun-04                                  | Elvira                              |
| Elin              | F          | Mar-89                                  | Emerald                             |
| Evander           | M          | Jan-03                                  |                                     |
| Excel             | M          | Feb-00                                  | Emerald                             |
| Expedia           | M          | Dec-01                                  | Elizabeth                           |
| Edney             | F          | Mar-94                                  | Elizabeth                           |
| EDN08             | F          | Mar-08                                  |                                     |
| Eduardo           | M          | May-99                                  | Esmeralda                           |
| Elkana            | F          | Jan-94                                  | Evangeline                          |
| Eden              | M          | Jul-98                                  | Evangeline                          |



| Independent Males | Code No. | Estimated or Known Date of Birth | Mother     |
|-------------------|----------|----------------------------------|------------|
| Ezra              | 177      | 1966                             | ?          |
| Eugene            | 306      | Dec-78                           | Eloise     |
| Equinox           | 305      | Jun-80                           | Estella    |
| Ethan             | 362      | Aug-82                           | Eloise     |
| Emmanuel          | 394      | Oct-84                           | Evangeline |
| Elton             | 409      | Dec-85                           | Eloise     |
| Eldoret           | 439      | Nov-87                           | Elvira     |
| Emoroo            | 460      | Dec-88                           | Evangeline |
| Eremit            | 508      | Jan-91                           | Elfrida    |
| Epulu             | 530      | Jun-92                           | Eloise     |
| Elisha            | 554      | Apr-94                           | Esmeralda  |
| Eridanus          | 587      | Jan-95                           | Euphemia   |
| Enrique           | 613      | Apr-96                           | Eloise     |

Some of the new names may seem unusual. By 1991, when it was time to name the 1987 calves, I had run out of common first names for elephants and decided to use themes for each birth year. For the 1987 theme I chose place names in Kenya, thus Eldoret, which is a Kenyan city. For the 1988 calves, I used African singers and musicians, so Emoroo. We've had all sorts of themes ever since.

Once the drought was over, it didn't take the females in the Amboseli population long to recover enough to start breeding again. Already in January and February 2010 we recorded females in oestrus. With a twenty-two-month gestation period we expected to start finding new calves in November 2011. And that's exactly what happened. There were actually two births in October, so those females were



*Magnificent Ezra*

surprisingly early. More calves came in November and December: a total of 50, and then in 2012 there was a deluge of calves, another 201! The EAs joined in the baby boom with enthusiasm. They had three calves in late 2011 and six more in 2012.

Sadly, there was one very sad loss in 2012. The bull called Ezra who was a favourite of the whole team for his calm, gentle demeanour even when he was in musth, died. We still miss him.

Over the next years, the EA family continued to grow and flourish. Unfortunately, there was another drought in 2017 and the family lost two of its most important members: the matriarch Eloise and the lovely twin Eclipse.



*Equinox in full musth*

Several older females died during this drought and we believe that was the cause of Eloise's death. Eclipse, on the other hand, was only 37. We think she may have died from birth complications. She was due to have a calf. Whatever, the reason was, we were very sad to lose this special individual.

Eclipse's twin brother, Equinox, has grown into a formidable bull, who comes into musth regularly. His broken tusks show that he's a fighter.

The way the EA family has broken down into subgroups is interesting. One group is led by Elfrida, Estella's daughter. A second group is led by Eluai, Elvira's daughter and it includes her three sisters. A third subgroup includes Elizabeth and Emerald's offspring, led by Elin. Evangeline's only daughter, Elkana, turned out to be a one-tusker. She's usually with either Elfrida or Elin. All of the EAs are sometimes together, but Eluai spends much more time outside the Park and we don't see her as often. The others, particularly, Elfrida, like to feed right around our camp. In September this year, she came with a new calf, a son. We were impressed. Elfrida is 50 years old!

The EAs are tough, successful survivors and we look forward to following their fascinating lives over the next years.

Cynthia Moss  
Amboseli  
September 2020

| <b>Individual</b> | <b>Sex</b> | <b>Estimated or Known Date of Birth</b> | <b>Mother {grandmother} if dead</b> |
|-------------------|------------|---|-------------------------------------|
| Elfrida           | F          | 1970                                    | Estella                             |
| ELF20             | M          | Jul-20                                  |                                     |
| Edmure            | M          | Apr-16                                  |                                     |
| Elzbieta          | F          | Nov-11                                  |                                     |
| Edith             | F          | Apr-99                                  |                                     |
| Eltonin           | F          | Feb-95                                  |                                     |
| EIN17             | M          | Apr-17                                  |                                     |
| Ekiti             | F          | Aug-12                                  |                                     |
| Euphemia          | F          | Aug-82                                  |                                     |
| Echichu           | F          | Apr-14                                  |                                     |
| Easterly          | M          | Jan-10                                  |                                     |
| Edressa           | F          | Apr-00                                  |                                     |
| EDS18             | F          | Jan-18                                  |                                     |
| Else              | F          | Mar-89                                  | Estella                             |
| ELS19             | F          | Nov-19                                  |                                     |
| Eyadema           | F          | Jun-97                                  | Eclipse {Estella}                   |
| EYA20             | F          | Feb-20                                  |                                     |
| Ebb               | F          | Nov-10                                  |                                     |
| Esfir             | M          | Nov-11                                  | Eclipse {Estella}                   |
| Eluai             | F          | Dec-91                                  | Elvira {Estella}                    |
| ELU20             | M          | May-20                                  |                                     |
| Egbert            | M          | Nov-15                                  |                                     |
| Egil              | M          | Nov-11                                  |                                     |
| Estefan           | F          | Feb-96                                  | Elvira {Estella}                    |
| ETF18             | F          | Mar-18                                  |                                     |
| Elmolo            | M          | Apr-12                                  |                                     |
| Escape            | F          | May-00                                  | Elvira {Estella}                    |
| ESC20             | M          | May-20                                  |                                     |
| Ekwang            | M          | Aug-14                                  |                                     |
| Entebbe           | F          | Jun-04                                  | Elvira {Estella}                    |
| ETB18             | F          | Mar-18                                  |                                     |
| Ebb               | F          | Nov-10                                  |                                     |
| Elin              | F          | Mar-89                                  | Emerald {Esmeralda}                 |
| ELN17             | F          | Jun-17                                  |                                     |
| Essiga            | F          | Mar-12                                  |                                     |

|                          |                 |   |                       |
|--------------------------|-----------------|---|-----------------------|
| Edney                    | F               | Mar-94                                  | Elizabeth {Esmeralda} |
| EDN18                    | F               | Jan-18                                  |                       |
| Ephesus                  | F               | Dec-13                                  |                       |
| Eclair                   | F               | Mar-08                                  |                       |
| Enugu                    | F               | Jun-04                                  | Eloise {Esmeralda}    |
| Ellaria                  | F               | Mar-16                                  |                       |
| Eidan                    | M               | Nov-08                                  | Eloise {Esmeralda}    |
| Esther                   | F               | Feb-13                                  | Eloise {Esmeralda}    |
| Elkana                   | F               | Jan-94                                  | Evangeline            |
| ELK18                    | M               | Aug-18                                  |                       |
| Edda                     | F               | Apr-12                                  |                       |
|                          |                 |   |                       |
| <b>Independent Males</b> | <b>Code No.</b> | <b>Estimated or Known Date of Birth</b> | <b>Mother</b>         |
| Eugene                   | 306             | Dec-78                                  | Eloise                |
| Equinox                  | 305             | Jun-80                                  | Estella               |
| Ethan                    | 362             | Aug-82                                  | Eloise                |
| Emmanuel                 | 394             | Oct-84                                  | Evangeline            |
| Elton                    | 409             | Dec-85                                  | Eloise                |
| Eldoret                  | 439             | Nov-87                                  | Elvira                |
| Emoroo                   | 460             | Dec-88                                  | Evangeline            |
| Eremit                   | 508             | Jan-91                                  | Elfrida               |
| Epulu                    | 530             | Jun-92                                  | Eloise                |
| Elisha                   | 554             | Apr-94                                  | Esmeralda             |
| Eridanus                 | 587             | Jan-95                                  | Euphemia              |
| Enrique                  | 613             | Apr-96                                  | Eloise                |
| Eden                     | 643             | Jul-98                                  | Evangeline            |
| Eduardo                  | 664             | May-99                                  | Esmeralda             |
| Elijah                   | 665             | Dec-99                                  | Eloise                |
| Excel                    | 715             | Feb-00                                  | Emerald               |
| Expedia                  | 750             | Dec-01                                  | Elizabeth             |
| Esposito                 | 797             | May-03                                  | Eclipse               |
| Eastwood                 | 798             | Jan-03                                  | Elfrida               |
| Evander                  | 814             | Jan-03                                  | Elin                  |
| Eloi                     | 862             | Jan-05                                  | Euphemia              |