

The History of the SA Family

The SA family was the third group sighted and photographed on the very first day of the Amboseli elephant study on September 1, 1972. The first group was designated the AAs; the second the BAs; and the third should have been the CAs, but it ended up being the SAs. The matriarch of this third group was originally called 'Cynthia' by my co-worker Harvey Croze, but for some convoluted reason which I can't remember today the other



Sandy and Sabina: this was one of the first photographs we took when we started the Amboseli study over 40 years ago in September 1972

adult females were given names starting with 'S', Sandy and Shirley, and thus it became the SA family. Eventually, in order to conform with the other names and because I always felt it was not fitting to have an elephant named after me, at least not in the Amboseli population, I changed Cynthia's name to Sabina.

Actually I needn't have worried too much, because poor Cynthia/Sabina did not live for that much longer. During the part-time phase of the study I saw her three times, the last occasion on New Year's Day 1974. After that she disappeared. Sabina was a wonderful female with huge, extremely smooth ears without a nick or hole in them. She was much older than anyone else in the family and I therefore guessed that she was the mother and probably the grandmother of some of the younger females.

The SA family turned out to be very tolerant of vehicles and for this reason I was able to get a good idea of who belonged in the group early on in the study. In fact on that New Year's Day I was able to sex the individuals, make good age estimates, and take photos of the family. There were "9 exact" in the group, as my notes read, and the structure looked like this:

Adult female - Sabina
2-3 year male calf
6-8 year male calf
Adult female - Sandy
4-5 year female calf
Adolescent female, 10-12 years old - Shirley
8-10 year old female with one right tusk
8-10 year old male
7-8 year old female calf

I saw the SA family two more times in 1974, but I was not able to get a good count or a good view of the individuals. Then on March 21, 1975 I found the group among the palm trees of Ol Tukai Orok. It was on this occasion that I noted that Sabina was missing, although I was not positive because I thought



The SA family on the wet pan near the research camp

she could be in the thick palms. Sandy was out in the open and I was pleased to note that she had had a calf since the last time I had seen her. This calf, a female, was over a year old, and I estimated that she was born in early 1974.

Once I set up my camp and started the full-time study in September 1975, I began to see the SAs on a regular basis and got to know them very well. They were almost always found in the Ol Tukai Orok Woodlands or Longinye Swamp and thus it was clear that they were a central resident family. They tended to associate with other families from that clan area, but not with any one in particular. This made them exceptional. Most of the families in Amboseli have at least one other family that they associate with more than any others, and with whom they exhibit special affiliative, friendly behavior. I have called the families that make up this kind of association a "bond group". The SAs did not

appear to form a bond group with anyone, but rather kept to themselves. On the other hand, the SAs were a very tight-knit family in those early years with very little splitting up or forming of sub-groups as often happened in other families.

Sabina had definitely died along with her two male calves leaving a group of seven (after the addition of Sandy's new calf). Sandy had taken over as the matriarch. I had estimated that Sabina had been born around 1925 making her nearly 50 when she died in 1974. I estimated the year of Sandy's birth to be 1943 and thus she was 31 when she became her family's new leader. I feel fairly confident that Sabina was Sandy's mother based on their ages and a very strong resemblance. Shirley could be either Sandy's or Sabina's daughter. All three looked remarkably like one another. I'm not sure how the others fit in. There had to have been another older female in the family judging by the ages of the younger animals. It's one of those frustrating questions that will never be answered, but still it's fun to speculate.

By the end of 1975, I had named the other older individuals and knew each member of the family as follows:

Individual	Sex	Estimated or Known Date of Birth
Sandy	F	1943
SAN74	F	1-74
Stacy	F	1969
Shirley	F	1962
Susan	F	1965
Sam	M	1966
Sally	F	1967

The SA family stayed at seven for two years and then on April 7, 1976 I recorded Shirley with a newborn calf, a male. It turned out to be a dreadful year to be born. Amboseli experienced one of its periodic droughts, but this one was harsher than most. During the previous year there had been low rainfall in the Park and surrounding areas, and in 1976 the rains failed completely with only a miserly couple of inches falling during what was supposed to be the wet season. During that year I recorded the births of 30 calves. By the end of the year only 15 remained. Of those that died most were probably the victims of drought. It was sad and depressing watching these calves get weaker and weaker and then disappear. Their mothers had milk but probably not in great quantity or quality. What really seemed to affect the calves was the lack of suitable vegetation to feed on once they reached the age when they should

have started to eat solid food. Calves start to eat a bit of grass when they are between three and four months old, and by the time they are eight months old they need quite a lot of food to sustain them. In 1976 as the drought progressed there was only swamp vegetation which the young calves had difficulty both handling and digesting. Many of the calves that had been born in the early part of the year died in September, October and November. However, the SA family fared better than many of the other families. Shirley managed to keep her calf alive. In fact, Sherlock, as he was eventually named, is one of the few calves born in 1976 to have survived to adulthood.

Finally rains came in December and the elephants, adults and calves, gradually recovered. The next three years proved to be very favorable ones for the elephants. The rainfall was higher than average with the result that there was abundant and nutritious



Shirley's ID photo

vegetation. In addition, the poaching that had occurred in the areas surrounding the Park came to an end in 1977; and in 1978 the Maasai warriors were promoted to junior elder, and with that change the incidents of spearing of elephants decreased dramatically. All in all it was a very peaceful and productive period for the elephants.

During the drought the females had stopped reproductive cycling altogether. However, as soon as conditions improved they began to come into oestrus again and mate. Since so few of them had young

calves there were many females ready to conceive. The result was a baby boom in 1979 and 1980. Only two calves had been born in Amboseli between January 1977 and November 1978. From November 25, 1978 to June 5, 1980, one hundred calves were born. At times it seemed like babies were falling out of the sky.

Conditions continued to be good for the Amboseli elephants for the next couple of years. Many of the females who had given birth in 1979 gave birth again in 1983. The population was growing rapidly. The SAs joined in the baby boom: Susan had her first calf in June 1979; Sandy gave birth in January 1981; Shirley had her second calf in November of that year; Sally gave birth in August

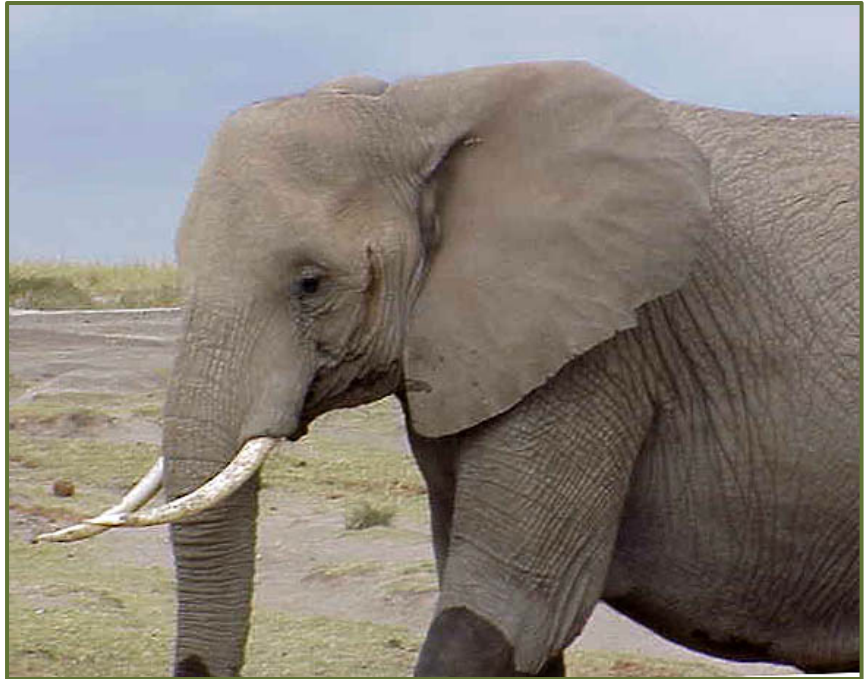
1982; and Susan had another calf in June 1983. However, environmental conditions changed once again. In 1984 there was another severe drought. At the same time the Maasai had promoted a new warrior set and the combination of the drought and scores of young men out to prove their bravery was devastating for the elephants. In all 67 elephants died during 1984: 11 adult females, 13 adult males, three juveniles, 13 weanlings, five second-year calves, and 22 first year calves.

Once again Shirley was successful in keeping her calves alive, but Sally's calf did not survive. It died in October 1984 at the height of the drought. And sadly Susan's 1979 calf, Seth, died in September 1985, having never gotten a good start in life. However, two calves were born during 1985. Sandy had another son in February and Serafina, Sandy's daughter born in 1974, gave birth in December making Sandy a grandmother. Serafina was very young to have her first calf. She reached sexual maturity at nine years old, conceived, and then gave birth at 11 years old. Most females do not conceive until they are 11 and then produce their first calf at 13. Given her extreme youth, I would not have expected Serafina's first calf to survive, but she grew to adulthood. In the meantime, Sam had gone independent in 1978, but he died in 1982. Thus, by the end of 1985 the SA family consisted of the following 13 members:

Individual	Sex	Estimated or Known Date of Birth
Sandy	F	1943
Seamus	M	2-85
Sasha	M	1-81
Serafina	F	1-74
SER85	F	12-85
Stacy	F	1969
Shirley	F	1962
SHI84	F	12-84
Sophia	F	11-81
Sherlock	M	4-76
Susan	F	1965
SUS83	F	6-83
Sally	F	1967

Conditions improved for the Amboseli elephants over the next years. More calves were born to the SAs, but they also experienced some losses. Sally proved to be unlucky or inexperienced. A calf born to her in 1987 died eight months later. Sandy's 1981 calf Sasha died mysteriously in 1989 of unknown

causes. We never found the carcass. He simply disappeared. Susan had a calf in 1987 that survived and another one in 1992 that only lived for 3 months. And then very sadly, Susan herself died in 1994, leaving two orphans, 11-year-old Soila, and seven-year-old Selengei.



Soila was a particularly pretty elephant

By the late '80s we more or less ran out of the common first names. Usually a calf is not named until it is four years old. Up until that age it is referred to by a code based on its mother's name and its year of birth. We started using themes for each year's calves. Thus all the calves born in 1987 were given Kenya place names. For the 1990 calves we chose Indian names: Shirley's 1990 daughter became Savita and Stacy's 1990 male was named Shekar. I also started an Amboseli elephant naming program for donors and this definitely helped with new names. Serafina's '85 was named Shasta by a donor and Shirley's '84 was named Smithie by another donor.

Around 1990 the SAs started changing their range, which is rare among the Amboseli elephants. They had been members of the central clan, spending the dry season in the Ol Tukai Orok palm woodlands and Longinye Swamp. However, we started seeing them less and less in that area and more and more in the western part of the Park. I have no idea why they moved. It was our general impression that that area was not as rich, but maybe the family knew something we didn't know.

Except for the loss of Susan the SAs were doing well. Nine calves were born between 1990 and 1997. But then 1997 turned out to be a tragic year. First Sandy disappeared in January. We eventually found a carcass, which we thought was hers. We think she died of natural causes. She was 54 years old. Not many of the Amboseli elephants get beyond this age. Her four-year-old son Sabachi was just old enough to survive without a mother. Then in March, perhaps because they had lost the wise leadership of Sandy, the SAs found

themselves in the wrong place at the wrong time. Stacy and her two-year-old calf were attacked and speared by Maasai warriors. Both died, leaving Stacy's seven-year-old son Shekar an orphan. There was one further loss around this time. Serafina's six-year-old daughter disappeared. We don't know what happened to her but she may have been speared at the same time as Stacy.

With the loss of their matriarchs and the other deaths the family disintegrated with various members going off in small sub-groups. However, Shirley took over the leadership and the family coalesced once more. At 35 years old Shirley had reached a respectable age to be a matriarch.

Soon after all these tragedies Sally gave birth to a female calf in June 1997. Up until then Sally had not had any success with raising calves. From our records she had given birth to three other calves and all of them had died, but the 1997 calf, since named Susannah, seems to be a fighter and a survivor and she is still with us today. (Sally went on to have two more surviving calves.)

By the end of 1997 the family stood at 14 (plus one independent male) as follows:

Individual	Sex	Estimated or Known Date of Birth
Shirley	F	1962
SHI94	F	12-94
Savita	F	1-90
Smithie	F	12-84
Sophia	F	11-81
Sally	F	1967
Susannah	F	6-97
Serafina (m. Sandy)	F	1-74
Shasta	F	12-85
Soila (m. Susan)	F	6-83
Seamus (m. Sandy)	M	2-85
Selengei (m. Susan)	F	1-87
Shekar (m. Stacy)	M	3-90
Sabachi (m. Sandy)	M	4-93
Independent Males		
Sherlock (m. Shirley)	M	4-76

Over the next few years, the SAs slowly recovered from their losses and

actually seemed to be flourishing. They definitely became western elephants, even spending a good deal of time across the border in Tanzania where there is excellent habitat for them. My research assistants and I see them rarely because they are usually out of the Park, but we do find them from time to time and record any missing individuals and new babies.



Shirley and her daughter born in 1999; she was later named Singita

Shirley had a daughter in May 1999. In July of the same year Shirley became a grandmother when her daughter Sophia gave birth to a male calf, who eventually became known as Samson. Serafina also became a grandmother when her daughter Shasta gave birth to a male calf in November. Sadly Shasta's calf died, but this is not uncommon for calves of first-time mothers. In January 2000 Shirley became a grandmother again when her daughter Smithie gave birth to a son, who was named Swoo by a donor.

Both of Susan's orphaned daughters, Soila and Selengei survived, but they often went off

on their own and did not seem well integrated in the family. Eventually we designated them as their own family, the SA2s. Soila had her first calf, a male, in January 2000. This calf did not make it. Then Soila herself died in early 2006. By then she had had a second calf, a female born in April 2005. When Soila died this calf, whom we named Sian, was only nine months old and could not live without milk. We called the David Sheldrick Wildlife Trust's elephant orphanage in Nairobi and they flew down to Amboseli. After a rather dramatic capture Sian was flown to Nairobi where she adjusted well to living with the other orphans. Sadly she died when she was five years old and when DSWT had a postmortem done on her they found out that she had only one lung.

In the meantime, life went on for the SAs. Smithie died in August 2008 but generally this was a quiet period for the family. Over the nine-year period from 2001 through 2009, 18 more calves were born to the family. This should have been a period of growth and recovery for the SAs, but in 2009 Amboseli was struck by the worst drought in living memory. By the end of that year 83% of

the wildebeests, 71% of the zebras, and 61% of the buffaloes had died. More than 400 elephants perished from both the drought and an upsurge in poaching. The problem was that there was almost no vegetation left to eat. Amboseli always has fresh water because of the underground rivers coming from Kilimanjaro. These rivers create permanent swamps in the Park. So the animals did not die of thirst but rather from hunger. In addition, in the case of the elephants, as they weakened they appear to have succumbed to disease as



Selengei always looks sad because she carries her head low; also she lost all of her close relatives

well. To add to the troubles, we witnessed an upsurge of poaching for ivory at the same time, possibly catalyzed by the number of carcasses, and the desperate economic losses people in the ecosystem were suffering.

The calves were the first to go. There was nothing for them to eat and their mothers could not produce enough milk for them, especially as the calves

got older. In 2008, 151 calves were born, which was a record. However, the next year these calves were just 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 a bit better because they didn't have to eat as much vegetation. Of the 85 calves born during the drought 38 died. In total, the SA family lost six calves, but older animals were not spared either.

Of the adult females over 50 years old only two survived in Amboseli. Over half of the matriarchs died, including Shirley. Due to the resurgence of poaching, and the fact that both SA families used areas that had become dangerous, we were never sure whether Shirley died as a result of the drought or at the hands of poachers. Sally, Sophia, Shasta and Serafina also died, and their fates were similarly unknown. Losing so many females must have been very difficult for

the family as they struggled with the challenge of making it through the drought without the support and wisdom of older, experienced family members.

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 figure it all out. Poaching had been brought under control once more, and we felt more confident for the elephants. They got into huge groups to enjoy the lush new grass springing up all around Amboseli, and many females came into oestrus at this time.



Savita with her daughter Sutton who made it through the drought; most of the calves born in 2008 died during the drought so Savita is doing something right

Although reduced in size and without experienced matriarchs, the SA and SA2 families survived, but we worried about their chances of recovery and success. Selengei, who was 23 years old, joined up with Serafina's daughter and



Shirley's son Sherlock grew up to be a very handsome bull with a strong resemblance to his mother; he spends much of his time in Tanzania where he was radio-collared by another scientist

grandson: Skyler and Seymour to make up the remnant of the SA2s. It was an odd combination because Serafina was Sandy's daughter and one would have thought she would have stayed with Shirley's offspring. It just goes to show that elephants don't fit into neat boxes and they continue to surprise us. However, it was a sad little group that we all felt sorry for. It wasn't helped by the fact that Selengei carries her head low and so she tends to look dejected.

The original SA family was also sad to see. Shirley's daughter Savita, who was only 20 years old, had to take over as matriarch. She led a ragtag bunch of orphans and young females. We wondered if they could successfully raise calves. We soon got a chance to see when Amboseli experienced an unprecedented baby boom.

After the drought ended most of the adult females were available to mate and they wasted little time doing so. The calves conceived in early 2010 started being born at the end of 2011. Forty-six calves were born before the end of the year and then in 2012 there was a deluge of baby elephants. Now as I write this at the end of 2012 we have recorded 230 calves born since October 12, 2011. This number beats all our previous records.

Luckily for the mothers and calves, Amboseli also experienced a higher-than-average rainfall year, which is giving these new calves an excellent start in life. So far the SA family females have had two calves, born to Savita and Selengei. We expect some of the younger females will also have calves. We will be watching to see how they fare over the next few years. Is the family cohesive enough to raise calves and can Savita learn how to be a wise matriarch?

The birth that has made us happiest was to Selengei. We felt that her only chance was to have her own calves and build up a family of her own. She gave birth in February 2012 and to our delight she had a female calf who will stay with her the rest of her life. That calf seems to be doing well at 10 months old now. We have our fingers crossed for Selengei and her little band. We want both the SA and SA2 families to thrive.

Individual	Sex	Estimated or Known Date of Birth	Mother
SA			
Savita	F	1-90	Shirley
SAV12	M	8-12	
Sutton	F	6-08	
Sandlar	M	4-03	
Shortcake	F	12-94	Shirley
Snickers	M	8-08	
Singita	F	5-99	Shirley
Suez	M	3-04	Shirley
Swoo	M	1-00	Smithie
Simone	F	2-05	Smithie
Samson	M	7-99	Sophia
Susannah	F	6-97	Sally
Sapphire	F	11-01	Sally
Serge	M	8-05	Sally

SA2			
Selengei	F	1-87	Susan
SEL12	F	2-12	
Skyler	F	10-02	Serafina
Seymour	M	6-03	Shasta
Independent Males			
Sherlock	M	4-76	Shirley
Seamus	M	2-85	Sandy
Shekar	M	3-90	Stacy
Sabachi	M	4-93	Sandy

***Cynthia Moss
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