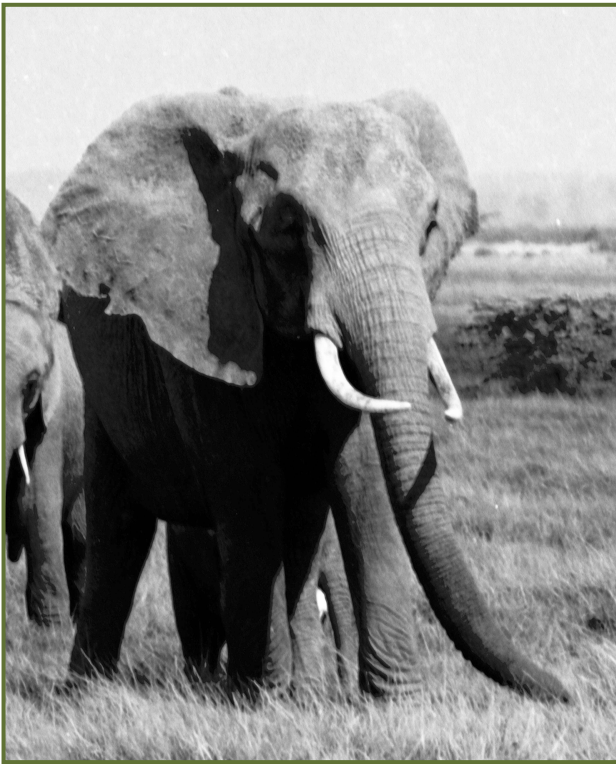


The History of the PA Family

The PA family has had an interesting history. It was the first family in the population to permanently split into two; there have been others since then but it is not a common occurrence. Up until 1982 the Ps, as they were called then, made up the largest family in the Amboseli population. They were a magnificent group when my colleague Harvey Croze and I first saw them on October 20, 1973. There were so many big adult females that it was all we could do to just photograph them on that day. Two months later Iain Douglas-Hamilton went to Amboseli and took several rolls of film of a big elephant herd and turned the film over to us. Most of the herd consisted of the Ps and Iain's photos helped us sort out the various females and their calves. However, it was not really until 1975 and 1976 that I got to know them well.



Penelope in 1973

When I began to live in the Park in September 1975 I knew the Ps contained at least six big females and two teenaged females. All these animals were named. We decided that Penelope was the matriarch because she usually led the group and the others seemed to orient towards her. The next largest was a left one-tusk animal we called Phoebe, then there were four medium-sized females: Philomena, Patricia, Phyllis and Polly. One of the teenaged females had been named Pick, because she had a funny little right tusk, and the other was called Pamela. Pick appeared to be Phoebe's daughter and Pamela Philomena's.

One day I was out in the Park and found what I thought was a completely new group. I photographed them, assigned them the letter "Z" and named the two adult females that were present Zoya and Zelda. Over the next months Zelda was found with the Ps on

almost every sighting, so I decided I had made a mistake and renamed her Priscilla. She was the seventh adult female in the P family.

Around this time it became obvious that there was an eighth female who seemed to be a member of the Ps. By that time I had run out of inspiration for P names and so I named this one Octavia because she was the eighth. Eventually I decided that Zoya also belonged but tended to split off from the main group. She kept her name, and

thus the Ps ended up with two anomalies in the family: Zoya and Octavia. When I am introducing someone new to the PAs it is sometimes difficult to explain why there are Z and O females in the Ps, but it seems natural to me and it became far too late to change their names in any case.

When I finally sorted out all the P members, the family consisted of 22 animals of which nine were adult females. This was by far the largest group in the population. The average family unit size at that time was only seven. During the drought of 1976 the family fragmented at times but was actually surprisingly stable considering its size.

There were also two young males I wasn't sure about; they were given number codes M76 and M77 and were named Polythene and Paul. I couldn't tell who their mother's were.

In terms of mortalities the Ps did well in the 70s. They weathered the severe drought of 1976 remarkably well. Phyllis and Patricia gave birth to calves that year. Phyllis's died in October, which was the harshest month of the drought. Patricia's '76 calf and the other calves born in '73, '74 and '75 made it through the drought.

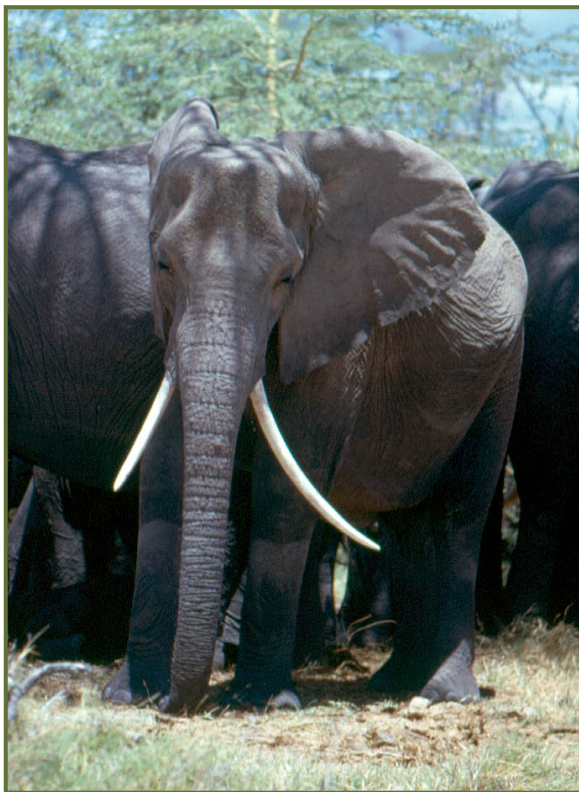


Phoebe in 1973

By the end of 1976, by which time I knew the family fairly well, it consisted of the following 22 members:

| INDIVIDUAL | SEX | KNOWN OR ESTIMATED BIRTH DATE |
|------------|-----|-------------------------------|
| Penelope | F | 1938 |
| PEN73 | M | 1973 |
| Phoebe | F | 1938 |
| PHO75 | M | 10-75 |
| Pilar | F | 1968 |
| Pick | F | 1964 |

| | | |
|---------------|---|------|
| Zoya | F | 1941 |
| ZOY74 | M | 1974 |
| Patricia | F | 1942 |
| PAT76 | F | 3-76 |
| Pepita | F | 1968 |
| Phyllis | F | 1959 |
| Philomena | F | 1943 |
| PHI73 | F | 1973 |
| Phil's Wedge | M | 1968 |
| Pamela | F | 1963 |
| Priscilla | F | 1943 |
| PRI70 | F | 1970 |
| Polly | F | 1948 |
| Octavia | F | 1948 |
| Paul M77 | M | 1961 |
| Polythene M76 | M | 1964 |



Lovely Polly resting with her family in 1980

Then there was a baby boom in Amboseli in 1979-80. Along with all the other families in Amboseli, the Ps began to increase and over the next three years despite some deaths, they grew to 29 animals. By this time they were beginning to split up more often, but there did not seem to be much consistency in the splits. Patricia and Phyllis and their calves were almost always together; Phoebe and Pick were always in the same sub-unit; Penelope and Philomena were often together but not always; and the others could turn up almost anywhere. It looked as though Penelope was the leader of one group and Phoebe another. It wasn't clear whether Patricia and Phyllis were going to go with Phoebe, nor was it obvious which subgroup Priscilla, Zoya, Octavia and Polly were going to join. Each time I saw a fragment of the family it had a different composition.

Two unusual deaths occurred over the next few years in the PA family. In 1979 Philomena's 17-year-old daughter Pamela died in an accident by falling into a disused garbage pit. I found the carcass myself and was very upset by this death because it was caused

by human negligence. In 1981 Polly, a beautiful splayed-tusked female died mysteriously, possibly of snakebite. My colleague Joyce Poole was out with the Ps and was surprised to see them all begin to run, leaving one animal behind lying on the ground. It was Polly. When Joyce got to her, her legs were kicking but she was soon dead. The only thing Joyce could see were two puncture wounds on one leg. It must have been a very large snake to get through that skin. Polly had had a calf in 1979 who was two years and two months old at the time of her death. Most calves this age would die without a mother but this one survived and she was called Pumpkin.

By 1983 some sort of elephantine decision was made and the Ps basically split in two. There were two clear-cut families: Penelope's, which continued to be designated the PAs, and Phoebe's, which became the PCs. The two families formed a bond group, still spent some time all together and greeted each other when they met.

During the period before the split the Ps had two departures and one immigration. The young male Paul, born around 1961, disappeared around the time of his independence and was presumed dead. Philomena's son, who was still known as "Philomena's Wedge" because he had a wedge-shaped tear out of his ear, began to go independent in 1982 when he was 14 years old and was fully independent by 1983.



Puff found a perfect place for a good scratch

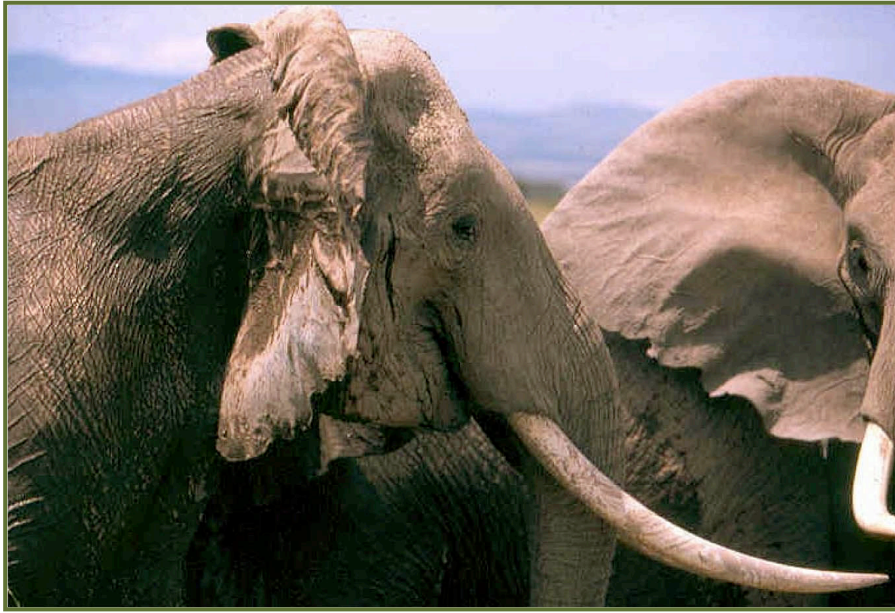
An adolescent female estimated to have been born in 1972 joined the Ps in 1977. She was a very nervous and frightened and had with her a younger calf which soon after disappeared. I can only guess that their mother was killed. Perhaps her family had formed a bond group with the Ps and thus they accepted her immigration. She has remained with the PAs ever since and was eventually named Puff.

After the split, and the deaths, immigration and departures, the two families looked like this:

| | |
|----------------|---------------|
| PA | PC |
| Penelope | Phoebe |
| PEN80 | PHO80 |
| Pedro ('75) | Paddy ('75) |
| Philomena | Pilar |
| PHI80 | PIL82 |
| Poppy ('73) | Pick |
| Priscilla | PIC79 |
| PRI79 | Patricia |
| Primrose ('70) | PAT80 |
| Zoya | Pandora ('76) |
| ZOY80 | Pepita ('68) |
| Pizarro ('74) | Phyllis |
| Octavia | PHY79 |
| Puff | |
| Pumpkin | |

In 1983 there was a second baby boom and many of the Ps gave birth again after relatively short calving intervals. The average calving interval is between four and five years. Usually a female gives birth to a calf and gets pregnant within about two years, after which there is a 22-month gestation period and so the calf is born about four years after the previous one. Thus the females who had calves in 1979 were ready to give birth again in 1983. However, most of the P females who had calves in 1980 also gave birth in 1983 after only a three to three and a half year calving interval. For example, Philomena had given birth in January 1980. We would have expected her to have had another calf sometime in 1984, but she gave birth in April 1983.

It was a good thing that these calves were born in 1983 because 1984 turned out to be a terrible drought year and many of the calves born during that year died. But all the Ps except Priscilla and her '83 calf survived this drought. The following year Patricia's daughter Pandora (the '76 calf) died of unknown causes. After this death there was a period of 10 years during which there were no losses of adults and the two families flourished. Young females who were calves when I first knew them became mothers. Phoebe, Philomena, and Patricia became grandmothers since their daughters Pilar, Poppy and Pepita respectively had calves. And young Puff, who had been orphaned and had to work her way into the family, became a mother herself. In August 1987 she gave birth to a son and in March 1994 she had a daughter. Pumpkin, who lost her mother Polly, had her first calf in December 1994.



Philomena (left) and Penelope greeting with an intense display of emotion; they were always very close

By the end of 1994 the two families were well and truly split, and only rarely associated with each other anymore. Therefore, the rest of this history will just concentrate on the PA family, still led by the magnificent Penelope. The family numbered 31, which was bigger than the original family was when it split.

The next seven years continued to be good ones for the PA family. More calves were born and no adults were lost, but then in 2001 the greatest tragedy a

family can experience occurred. Their matriarch, Penelope, died in August of that year. The cause of death was unknown but it was suspected to be the result of poaching or spearing. The PAs were now spending much of their time in and around a sanctuary to the east of Amboseli where there were also farmers growing crops. It could be that the family fell afoul of irate farmers. Penelope would have been the one out in front defending her family. She had lived a good, long life; she was estimated to be 63 when she died.

Penelope's youngest calf at the time, born in January 2000, also died, but her other offspring survived. However Penelope's death was a critical event for the family, because the PA survivors did not hold together; the family broke down into sub-groups relatively soon after her death. Philomena took over as matriarch of one section; Octavia and Zoya's part of the family formed another sub-group; Primrose, Pumpkin and Prudence another; and Puff could be found on her own with just her calves or with any of the others. Puff's "social mobility" made it impossible for us to neatly assign new family denominations, so the team and I decided to keep calling the family the PAs for the time being, and see what decision they finally made.

Philomena had always stayed close to Penelope when she was alive and I suspect she was her younger sister. She led her part of the family, including Penelope's offspring, very successfully over the next eight years.

Zoya died in August 2005, definitely from spearing. She did not have a young calf at the time. Her daughters Pia, Paloma and Pistol tended to stay with Octavia's group. It became even more confusing to keep track of the PAs because we never knew who to expect to be with whom. The family did fairly well over the next few years, with 23 births between 2005 and 2008, and only a few losses too: Porpor, Puff's independent son disappeared in March 2006. We never discovered if he had died or simply left Amboseli to range elsewhere. Then in August 2006 Primrose and her youngest calf also disappeared.



Penelope's daughter Pearl leading the family; she is a favorite of all the researchers

In December 2008 Puff had a stillborn male calf, but the family was otherwise doing well, until 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. Close to 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 had 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 succumb to disease as well. To add to the troubles, we witnessed an upsurge of poaching for ivory at the same time.

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 PA family lost 14 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 Philomena. Octavia and Pumpkin also succumbed. Losing such important females must have been very difficult for the family, as they struggled with the challenge of making it through without the leadership of 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.



Pedro is a very prominent bull who is mating with females and passing down his mother Penelope's good genes

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. The PA family had made it through, and had even managed to keep some of their calves, which was better than some of the other elephant families.

Many of the PA family males were independent by the time of the drought, and they survived because they could move farther because in search of food without the burden of calves. Pedro and Pizarro in particular are big impressive bulls now successfully fathering calves. Pedro is 39 and Pizarro 38 years old.



Pizarro in musth, resting from his pursuit of females

By October 2012 the first female to conceive after the drought, Qumquat, gave birth and so began the biggest baby boom we have ever recorded in Amboseli. It is still ongoing; at the time of writing 173 calves have been born, bringing new life to the families and a sense of renewal for the ATE team who had watched so many elephants die so horribly in 2009. The deaths of Philomena and Octavia left the PA family relationships even less defined than they had been before

the drought, so we still keep them as one family, although it is rare to see them all together. With 64 members, including 13 new arrivals in the baby boom, it is one of the largest families in Amboseli. Currently the family looks like this (with adult females in red):

| Individual | Sex | Date of Birth (Mother) | Individual | Sex | Date of Birth (Mother) |
|------------|-----|------------------------|------------|-----|------------------------|
| Puff | F | 1972 | Pia | F | Jan-80 (Zoya) |
| PUF12 | F | Jan-12 | PIA12 | M | Mar-12 |
| Pakwach | M | Mar-04 | Pimms | F | Jun-07 |
| Pippa | F | May-99 | Pixels | F | Nov-00 |
| Pazia | F | Mar-94 | Phoenix | F | Apr-91 |
| PAZ12 | M | Jan-12 | Polo | M | Jun-08 |
| Poppy | F | Jan-73 (Philomena) | Paloma | F | May-88 (Zoya) |
| POP11 | F | Dec-11 | PAL10 | M | Apr-10 |
| Pogo | F | Mar-01 | Pierette | F | May-05 |
| Pisces | F | Jul-95 | Psion | M | Dec-00 |

| | | | | | |
|--------------------------|------|-----------------------|------------|------|-----------------------|
| Pate | F | Jan-87 (Philomena) | Pistol | F | Nov-96 (Zoya) |
| PATE12 | F | Mar-12 | PIS12 | M | Jan-12 |
| Peremende | F | May-08 | Pearl | F | Mar-80 (Penelope) |
| Perrine | F | Jan-05 | PEA12 | F | Mar-12 |
| Perdita | F | Jun-99 | Peppermint | F | Apr-08 |
| Petronella | F | Mar-99 (Philomena) | Pam | F | Feb-04 |
| PTR12 | M | Feb-12 | Pomona | F | Mar-94 (Penelope) |
| Prudence | F | Feb-79 (Priscilla) | POM12 | M | Jan-12 |
| PRU10 | M | Apr-10 | POM05 | M | Apr-05 |
| Password | F | Dec-00 | Paru | F | Jul-81 (Octavia) |
| Purity | F | Apr-97 | Prunella | F | Jan-03 |
| Pepsi | M | May-07 | Pasha | M | Mar-98 |
| Pongola | F | Feb-92 | Persis | F | Mar-85 (Octavia) |
| PNG12 | F | Jan-12 | PER11 | F | Dec-11 |
| Pluto | M | Jun-03 | Parakou | F | Feb-04 |
| Pangani | F | Sep-92 (Primrose) | Pin | F | Jun-00 |
| PGN09 | M | Jun-09 | Pare | F | Dec-93 (Octavia) |
| Pierce B. | M | May-03 | Pernot | M | Feb-07 |
| Patasse | F | Apr-97 (Primrose) | Parallel | M | Oct-00 (Octavia) |
| PTS12 | F | Feb-12 | Peninah | F | Dec-94 (Pumpkin) |
| Pixar | M | Mar-01 | Powerpoint | M | Nov-00 (Pumpkin) |
| Independent Males | | | | | |
| Pedro | M272 | Jan-73 (Penelope) | Per | M478 | Jan-89 (Penelope) |
| Pizarro | M273 | Jan-74 (Zoya) | Pelle | M477 | Mar-89 (Octavia) |
| Pip | M327 | Jan-80 (Philomena) | Pitamber | M500 | Dec-90 (Philomena) |
| Pepe | M383 | May-83 (Penelope) | Pollox | M601 | Jan-95 (Philomena) |
| Pigtail | M415 | Jan-85 (Primrose) | P. Diddy | M618 | Apr-96 (Pia) |
| Prince E | M466 | Nov-88 (Pop) | Paul Biya | M636 | Mar-97 (Pearl) |

Puff is quite a loner and although she's the oldest female she does not appear to be taking on the role of matriarch. She is most often seen with just her own portion of the family. Poppy is a rallying point for a large part of the rest of the family, and she and Pearl are particularly good friends. Pearl is a huge favorite with the entire team; she's a wonderful female who is a valiant defender of the family and very good at helping younger inexperienced females with their calves.

The PA family is extraordinarily successful. We wish them well and will be following them closely as their lives continue to unfold.

Cynthia Moss
Amboseli National Park
June 2012