

FURTHER OBSERVATIONS ON THE FAMILY LIFE OF THE FIVE-STRIPED SQUIRREL, *FUNAMBULUS PENNANTI* WR.

BY

(MRS) ARUNA BANERJI

Since the publication of my first article in the December 1955 issue of the *Journal* [Vol. 53 (2): 261] I have continued my notes and am now in a position to give a further account of the family life of the most interesting of pets, the squirrel.

On 26 July 1955 my pet squirrel had had her fifth litter of three. Since early morning of August 29, she had a retinue of suitors who gave her hot chase. She was finding out the queerest of hiding places because, I think, she was not quite ready for mating and had been accidentally discovered. The young ones were just one month and three days old. She had had a hard time and looked a little ruffled by the evening, and once even jumped on to the courtyard from the asbestos roofing when in the clutch of a male during mating, very unusual behaviour.

On September 1, I found that her young ones had not left the nest as yet and the nest-building instinct of the mother had been awakened. She went into our dressing-room and investigated a wall almirah of books, behind which she found a place that appealed to her. The next moment she was frantically pulling at a silk blouse that was on the cloth-rack next to it. I retrieved that from her grasp and gave her two pieces of cloth which she arranged into a nest behind the books. In the evening she went back to her young ones in the wooden box in her original almirah. Every morning she went about building her new nest, but the moment I took down the books which she was happily chewing and gave her a cardboard box instead, she took offence and left the site.

On September 11, my mother complained of a tear in the mattress from which cotton was missing. Next morning she called me to show the latest nest. A window of the room had been kept closed all through the winter months. The room had become stuffy so mother had opened the window. Against it and the *chik* that was always hanging stood her nest of cotton taken from the mattress. The moment the squirrel saw that her nest had been discovered she started taking the materials out and deposited them in the wooden box still containing the young. They are now one and a half months old.

That same evening I went over to our cottage where, chatting over tea, I heard a young squirrel give a call at a distance. It was rather late and the calls persisted at intervals so that I was definite the mother was nowhere about or else she would most certainly have come to that call.

I went out of the gate and into the lane and, after much searching, found the baby squirrel peeping out of a crevice in the wall next to a drain. I put my hand in to extricate her and she licked my finger but was afraid to come out. At last while trying to catch hold of her she ran out and went along the drain. I gave chase and caught her,

completely soaked in drain-water. After giving her a bath I rubbed her dry with a towel and let her rest to quiet down her heart-beat. That very night she sucked milk and came to me the moment I called. Probably hunger and loneliness throughout the day was the cause of such quick tameness, the first so far in my experience.

Her I shall call Squirrel Junior to distinguish her from my two-year old pet, Squirrel Senior.

On September 14, I found neither the mother nor the young ones in the wooden box when I went to clean the almirah and change the papers. Near about 7.45 p.m. I heard one of the young squirrels calling out. The sound came from the first storey but the next moment there was a sound of something falling, and there was the young one on the ground. He went up the stairs again calling at intervals, and I followed him. As I watched the young one by torch-light I saw the mother come to him and guide him up the girder and on to the roof. Every time the young one fell in the attempt and whimpered, the mother came down immediately and began coaxing him up again. Finally she succeeded. Then she wanted him to go up into a room through a hole which was on a higher level. When he finally did succeed goaded all along by his mother, the watch read 8.45 p.m., exactly one full hour's perseverance.

Then I understood that, in that room above, the mother had made a nest for her coming litter after her nest behind the window had been discovered by us. She had transferred all the material from the old site to the new.

One night I stayed back at Dehra Dun. Next morning she must have come as usual for her snack and not found me. Near about 3.30 p.m. when I went out on to the courtyard and looked up I saw the mother playing with her two young ones on the roof-top. The next moment she saw me, though I had not called out to her, she recognized me and came down the girder and the stairs, her usual route. I was deeply impressed by her intelligence.

Squirrel Senior comes morning and evening for a snack and goes straight to the dining room. If she does not find me there she comes to the drawing room where I usually study. When I call her back to the dining room she makes a go for the dining table and waits for me to open the Frigidaire in which I keep her provisions. Once it so happened that my cousin was reading in the drawing room and I was in the kitchen. About ten minutes later she came and called me. The squirrel had been in the drawing room she said and, failing to attract her attention for the past fifteen minutes, had finally come forward and nipped her to make her realize the fact that she was waiting to be fed.

One day I saw a surprising drama at the cottage. From the stairs I was watching a wall with crevices when I noticed two adult males at play. All of a sudden one went along the vertical surface of the wall peeping into the crevices. Three were empty, and at the fourth he stopped and became tense. I was certain there was a nest there and a squirrel was sitting inside. The next moment there was something rushing out and the possessor of the nest chased the intruder hotly. She then came back to her nest and she looked so odd with just a stump of a tail like a rabbit, and I also noticed she

was quite near confinement. The intruder who had not learned a lesson the first time came inquisitively again to impress himself upon her, but she was in no mood for his attentions and gave him a second chase when he was bold enough to step inside her nest. He then realized he was actually unwanted and did not come back a third time.

My Squirrel Junior has become a great pet. She has her box on a table in the drawing room. When I go to bed I lock the door for fear of rats, and the squirrel sleeps quietly through the night in darkness.

Early morning she has a tablespoonful of warm sweetened milk. If I enter her room noiselessly she does not stir, but the moment she hears voices she steps out of her box, stretches herself, and puts out her long pink tongue as she yawns shamelessly. She is active as long as there is somebody in the room to appreciate her activities. As soon as she finds everything quiet about her she jumps on to the table and into her box and enjoys a quick nap.

In the evening she is literally sleepy and curls herself cosily in the lap, and sucking and playing with a finger falls asleep very quickly. On October 5, 1955, Squirrel Junior has been with me 24 days. Nuts and grapes are her favourite.

On October 11, 1955, I could not recognize my Squirrel Senior when she came down for her snack in the afternoon. Yesterday she was plump and round and today she is as slim as ever. I could guess she had delivered her litter in the room upstairs either last night or early this morning. The gestation period in this sixth instance was exactly one month and 12 days.

I came back from a holiday on January 9, 1956, and found my mother feeding a whole retinue of squirrels on the verandah of our first storey. They came for food but not to the feeder. I continued giving them food but on strict condition that they came to take it from my hand. Squirrels Senior and Junior came directly, and the rest, about 7 or 8 in number, gradually lost their fear. The moment they see me making for the verandah they come down from the roof where they laze in the morning sun. If for some reason I cannot make it or am late they come down on to the courtyard in a band and thus attract my notice.

Among these regular attendants are Senior's youngsters from the last litter, two in number. One of them is an albino and very small and scraggy for its age. I think there must be some vitamin deficiency in the mother's diet because she too, I find, has developed a marked white spot on her forehead, and the upper half of her body seems to be getting lighter in colour.

There was a swarming of suitors since 11 in the morning of January 14, 1956, and Squirrel Senior was hiding while frantic searches were on. I watched expectantly but I had to go to the railway station to receive some guests and consequently missed the drama. When I came from the cottage the next morning my servant mentioned the fact that a squirrel had dropped on the courtyard from the first storey and stayed there stunned for a time before getting away. Maybe the mating was in progress and she had fallen while trying to extricate herself from the iron grip of her suitor.

On February 25, 1956, as I was talking to a friend in the drawing room my pet squirrel came in and sat on the top of the sofa. I gave her pistachio nut which she devoured greedily. Then I saw blood on her left flank and on the back left foot. For the time being I took her to be Squirrel Senior, and seeing her bleeding I decided that she had been delivered that morning and now she had come to be fed.

Then, as I went to the dining room, imagine my surprise when I saw Senior on the casing. Seeing me she came down into her almirah and it was then that I noticed that she was as slim as ever and I realized that she had been delivered either the night before or early that morning. Hence as was her custom she had not been out that morning but was resting after the ordeal and keeping watch. The gestation period in this seventh litter comes to one month and 11 days.

Recognizing Senior, it dawned on me that the squirrel in the drawing room was my pet Junior who was now 6 months old and mature. She had been surprised and waylaid and in the onslaught that had followed her coming of age declaration, blood had been drawn. Pursued by her suitors relentlessly she had come to us for shelter.

There was pandemonium on the stairs, and in the courtyard hell let loose. After feeding her and quenching her thirst I quietly closed the door of the drawing room. The moment she had got back her breath she showed keenness to go out. She would advertise herself by springing on to the wire-meshed door that opens on to the courtyard. There would be frantic displays by the suitors who gave call after call coming on to the wire-meshed door from the outside.

Carefully I slipped in an eager male into the drawing room and quickly closed the door. The moment he went towards her on the couch constantly wooing her with his soft calls she came forward coyly to him. Thus they mated quietly for ten minutes until suddenly she threw him off with a struggle and a bite. I was surprised to note that he was very keen for a second mating but she was no longer willing. There were too many suitors outside who incessantly called to her. Then it struck me that she was all for variety because, no sooner had I released her, she ran up the stairs hotly pursued by her suitors, and I caught up with her quietly mating behind the box-room door immediately after. Her late suitor was still imprisoned in the drawing room. It was then that I realized why there were so many competitors on the field and why they did not leave soon after the first mating but stayed on till the close of the day.

This love life went on till 6.30 p.m. when with fading light the suitors left one by one. With my pet Squirrel Senior conditions had been somewhat different. She was more used to the house. So naturally, when pursued, she would hide within the rooms where disturbance was likely to be less. Consequently there were fewer matings but each lasted longer, but now I am certain that in her case too there must have been more than just one suitor who had successfully wooed her. Monogamy is far from the rule in the squirrel kingdom; on the contrary, I think that there is a far greater likelihood of the majority, if not all, of the suitors having a fair chance of successfully wooing a willing female in a given area.

As a rule the love life of a squirrel lasts but a day. For the first time I saw it continued, though for an instant, the next day. On the afternoon of February 26, Junior mated again. The mating was a lone case with no competitors on the field, and a half-hearted affair signifying nothing. They had come across each other accidentally, not deliberately as yesterday, and they separated immediately.

On March 3, 1956, I saw Squirrel Junior for the first time collect cotton wool for the nest she had to build for her future litter, an instinct awakened exactly a week after the mating took place. I had placed some cotton wool in a hollow under the tank. She had not needed it then but had carefully noted the place. Now when the need arose she came down with that definite intention and went straight for it. She rolled a little of it at a time into manageable balls and made a number of trips up to a second storey room where the cots are kept.

On April 7, 1956, Squirrel Senior mated for the eighth time being just two years and six months old. The young ones from her last litter are just one month and 13 days old. For the last two days I have been watching her getting male attention, but she never lets them come any nearer. That day I had not noticed anything at first until I went up to feed them and found none, and understood that for the day food was of minor importance. A full band of suitors, half-tailed, three quarter, and whole, were hot on her trail while she was constantly giving them the slip. Once in the process of mating I saw a second male cover the first male and bite him to make him lose his hold. In the meantime a third male came and covered the second male. Yet the original male was oblivious of the pandemonium behind him though the female was struggling to free herself. Another time in the process of mating on the roof of the next compound they managed to attract the attention of a kite which came low to catch them in its talons, but they rolled away just in time and missed being food for it. When all was quiet with the coming on of dusk, Squirrel Senior came down to her almirah where I had kept warm tea for her, knowing that she would be very thirsty. She lapped it up, stretched and cleaned herself, and then went into the box where the two young ones were waiting for their feed. She had come to them after 12 hours, to be exact.

Both Squirrels Senior and Junior enter the kitchen for a brief respite because it is a hiding place for them as well as a provision store. The males are not primarily interested in food, but if a monkey-nut comes in the way the finder does justice to it while the rest follow the chase which is not for a moment given up until after dark.

There is a funny incident connected with this wooing. On March 18, 1956, I had taken out a female from Senior's seventh litter to bring up when she was three weeks old. By April 7, she had become a great pet, and that afternoon as I lay down beside her wooden box she was frisking all over me. One suitor had come into the room in search of Squirrel Senior. He saw the young one, and with very sweet calls he came wooing her while I lay stiff and watched. He came on to my body, and the moment he was face to face with the youngster she gave him such a clucking with the teeth that he drew back, but came forward again and again, calling all the time.

She would have none of him and drove him away with her gnashing teeth and rushing forward, so that he finally left her in peace.

When the male suddenly discovers the hide-out of the female he makes such a din over it, that he no longer gives the wooing call but those short quick squeaks with the tail jerking nervously over the body. Thus attracted the stronger male then comes forward and drives the weaker ones from the area by bites and chases. One such male chased another along the beam of the first floor with the result that the latter lost its hold and fell on the paved courtyard below. He was stunned for sometime, and then when he tried to go up the stairs he had literally to drag himself, one back leg having become limp.

On April 7, my pet Squirrel Junior littered for the first time, 2 in number, the gestation period being 42 days. During the first litter the teats are not as prominent as after subsequent litters, especially the upper two. Her nest is in the upper room in a basket hanging from a nail with a cot standing against it for her to reach it.

On April 13, just 6 days after mating, the instinct of nest-building has been awakened in Squirrel Senior. From her already built nest she takes out materials, rolls them into a ball, goes along the casing to a certain distance, returns to her almirah and her wooden box by the same route, and rearranges it as if building anew. It is a very interesting performance.

On May 3, 26 days after mating, I saw Squirrel Senior for the first time deliberately prevent one of her young, now 2 months and 8 days old, from entering the box where it was born. There were all females in this seventh litter, and now the one I have reared and the two reared by the mother play together in the courtyard, but at night each goes back to her respective sleeping quarters. One of the young has left the box but the other still occupies it. The mother was keeping watch on the almirah next to the door leading to the courtyard. As soon as the young one came on to it she chased it off and resumed her watch. The second time it came the mother attacked her, and losing her balance she fell on the floor. Not in the least ruffled the youngster went up the curtain, on to the Frigidaire and then into her box in the wall almirah, while the mother looked on stupefied at this short cut and successful occupation of the nest she had decided on for her coming litter.

On May 20, 1956, Squirrel Junior, whose first litter is one month and thirteen days old, mated for the second time and she herself just nine months old. Stray suitors had been following her for the last two days but she chased and drove them out of the room containing the nest, and went back to the cot where her young ones played after abandoning the basket. Squirrel Junior calls for her food by squeaking at the top of her voice to attract my attention as she feels uneasy to come down the stairs for fear of being caught and bitten unawares by Senior. On May 20, as I came out with her buttered toast I saw her surrounded by suitors. Once, as I was sitting on the ledge next to a hole for the passage for rain-water, the mating pair came out of the shelter in the process of mating and dragged along until they were just behind my *sari* to protect themselves from the sun, and remained there until another inquisitive squirrel came to investigate and forced them apart. With the setting sun there was just a young

male in sight to whom Squirrel Junior eagerly went when he gave the love call, but when he came to mate he turned out to be immature, and try as he might he could give her no satisfaction. She would run about and come again and again to him and he would mate but with no result, until it became quite dark.

The same day, May 20, Squirrel Senior gave birth to her eighth litter, the gestation period coming to one month and twelve days. This is the second time she has left her regular nest to make another in the adjoining compound, the first time being last summer; but that litter she had brought back when the monsoon broke. This time she left for two reasons: because her seventh litter had occupied it for quite some time, and secondly, there was a fuse in the casing above the Frigidaire. When the repair was being done the man had been too near the almirah containing the box, and the mother was sitting at the other end of the casing watching the man. Since then she abandoned the almirah.

Each squirrel has such distinct characteristics that it surprises me when people put them all in one category and leave it at that. They are as different from one another as any two human beings. Squirrel Junior and the one I reared from the seventh litter just put their mouth to the milk and drink their fill without once raising their head, and then wipe the chin on the stone. Squirrel Senior takes each sip and with her right paw wipes the last drop from her chin and then cleans the paw with her tongue. This is her peculiarity and she does it after every sip, be it tea, milk, or coffee.

Their tastes differ as well. Senior accepts wheat flour kneaded in water during gestation period only, Squirrel Junior never. They both love bread but it must be toasted and liberally buttered; the youngest refuses to touch it. They have a common liking for orange slices, pistachio, and monkey-nuts and, of course, any insect barring ants, dead or alive, they just relish. Once I saw Squirrel Senior rush and catch an adult locust and at another time watched her capture a praying mantis, and quite a specimen it was, and all that was left of both were the wings and the prickly legs.

On July 2, while I was on my way to the station I was conscious of a commotion and then saw a retinue of suitors following my pet Squirrel Senior. Her last litter is one month and fourteen days.

Previous to that I had been away for a month so that I had missed the exact date when conception took place of Squirrel Junior. There must have been an unfortunate accident to her litter which should have arrived on June 30, since she had mated on May 20. Then a month usually elapses between the arrival of one litter and the conception for the next. As I said I was away so I cannot say how the litter was destroyed, but it certainly was, or how can I account for the discovery I made on August 16, 1956.

My father came down that morning and asked me to go up to his room and turn the bed as there was a squirrel's nest by the pillow. Naturally I was scandalized, and shamefacedly went up and turned over the mattress, and imagine my surprise when I saw between it and the cot, not only quite a large nest but all in the game were three baby squirrels! The canvas of the cot had been neatly cut and cotton-wool from the mattress had been liberally used to line the nest.

The upper surface of the mattress, the bed sheet, and even the mosquito net had not been touched. In case the weight of the body pressed on the nest the mother had been careful to build the nest next to the space occupied by the pillow.

Gently I took out the whole nest along with the young ones, all as red and hairless as could be, barely two or three days old. The mother was nowhere near about. After some time she came, saw the nest, ate the biscuit I gave her, and then proceeded to investigate. The moment she saw her young she caught hold of it by the nape of the neck and went straight for the cot. Not finding the nest there she refused to come out. As I drove her out she left the young one in it and came out. Very carefully I took the young one out which then gave a squeak, and then the mother was frantically jumping all over me to get it back. Surprisingly she did not bite me, but as I put the youngster in her nest she caught hold of it and ran up the stairs. By the time I went up she had vanished.

I scanned for her far and near but there was no sign, and I was afraid that she would forget about the other two, and they would die of starvation since they were too young to be reared by hand. As I was sitting on the steps feeling despondent I saw her coming out of the ventilator. I was amazed at her intelligence. She stepped on one side of the ventilator and it opened, and as she went in it closed after her. Beyond was a ledge where she had hidden the young one she ran away with. In the meantime I went to investigate why she had left her previous nest to make a second in the cot because they usually like to bring up consecutive litters in the same nest as Squirrel Senior is doing. I found the cot that stood for her staircase had been removed during summer for guests to sleep in the open. I put up the framework of a cot against the basket for Squirrel Junior to go back to her old nest if I could persuade her.

Losing my patience waiting for her to come for the two young ones in the box, I took one out and immediately it gave a soft squeak, hearing which the mother ran out helter-skelter. She came directly to my open palm, caught the young one by the nape of the neck and, because I was too near the ventilator, went straight to her old nest in the basket. They have a remarkable memory. As regards counting the litter they are no good. If two are removed behind the mother's back they are none the wiser, but let the mother see you in the process of removing and she becomes well-nigh frantic. Squirrel Junior was happy with one, forgetting the one on the ledge and the third still in the box. The moment I brought it out and it squeaked, the mother remembered and without the least effort to bite me took it back to her nest. Seeing her quite oblivious of the youngster on the ledge I had it taken down by ladder all covered with dust and took it up to the mother, who graciously came and took it back but only when I managed to make it squeak. Junior has the sweetest of tempers. Compared to her, Squirrel Senior is a perfect volcano. I give her wide berth when she has a litter, and even when I feed her outside the almirah I have to be on guard, as she is always on the look-out for opportunities to come and nip me, and rather sharp ones too.

On August 14, Squirrel Senior has given birth to her ninth litter, and for the first time of four. The gestation period was 1 month and 12 days. I have seldom seen such a possessive squirrel as Senior. Both Junior and Senior have for the first time littered together and one can quite understand their hunger. Squirrel Senior will not allow Junior the hospitality of the house. The way she gives chase would have forced any other squirrel to leave the territory for good, but Junior is made of sterner stuff. Driven by hunger she takes every opportunity to slip in to be fed unnoticed, and the moment she glimpses Senior she flies up the stairs followed closely by her enemy clucking and snapping viciously at the heels. The very next moment Junior comes down the stairs by a round-about way to renew her unfinished dinner, while Senior continues searching for her.

The young one I took from the 7th litter to bring up, Senior managed to drive out of the house as she is very much against sharing her territory with another, be it one of her own litter or a foundling as is Squirrel Junior. Today (September 4, 1956) as I write, I shall take out and rear one from the ninth litter, now three weeks old. In case I succeed in keeping this third female within the vicinity, I hope to record a comparative study.

Postscript: I had been away for over a couple of months so that I cannot say when the next conception or when delivery took place, but when I came back on November 19, 1956, I found a litter of 3 in the box in the almirah belonging to Squirrel Senior. They looked quite 10 days old, this her tenth litter.

This time, as with the previous litter, the mother found a new way of ridding the nest of her young. Just before they became unwieldy, say at 45 days old, she took them out one by one by the nape of the neck up the stairs to a room above where they were safe from human curiosity!

On January 6, 1957 Squirrel Senior has mated for the eleventh time in her young life of three years and three months. She is already the mother of 24, not counting her first litter that met with tragedy.

SUMMARY

The observations I have so far recorded show that female squirrels reach maturity between 6 and 8 months. They take the initiative in advertising to the squirrel world their presence and willingness to be wooed. The males commence the onslaught with frequent calls, each having a fair chance of mating with a female once. They come for a day only, and it is the female alone that makes the nest and rears her young. The gestation period is on an average between 40 and 42 days. The young are born blind and hairless, but the markings are faintly present. There are usually three litters in the year, with an average of 3 young per litter. Two and four young in a litter are rare. One and five I have never come across. The teats are 4 in number. During the suckling period, which lasts for nearly 2 months, the mother spurns male attention.



Banerji, Aruna. 1957. "Further Observations on the Family Life of the Five striped Squirrel, *Funambulus Pennanti* Wr." *The journal of the Bombay Natural History Society* 54, 335–343.

View This Item Online: <https://www.biodiversitylibrary.org/item/186985>

Permalink: <https://www.biodiversitylibrary.org/partpdf/153333>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder

License: <http://creativecommons.org/licenses/by-nc/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.