

THE REX

By Beverly Bruges

Breeding a good Rex is not a difficult thing to do, but does take a large amount of time, patience and, of course, space.

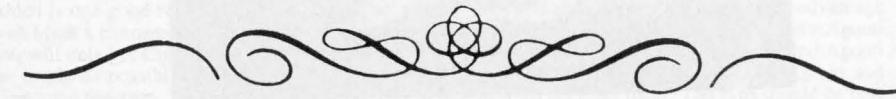
Unlike other breeds you cannot spot a good Rex in the nest, as it can take up to six months for the Rex to achieve its best coat and then it will only keep this coat until a maximum of eighteen months old, when bald patches will start to show. This short show life is impractical for the small breeder as it will require you to keep a lot of stock at first, till you can, with experience, spot the potential of a good Rex at a very early age. The bucks seem to obtain the curliest coat and a rat which seems hopeless as a kitten can surprisingly turn out to be a good adult. The Rex can be bred in all varieties, although the curl of the coat can make the marked ones not true to standard, especially the Hooded (the curl can make the saddle crooked). The best Rexes I have seen and bred have been Selves in White and Black, as these two colours show up the curl best. To obtain a really good curl, you have to have really good stock — which applies to whatever variety you decide to take up. The Rex is one variety that is best bred alongside another, then you can have the best of both worlds by being able to show in more than one breed class. When you have decided on your other variety, obtain a trio of a normal buck and two female Rexes or vice versa, then your litters will be fifty-fifty Normal and Rex. Do not make the mistake of breeding Rex to Rex or you will end up with bald Rexes, as the double dose of Rex leaves them with a very short, tight coat with bald patches and they are not good showing. Follow the usual information for rearing litters — as for other varieties. Some breeders may disagree with me, but I believe in feeding Farex baby food to the kittens until they are eight weeks old, as I find this increases their size. Keep the Rex bucks as they make the best show rats, but do not keep more than four unless you have plenty of space.

To prepare for showing is easy, except with the White Rexes, when it is advisable if they are very dirty, to bath them in baby shampoo two days before the show to give the curl of the coat time to settle down. Cleaning all tails is important and best done with soap and water and an old toothbrush.

The Rex can be one of the prettiest varieties to breed as some Self Whites can look like little lambs, but they are a variety with a short show life and to breed a good one is very hard work, but very rewarding.



Rex rat.



—MISCELLANEOUS RAT MATTERS—

TAILLESS RATS

By Nick Mays

Early in September 1985, one of my better Silver Fawn does gave birth to a small litter, containing only two kittens, a buck and a doe. The doe took after her mother, being Silver Fawn with a fine, 'whiplash' tail of regular length. The buck however was Silver Fawn Hooded (and rather mis-marked) and was noticeable for his complete absence of tail. There was no scab, stump, scar or vestige of any kind where his tail should be, although at first I put his condition down to over-zealous washing on his mother's part. I didn't rate his chances of survival very highly at first, as his mother constantly upended him to examine his rear quarters very carefully and vigorously wash them, perhaps in the hope that a tail would start to grow. However, he did survive and grew to be quite a sizeable animal. The only off-putting thing (to me, at least) about his lack of a tail was that his testicles grew larger and more prominent than on a normal buck, although this condition is easily explained insofar as, a) there was no tail to restrict the upward growth and, b) as the tail forms a major sweat organ in the rat, possibly the testicles grew larger to compensate for this, being a secondary sweat-organ.



Typical Tailless Rat.

At the same time, Jean Judd also discovered a Manx kitten in her stud (a Rex), but this rat, although very well cared for by Jean, as are all her animals, suffered from the 'Manx curse' — Spina Bifida, which affected his hips and, consequently his ability to walk. 'Frog', as the rat had been named, died aged only a few months. A little checking into Manx cat breeding revealed that several Manx cats suffer from Spina Bifida, so their breeding is a very selective process. It seemed to me that Manny was rather lucky not to inherit this condition. However, it would appear that although he could walk perfectly and had no visible deformation, he may have inherited a form of the condition. His only failings had been that he was very messy in his rear end. Also, attempts to mate him to his sister and other does met with failure. Members put forward various suggestions as to these conditions.

One suggestion was that his lack of bowel control was caused by deformity of muscles in his anal region, caused by his lack of tail. Another suggestion explaining both conditions was put forward by John Wells, who has conducted his own experiments into breeding tailless rats with specimens that appeared later. He observed that even mild forms of Spina Bifida in humans had adverse effects on the nerve supply to the ano-genital regions. Also, John noted that the actual physical act of mating may be difficult for a tailless buck to achieve correctly.

However, my own plans for mating Manny to other rats produced no results. Unfortunately, he did not survive for very much longer, as he died from kidney failure caused by heat stroke. This was, with hindsight (as is often the case) easily explained. Rats use their tails for heat regulation, as they cannot sweat in our hairless ease. Manny possessed no tail and was unable to regulate his heat, with disastrous results.

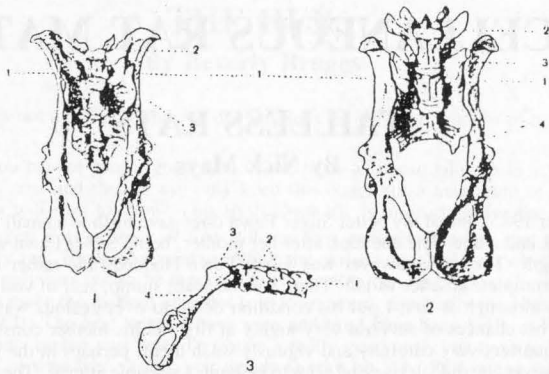


Fig. 1 Rat No. 1, ventral aspect; 1, pelvic girdle; 2, sixth lumbar vertebra; 3, three modified sacral vertebrae.
 Fig. 2 Rat No. 2, ventral aspect; 1, pelvic girdle; 2, fifth lumbar vertebra; 3, sixth lumbar vertebra; 4, two modified sacral vertebrae.
 Fig. 3 Rat No. 3, right lateral aspect; 1, thirteenth thoracic vertebra; 2, two first lumbar vertebrae; 3, two or three modified lumbar vertebrae; 4, pelvic girdle.

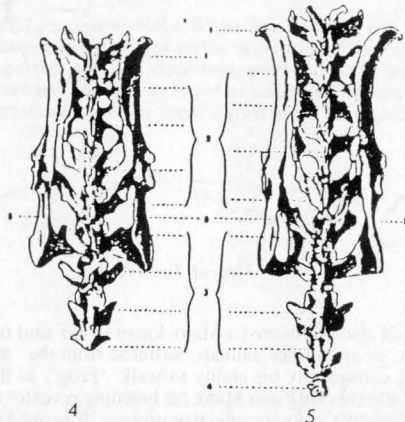


Fig. 4 Tail cut rat No. 2, dorsal aspect; 1, sixth lumbar vertebra; 2, four sacral vertebrae; 3, first four caudal vertebrae; 5, pelvic girdle.
 Fig. 5 Tail tied rat No. 2, dorsal aspect; 1, sixth lumbar vertebra; 2, four sacral vertebrae; 3, first four caudal vertebrae; 4, fifth caudal vertebra; 5, pelvic girdle.

Illustrations of Sara Conrow of Tailless rats' vertebrae and pelvic regions.

Relatively soon after Manny's death, Geoff Izzard discovered a tailless buck in a litter of Siamese. Within one month, Tilly Haycock found a tailless doe in a litter of Silver Greys. Careful checking revealed that both strains were related. 'Whispa' (the buck) and 'Froggie' (the doe) were mated together — the act of mating being observed. Froggie showed all outward signs of pregnancy, but produced no litter. It was again suggested by John Wells that the actual act of mating was difficult for the buck to complete,

no ejaculation taking place, but the act triggering a 'false' pregnancy in the doe. My alternative suggestion could be that tailless bucks are sterile, although this cannot be proven without further tests. One thing was certain however, and that was that **all** of the tailless rats observed in this period of time were **congenitally** tailless, that is, their condition was caused by a defect in the process of cell division of the ova from which they grew. Also, and a fact that has become increasingly clear in the high incidence of tailless rats occurring in litters since then, in places as diverse as America and Sweden, is that all the rats in question are related to the strain bred by Geoff Izzard. It would certainly explain the reason why so many have been born in the space of four years since 1985, when in the preceding nine years from the N.F.R.S.'s formation in 1976 only **one** such rat was observed.

There does exist scientific precedent for such statistics as would include such a vast number of rats born in the nine year period from 1976 to 1985, although, of course, laboratory conditions did not exist and no accurate controlling of so many members' breeding stock was in force. However, I was fortunate to come by two scientific reports from the journal 'Anatomical Record' which **do** observe, under laboratory conditions, that only nine tailless rats occurred in 71,500 specimens over a period of ten years.'

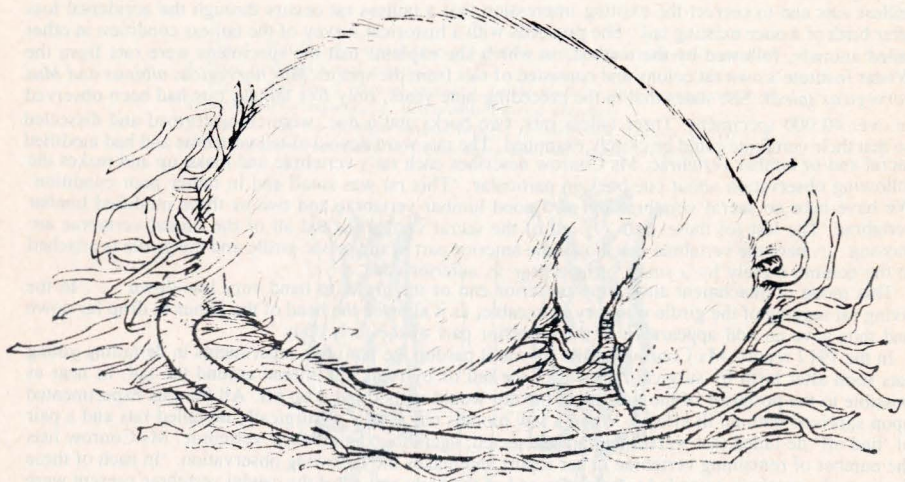
The reports are entitled 'Taillessness in the Rat' (1915) and 'Further Observations of Taillessness in the Rat' (1917), written by Sara B Conrow of the Wistar Institute of Anatomy and Biology and published in the *Anatomical Record*. Ms Conrow treats the subject in a forthright, scientific manner, presenting her thesis in chronological order, starting with an introduction, in which she states that the objects of her paper are to 'describe skeletal conditions in the region posterior to the thoracic vertebrae of several tailless rats and to correct the existing impression that a tailless rat occurs through the accidental loss after birth of a once existing tail'. She proceeds with a historical survey of the tailless condition in other tailed animals, followed by the method, in which she explains that the specimens were rats from the Wistar Institute's own rat colony and consisted of rats from the species *Mus norvegicus albinus* and *Mus norvegicus (pied)*. She states that in the preceding nine years, only five tailless rats had been observed in over 40,000 specimens. Three tailless rats, two bucks and a doe, were chloroformed and dissected so that their vertebrae could be closely examined. The rats were devoid of tail vertebrae and had modified sacral and/or lumbar vertebrae. Ms Conrow describes each rat's vertebrae and make-up and makes the following observation about one buck in particular; 'This rat was small and in rather poor condition. We have here no sacral vertebrae but two good lumbar vertebrae and two or three modified lumbar vertebrae. The last (of these) and . . . all of the sacral vertebrae, and all of the caudal vertebrae are missing . . . here the vertebrae reach only the anterior part of the pelvic girdle and the girdle is attached to the column merely by a small surface near its anterior end.'

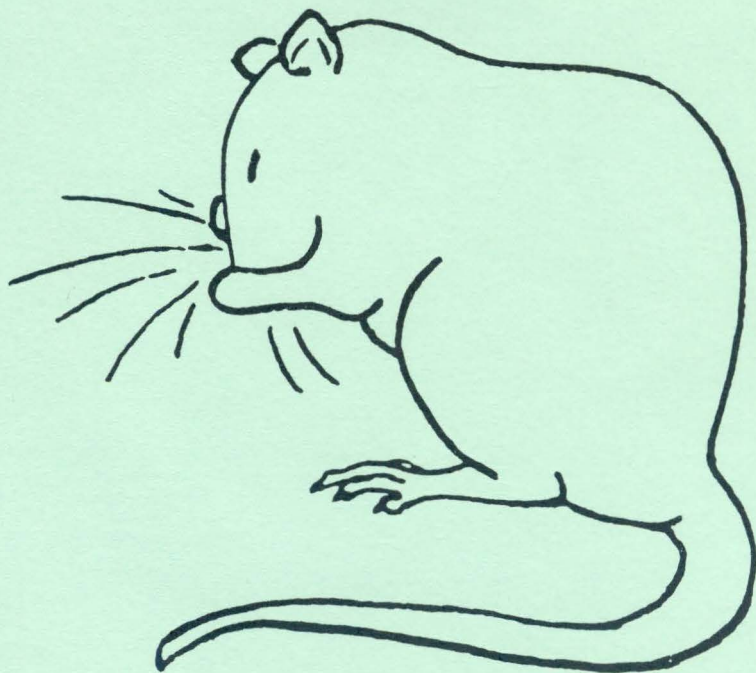
This mode of attachment allows the posterior end of the girdle to hang very low down . . . In the living rat sagging of the girdle was very noticeable, as it allowed the head of the femur to drop far down and thus gave an odd appearance to the posterior part of the rat's body.'

In the 1917 report, Ms Conrow details (if you'll pardon the pun) her experiments in de-tailing young rats soon after birth by surgical removal of the tail or by tying silk thread around the tail, as near as possible to the posterior of the rat so that the tail would wither and drop off. All the rats experimented upon survived with no ill effects. When a few months old, a pair of surgically de-tailed rats and a pair of 'tied off' de-tailed rats were killed and dissected, again to examine their vertebrae. Ms Conrow lists the number of remaining vertebrae in her report and makes the following observation: 'In each of these four rats the vertebrae extended to posterior end of the body and all of the caudal vertebrae present were normal, except the fraction of the vertebrae actually cut off or tied and his showed only slight deformity.' She concludes the report with a direct comparison between congenitally tailless rats and purposely de-tailed rats: '. . . it is apparent that the removal of a rat's tail by operation soon after birth does not cause the disappearance of any of the remaining vertebrae, nor does it give rise to any deformity of fusion among them . . . as is found among rats born tailless, therefore taillessness in the rat as defined is not due to accident but to a congenital defect of the vertebrae column.'

Ms Conrow's experiments harken back to the work carried out by Weisman (1834–1914), a German biologist, who published a series of papers between 1868 and 1876 wherein he contended that acquired characteristics of genetic or body variation could not be inherited. To underline his theory, he conducted a series of crude experiments, de-tailing mice for successive generations, proving that a mouse (or any animal) which had lost its tail (or limb etc.), accidentally, could not and would not pass on these **acquired** defects to its offspring. Although his theory was wide of the mark on many areas, it did point to the fact that, as in rats, de-tailed mice did not produce offspring without tails or deformed vertebrae.

At the time of writing, there exists eight, possibly more, related tailless rats, both in Britain, Sweden and America. John Wells' tailless doe was mated to her tailed brother and produced ten, fully tailed young. To date, no matings of any combination have produced tailless young from any of the existing tailless rats. The Executive Committee of the N.F.R.S. were constrained to pass a motion that tailless ('Manx') rats may **not** be exhibited at the Society's shows, as the condition, being a defect, is contrary to the Fancy's aims of propagating top quality stock. With all this in mind, perhaps our own 'Further Observations of Taillessness in the **Fancy Rat**' may be included in a future edition of the Handbook.





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