

**Sex-typing newborn rats:
An improved procedure with
Agouti strains**

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It is sometimes necessary to determine the sex of a newborn rat in order to assign it to a treatment condition. The standard method for sexing pups (Munn, 1950) is to examine the distance between the anus and the genital papilla. Citing data from Donaldson (1924), Munn reports that for newborn rats the average distance between these points is 2.8 mm for males and 1.2 mm for females.

This discrimination is sometimes difficult, even for experienced investigators. Moreover, since it is necessary to handle the animal when attempting to determine sex, this procedure may be unsuitable when the E wishes to minimize handling.

We have found, however, that in males of the BD-IX strain (Druckrey, Danneberg, Dischler, & Steinhoff, 1962; Valle, in press), the scrotum of the newborn pup is pigmented. This character permits extremely rapid and reliable sexing and involves a minimum of handling. Figures 1 and 2 show a 5-day-old male and female, respectively. The pigmented spot just anterior to the male's anus is easily discernible. Figures 3 and 4 show an 11-day-old male and female, respectively, and illustrate the development of the spot onto the scrotum of the male.

The BD-IX strain is a nonhooded, agouti-colored variety that is homozygotic for the HH (nonhooded or selfed) and AA (agouti) genes. In order to determine if the pigmented scrotum would appear in hybrid animals, we crossed a BD-IX female with a Long-Evans male and a Long-Evans female with a BD-IX male. The Long-Evans strain is homozygotic for the hh (hooded) and aa (black) genes. The male offspring of both crosses showed the pigmented scrotum.

If, as it seems reasonable to assume, the pigmented scrotum is characteristic of agouti-colored rats in general and not a

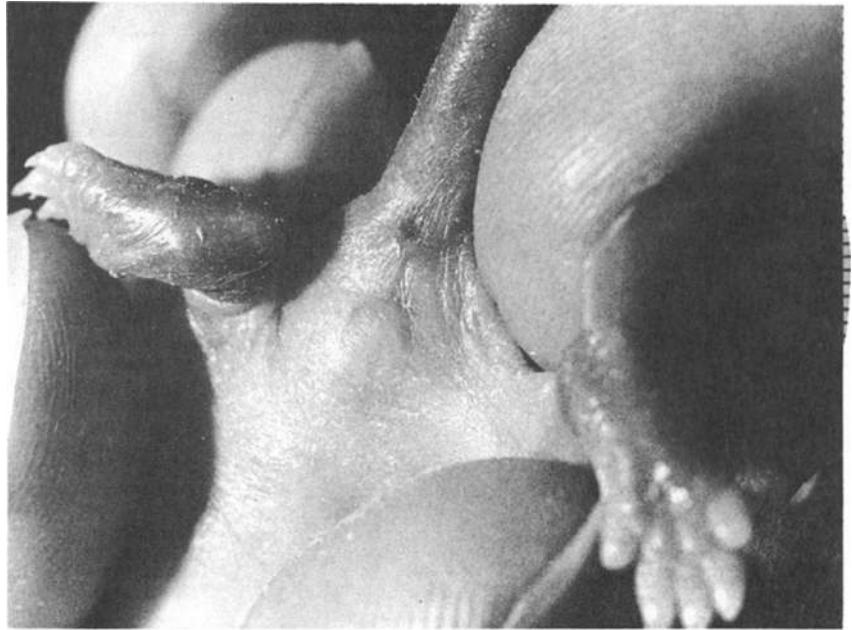


Fig. 1. Five-day-old male rat of the BD-IX strain. The pigmented scrotum is seen as a black spot at the base of the tail.



Fig. 2. Five-day-old female rat of the BD-IX strain.

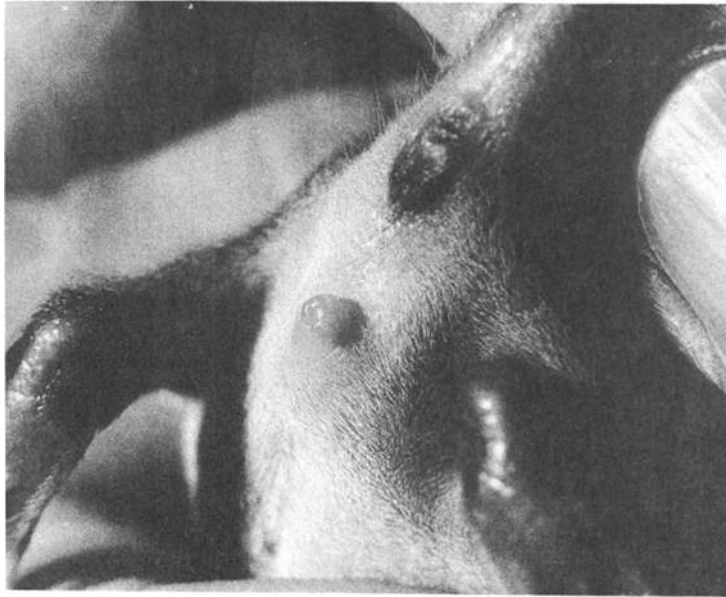


Fig. 3. Eleven-day-old male rat of the BD-IX strain.



Fig. 4. Eleven-day-old female rat of the BD-IX strain.

peculiarity of the BD-IX strain per se, Es who desire the early sexing of rats might be well advised to use an agouti-colored variety as Ss. This suggestion would seem especially pertinent for those who need to maintain handling at a minimum.

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