THE BIARMED *MUS POSCHIAVINUS* CHROMOSOME CARRYING THE *H-2* LOCUS, *T1posKlj*, IS *T7Bnr*.

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THE tobacco mouse, *Mus poschiavinus*, differs from *M. musculus* in that 14 pairs of telocentric chromosomes have been replaced by seven pairs of biarmed chromosomes (GROPP, TETTENBORN and LÉONARD 1970). One of these seven chromosomes carries the *H-2* locus (KLEIN 1971). Klein produced a line carrying this as the only biarmed chromosome in the karyotype by three generations of backcrossing *M. musculus* × *M. poschiavinus* hybrids to *M. musculus*, always selecting for the retention of the tobacco mouse *H-2* antigen. Klein called this stock *T(9;?)1posKlj*, and we shall refer to it as *T1*. ZECH *et al.* (1972) have recently analyzed the seven biarmed chromosomes of the tobacco mouse, *T1Bnr-T7Bnr*, by quinacrine and Giemsa banding techniques. We have used these same techniques to show that *T1* is identical with *T7Bnr*.

MATERIALS AND METHODS

B10.BR and B10.AKM females were mated to males homozygous for the *T1posKlj* translocation. Primary tissue cultures were established from 14–17 day embryos. The methods used for this and the subsequent steps leading to fluorescent karyotypes are detailed in an earlier report (MILLER *et al.*, 1971a). Thirty-six metaphase spreads were photographed and seven were karyotyped. In addition, some slides containing air-dried metaphase spreads were stained with the modified Giemsa banding technique of BUCKLAND, EVANS and SUMNER (1971). Twenty-three of these metaphase spreads were photographed.

RESULTS AND DISCUSSION

A typical karyotype of a male cell in which the chromosomes were stained with quinacrine mustard is shown in Figure 1. The numbering system is that recommended by the Committee on Standardized Genetic Nomenclature for Mice (1972). Each of the autosomes can be paired except chromosomes 16 and 17. A biarmed chromosome is present in which one arm has a very broad bright band at the distal end, characteristic of chromosome 16, and the other arm has a narrow, almost non-staining region about one third of the length from the cen-

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FIGURE 1.—Quinacrine fluorescent karyotype of a cell from a male mouse of the *T1posKlj* stock. The translocation chromosome represents a centric fusion of a chromosome 16 with a number 17 and is thus identical with *T7Bnr*.

tromere, characteristic of chromosome number 17. The biarmed chromosome present in the *T1* translocation was therefore derived by centric fusion of chromosomes 16 and 17. This was also clear in the Giemsa banded metaphase spreads.

ZECH *et al.* (1972) showed that the *T7Bnr* chromosome was formed from chromosomes 16 and 17. Therefore the biarmed chromosome in the *T1* stock is the *T7Bnr* chromosome and should be so designated in the future. KLEIN (1971) showed that the *H-2* locus, which is in Linkage Group IX, is carried by this translocation chromosome. The present results thus confirm our earlier conclusion that Linkage Group IX is on chromosome 17 (MILLER *et al.* 1971a).

The unknown linkage group in *T7Bnr* is carried by chromosome 16. Chromosome 16 is also involved in the *T(8;16)17H* translocation, as shown by analysis

of the fluorescent banding patterns (MILLER *et al.* 1971b), but no linkage group has been assigned to this chromosome. The linkage groups which might be involved, since they have not yet been assigned to any chromosomes, are IV, VI, VII, XV, XVI or XIX. However, genetic studies by A. G. SEARLE and C. V. BEECHY (pers. com.) indicate that it is unlikely that linkage groups IV, VI or VII are involved in the *T17*. We have therefore suggested that chromosome 16 carries Linkage Group XV, XVI or XIX (MILLER *et al.* 1971b).

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