

What is the transport rate of Mus domesticus infesting hay bales? Experiments pertinent to long-distance-gene-migration

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**ABSTRACT:** Determining the genetic impact of stowaway house mice Mus domesticus will help in evaluating geographic variation in gene frequencies. My objective is measuring stowaway transport rates, which are at the maximum potential rate of long-distance gene migration. When 940 313 kg transported grain were cleaned at a feedmill, 1 live and 6 recently-dead house mice occurred on the graincleaner sieve. When unloading 37 500 kg transported hay and grain, workers handcaught 4 live house mice on trucks and saw 1 juvenile escaping during "flaking" (breaking apart) of a hay bale. Multiplying the worldwide volume of transported hay and grain by these low transport rates implies a large number of passively-transported mice.

As some transported mice escape detection, I did an experiment to determine the proportion of mice remaining during transport of infested loads. For each of 82 replicates, I handcaught or trapped 1 to 5 mice; put them in a haybale for 1 to 13 days; put the haybale in a wheelbarrow, pushed the wheelbarrow for 15 mins, and then searched for transported mice. Stowaways remaining during transport included 74 of 115 mice (64%). These data imply a high risk of live stowaways arriving in infested loads.

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This is an abstract, printed without review.

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