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## Studies on relationship of sex ratio and population of clawed jird and striped hamster

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**Key words** : sex ratio ,population number ,clawed jird ,striped hamster

**Introduction** Clawed jird (*Meriones unguiculatus*) is widely distributed in desert and semi-desert areas and is one of main pest rodents in north and northern-west of China .Striped hamster (*Cricetulus barabensis*) is widely distributed in north of China . It is fed on plant seeds . When the population of Striped hamster is at the peak , crops and cultivation forage grass will suffer fairly serious damage . Population of rodent was closely correlative with breeding parameters . Sex ratio is one of important breeding parameters .

**Natural survey and methods** Experimental farm is situated in Huhhot suburbs of Inner Mongolia (E 110°44'—112°10' , N 40°15'—41°20' ) , being 30 km from Huhhot and at the southern foot of Daqing Mountain . It belongs to continental climate . The experiment was done by trap-days in *Medicago sativa* field , in *Astragalus adsurgens* field , on nearby farmland and in the pasture in the middle days of every month from April to October in 1984-2004 . The rodents trapped were all weighted , surveyed and dissected .

**Results** Sex ratio( $\frac{\text{♀}}{\text{♂} + \text{♀}}$ ) and populations of clawed jird and striped hamster were studied and their relationships were analyzed separately in the years from 1984 to 2004 . The results of correlation analysis (SAS 8.0 software) showed that sex ratio of clawed jird was not significantly correlated to its population . Sex ratio of striped hamster was significantly correlated to its population . As showed in Figures 1 and 2 , population of clawed jird was sharply increased in 1992—1994 , then decreased after 1994 to its lowest in 2000 . However , its sex ratio kept relatively steady , in the level between 50% and 60% in all years . Population of striped hamster straightly decreased from around 600 in 1984/1985 to its lowest of 40 in 1990 , followed by fluctuations of 5-7 year cycles . Furthermore , its sex ratio significantly varied , between 36.26 and 65.21% .

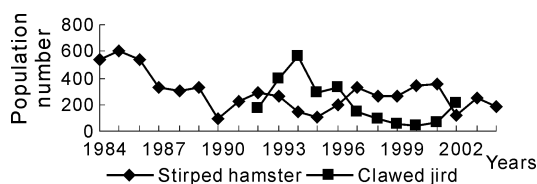


Figure 1 Annual dynamics of population number of clawed jird and striped hamster .

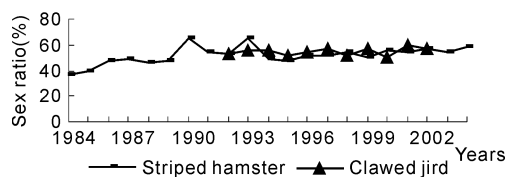


Figure 2 Annual Dynamics of sex ratio of clawed jird and striped hamster .

**Conclusions** The relationship between sex ratio and the population of clawed jird was different from that of striped hamster . Each of them has their own breeding traits . Whatever population of clawed jird was , its sex ratio kept relatively steady . When the population of striped hamster was in the peak , its sex ratio was lower , namely female being less than male . When population number of clawed jird was in the valley , its sex ratio was higher , namely female being more than male .

### Reference

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