

研究论文

# 麋鹿的配偶制度、交配计策与有效种群

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**摘要** 模拟分析了繁殖群体大小、繁殖偏倚和占群优势雄性数目对麋鹿的有效种群大小的影响。发现麋鹿占群优势雄性数目越少, 其有效种群越小。麋鹿的繁殖计策对遗传多样性的保存的作用十分有限。雄性繁殖后代数目的方差越大, 繁殖群体的有效群体越小。近交系数在封闭繁育种群中会上升。麋鹿有效种群越大, 近交系数上升越快。根据分析结果, 为了保存麋鹿种群中现有的遗传多样性, 应当采取如下措施: (1) 建立麋鹿繁殖群的遗传谱系档案, 检测参加繁殖的麋鹿的遗传结构, 记录繁殖的麋鹿的谱系; (2) 每个麋鹿繁育基地应建立两个以上的繁殖群, 组成繁殖群时, 应隔离亲缘关系近的繁殖公鹿和雌鹿; (3) 由于麋鹿的繁殖系统是后宫制, 组成的每个麋鹿繁殖群不宜太大, 繁殖公鹿和雌鹿数目应尽可能相等; (4) 组成迁地保护的奠基群体时, 应根据麋鹿繁殖群的遗传谱系档案注意保留原种群的遗传多样性以及奠基群体的遗传代表性。

**关键词** [迁地保护](#); [保护繁育](#); [奠基群](#); [遗传多样性](#); [性选择](#); [麋鹿\(\*Elaphurus davidianus\*\)](#)

分类号

## Mating system, mating tactics and effective population size

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**Abstract** We simulated the impacts of breeding herd size, reproductive skew and numbers of breeding stags on the inbreeding coefficient of Père David's deer. We found coefficient of inbreeding will increase in close breeding populations. The smaller the effective population and faster the coefficient of inbreeding will increase. The fewer the dominant breeding stags, the smaller the effective population. The impact of mating tactics on maintaining genetic diversity in Père David's deer is limited. The bigger the variance of offspring produced, the smaller the effective population. Thus, we should adapt population management measures to preserve the genetic diversity in Père David's deer. Based on our simulations, we suggested (1) to check the genetic background of each breeding Père David's deer and to establish the genetic pedigree file for them; (2) At least two breeding herds should be maintained at each Père David's deer breeding base, we should isolate these deer with close relationship when establish breeding herds; (3) Because Père David's deer has a harem breeding system and the number of offspring each breeding individual have is not equal, each breeding herd should have approximately the same number of stags and hind and should not be too large; (4) We should pay special attention to maintain all genetic diversity in the source population while striving for have representativeness of genetic diversity in relocated population when we relocate Père David's deer.

**Key words** [ex situ conservation](#) \_ [conservation breeding](#) \_ [founder population](#) \_ [genetic diversity](#) \_ [sexual selection](#) \_ [Père David's deer](#)

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