

连新明, 李晓晓, 颜培实, 张同作, 苏建平. 夏季可可西里雌性藏原羚行为时间分配及活动节律. 生态学报, 2012, 32(3): 663-670

夏季可可西里雌性藏原羚行为时间分配及活动节律

Behavioural time budgets and diurnal rhythms of the female Tibetan gazelles in the Kekexili National Nature Reserve

投稿时间: 2011-6-22 最后修改时间: 2011-9-28

DOI: 10.5846/stxb201106220922

中文关键词: 藏原羚 行为时间分配 集群规模 繁殖状态 活动节律

English Keywords: [Tibetan gazelle \(*Procapra picticaudata*\)](#) [behavioural time budget](#) [group size](#) [reproduction status](#) [diurnal behavioural rhythm](#)

基金项目: 国家自然科学基金资助项目(30800167); 南京农业大学引进人才启动基金; 青海省重大科技攻关项目(2002-N-105)

作者	单位	E-mail
连新明	南京农业大学动物科技学院, 南京 210095	lianxinming@gmail.com
李晓晓	南京农业大学动物科技学院, 南京 210095	
颜培实	南京农业大学动物科技学院, 南京 210095	
张同作	中国科学院西北高原生物研究所, 西宁 810001	
苏建平	中国科学院西北高原生物研究所, 西宁 810001	

摘要点击次数: 255


全文下载次数: 100

中文摘要:

2005和2010两年的6-8月,在可可西里采用目标动物观察法记录藏原羚的行为时间分配和活动节律。所有行为被划分为觅食、警戒、躺卧、移动和其它5种类型。研究结果表明,觅食和躺卧是藏原羚的主要行为类型,分别占总行为时间的(42.02±2.22)%和(31.21±2.71)%,警戒、移动和其它3种行为类型比例依次减少。藏原羚的集群大小为1-10和12只,随着集群规模的增加,藏原羚的觅食时间增加,警戒时间减少,但其余3种行为类型与集群规模无显著相关性。与无羔藏原羚个体相比,有羔藏原羚的移动行为所占比例较高,而躺卧比例较低,觅食、警戒和其它3种行为类型差异不显著。一天中,藏原羚的觅食行为存在3个高峰,分别为8:00-8:59,10:00-12:59和16:00-19:59;躺卧行为的变化趋势与觅食行为相反;警戒行为仅有1个高峰,为14:00-14:59。5种行为类型在各时段间均存在显著差异。

English Summary:

Optimal time budget for behaviours may be constrained by intrinsic and extrinsic factors forcing animals to balance their daily energetic needs. From June to August in 2005 and 2010, the behavioural time budget and diurnal rhythm of the female Tibetan gazelles, *Procapra picticaudata*, were studied by focal animal sampling along the Qinghai-Tibet Highway (QTH) in the Kekexili National Nature Reserve. We restricted the sampling within 200 m from the QTH. In the end, a total of 255 observation units were collected. All behaviours were divided into five categories, Foraging, Vigilance, Lying, Moving and Other, and there was a significant difference among them using the Kruskal-Wallis *H* test ($P < 0.001$). Foraging and resting, accounting for (42.02±2.22)% and (31.21±2.71)% respectively, were the two main behaviours of the gazelles. This might relate to the low aboveground biomass, 36.49-63.85 g/m². The gazelles should spend more time foraging to obtain more nutrition. Moreover, as rumination indicates, more lying could assist in allowing the food to digest and thus nutrient assimilation. The groups of the Tibetan gazelles comprised from one to 12 individuals, but the groups with 11 animals were absent in this study. Analysis results of the Spearman rank correlations showed that with the increase of group size, the gazelles increased time foraging ($P < 0.05$) and decreased time vigilance ($P < 0.001$), which were due to the combination of the dilution hypothesis and the detection hypothesis. Theoretically, lactation carried a high energetic cost and the lambs were vulnerable to the predators, wolves and raptors. The gazelles with a lamb (mothers) were supposed to increase their time on foraging and vigilance comparing with the individuals without a lamb (female). However, results of the Mann-Whitney *U* tests suggested that there were no significant differences in foraging, vigilance and other between females and mothers, however the mothers devoted more time to moving ($P < 0.01$) and less time to lying ($P < 0.05$) than those of females without a lamb. Increasing moving could not only allow them to find new food resources easily but also avoid the predation risk in time, so the moving behaviour could play the role of vigilance to a certain extent. The peaks of foraging were recorded at 8:00-8:59, 10:00-12:59 and 16:00-19:59, which were staggered with the foraging peaks of Tibetan antelopes inhabiting the same area. Temporal niche division could explain the coexistence of sympatric ungulates. The trend of lying was opposite to that of foraging owing to the trade-off among behaviours. Similar lying-foraging-lying transformation could be shown in many other ungulates. The only peak of vigilance occurred at 14:00-14:59, which could be explained by the variation of traffic flow on the QTH. The QTH plays an important role in Tibetan economic development and transports in 85% of imports and about 90% of exports from the Tibetan Autonomous Region. There was a significant trend of traffic flow and the peak, which occurred during 12:00-15:00. According to the risk-disturbance hypothesis, the Tibetan gazelles would express high vigilance level with the high human distance, i.e. the high traffic flow. The Kruskal-Wallis *H* tests indicated that the five behavioural categories showed significant variance among the periods of diurnal time ($P < 0.05$).

 [查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

关闭

您是本站第 3549374 位访问者

Copyright © 2005-2009 京ICP备06018880号

地址:北京海淀区双清路18号 邮编:100085 电话:010-62941099 E-mail: shengtaixuebao@rcees.ac.cn

本系统由北京勤云科技发展有限公司提供技术支持