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近30年来扎龙湿地丹顶鹤繁殖种群空间格局及动态

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Spatial Distribution of the Red-Crown Crane Population in Zhalong Wetlands Over the Last 30 Years

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摘要

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摘要 种群空间格局是种群生态学和空间生态学的核心问题之一。采集扎龙湿地1981—2008年丹顶鹤种群巢址定位数据,采用平均中心模型和邻近体分析等方法研究了该研究区丹顶鹤种群空间分布格局及其动态,探讨了变化的原因与机制。结果表明:近30 a间,空间格局总体分布由6区域核心区中部转移至西南部,再转移至东北区域,丹顶鹤个体间的离散程度经历了逐渐增大→逐渐减小→迅速增大→逐渐减小的过程,各时期间分布型都为聚集分布,但不同时期聚集强度差异明显。生境条件的剧烈变化,即湿地缺水加剧以及人类活动干扰(如湿地内修建的各种大型工程)是导致丹顶鹤空间格局变化的主要原因,突发性干扰(如火灾)对空间格局也产生了极大的影响。

关键词: 空间分布格局 离散度 分布型 聚集强度 扎龙湿地

Abstract: Spatial distribution of patterns of a population is a key issue in population ecology and spatial ecology. Location data of the nests of the red-crown crane population in the Zhalong Wetlands during the period from 1981 to 2008 were collected for analysis of spatial distribution patterns of the red-crown crane population and its dynamics usir the Mean Center Model and the Euclidean Nearest-Neighbour Distance Model and further for exploration of causes and mechanisms of the variation. Results show that in the past 30 years or so, spatial distribution of the red-crown crane population in the study area had its centroids moving from the central part of the studied area towards the southwest part and then towards the northeast part and dispersion degree of individual crane nests displayed a wavy curve, i.e. slowly rising→ gradually declining → rapidly rising → gradually falling. The spatial distribution patterns of the population were all aggregative ones, but varied significantly in intensity from year to year, which is mainly attributed to drastic changes in habitat environment, such as aggregated water shortage and artificial disturbance (large scale engineering projects in the wetlands), and to accidental disturbance, like wildfire , too.

Keywords: spatial distribution pattern dispersion degree distribution pattern aggregation intensity Zhalong Wetlands

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