生物物理学报(2005) 21(6), 397-403

PDF文档

鸟类的发声系统和调控机制

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鸟类是具有复杂声行为的动物，其拥有特殊的发声器官——鸣管。尽管鸣禽与非鸣禽的发声特性和发声器官解剖学差异较大，但是两者大部分的发声运动控制模式相似。本文综述了近年来鸟类鸣声研究的新进展，重点比较了鸣禽和非鸣禽外周发声器官的作用和解剖学结构的异同，两者发声运动控制机制和发声特性调控的异同。鸟类发声系统是人类语言发声系统的简单模型，能为修复外科等学科的研究提供借鉴。

Avian's vocal system and modulation mechanism in vocalization

Birds have complex acoustic signals ,their unique vocal organs—syrinx are special species. Though vocal specialty and anatomy of vocal organs are distinct between oscines and non-oscines, the motor control pattern of these two kinds are mostly resembled. This article reviewed the latest progress of birdsong, compared the role and anatomy structure of peripheral vocal organs, motor control mechanism and amplitude/frequency modulation. Bird's vocal system is the simple model of studying human language phonation and it can give thought to the construct prosthetics, etc.

关键词

鸣禽(songbird); 非鸣禽(nonsongbird); 鸣管(syrinx); 发声(vocalization); 运动控制(motor control)