

燕雀丘间复合体背内侧核对叫声的调控模式

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鸣禽鸟的基本发声中枢——丘间复合体背内侧核 (nucleus dorsalis medialis of the intercollicular complex, DM) 对叫声的调控模式是诱发单次叫声。应用电生理与声学分析相结合的方法研究鸣禽鸟燕雀 (*Fringilla montifringilla*) DM核团对声音调控的模式。经语图和频谱图分析, 结果显示: 燕雀左侧DM诱发单次叫声的声长和主能量区的带宽分别为右侧DM诱发叫声的2倍和1.7~3.1倍, 提示燕雀DM对叫声声长和声强的调控能力, 均呈明显的左侧优势。这与高级发声中枢 (high vocal center, HVC) 和古纹状体粗核 (nucleus robustus archistriatalis, RA) 等发声控制核团在控声模式中具有左侧优势的特征相似, 从而为鸣禽发声控制通路高、低级中枢具有内源投射关系提供了声学上的证据。

CONTROL PATTERN OF NUCLEUS DORSALIS MEDIALIS OF THE INTERCOLLICULAR COMPLEX (DM) FOR VOCALIZATION IN BRAMBLE FINCH (*Fringilla montifringilla*)

The basic vocal center was located in nucleus dorsalis medialis of the intercollicular complex (DM) in songbirds. Control pattern of DM for vocalization is to evoke single call. The characteristics of evoked-call from DM were studied by the methods of electrophysiology and acoustics in bramble finch (*Fringilla montifringilla*). The results showed that the duration and the width of main energy band of the evoked calls from left-side DM were twice and 1.7 to 3.1 times longer than that of the right side in sonograms and spectra respectively. It suggests that DM has left-side dominance in both length and energy of evoked-call. It also indicates that the left-side dominance in vocal control, is not only exhibited in the high vocal center (HVC) and nucleus robustus archistriatalis (RA), the higher vocal centers, but also in DM, the lower vocal center. There are internal connections between the high vocal centers and basic vocal centers in songbirds.

关键词

丘间复合体背内侧核 (DM) (Nucleus dorsalis medialis of the intercollicular complex (DM)); 叫声调控模式 (Control pattern for vocalization); 左侧优势 (Left-side dominance); 燕雀 (Bramble finch)