

البحث رقم (2)

Title:

Anatomical features of the tongue of two chiropterans endemic in the Egyptian fauna; the Egyptian fruit bat (*Rousettus aegyptiacus*) and insectivorous bat (*Pipistrellus kuhlii*).

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Journal Name	Acta Histochemica (IF: 1.719).
Publication Date	2020/1/16
Volume	١٢٢
Issue	٢
Page	151503
Publisher	Elsevier

Abstract:

The current study aimed to investigate the tongue (lingual) morphometry, histology, and histochemistry of two chiropterans endemic in the Egyptian fauna, and having different feeding preferences. The tongues of nine adult individuals of each species were utilized in our investigation. The tongue of fruit-eating bat was observed relatively longer than the one of insect-eating bat. Grossly, the insect-eating bat had a lingual prominence on the dorsum of lingual body, while the fruit-eating bat had a concave midline over the lingual body. Histologically, numerous forms of lingual papillae were scattered along the dorsal epithelium of the tongue. The lingual papillae of the fruit-eating bat seem to be well adapted for piercing the skin of a fruit and liquid sap retention. The lingual glands of both species were lodged in the muscular layer. Two main sets were identified; the serous von Ebner's gland usually seen accompanied by the circumvallate papillae and Weber's gland with mixed mucoserous secretions. Von Ebner's gland showed more prominent acidic mucins, while Weber's gland expressed neutral mucins. The lingual epithelium of the fruit-eating bat had an outer covering of cornified non-nucleated epithelium. On the other hand, the insect-eating bat had an outer covering of nucleated epithelium. It is for the first time to record the existence of the entoglossal plates of both species which consisted of a bony core in the fruit-eating bat and a cartilaginous element in the insect-eating bat. The current study represents an attempt to shed more light on the tongue evolution among mammalian vertebrates.