

**The Morphology of Mandibular and Lingual Glands of Chicken (*Gallus sp*)  
and Quail  
(*Coturnix coturnix*): with Special Reference to the Distribution  
and Carbohydrate Content**

**Morfologi Kelenjar Mandibularis dan Lingualis Ayam (*Gallus sp*) dan  
Burung Puyuh (*Coturnix coturnix*): dengan Tinjauan Khusus pada Distribusi  
dan Kandungan Karbohidrat**

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**Abstract**

This research is aimed to compare the morphology and carbohydrate content of mandibular and lingual gland of the chicken (*Gallus sp*) and quail (*Coturnix coturnix*). This research studied mandibular and lingual gland from five chickens and five quails at macroscopic and microscopic levels. Macroscopic observation was done directly to study the position, structure and size of the glands. The microscopic observation was done using histochemical method with hematoxylin eosin (HE), alcian blue (AB) pH 2,5 and periodic acid Schiff (PAS) staining methods. The results showed that external and medial mandibular gland of chicken and external mandibular gland of quail were complex tubular mucous glands, while the medial mandibular gland of quail was complex tubular mixed glands. The anterior lingual gland of chicken and quail were complex tubular mixed glands, while the posterior lingual gland was complex tubular mucous glands. By AB pH 2,5 and PAS staining method it was showed that the cytoplasm of secretory cells and secretion of the mandibular and lingual glands of chicken and quail contains acidic and neutral carbohydrates.

**Keyword :** mandibular gland, lingual gland, AB pH 2.5, PAS