



MORPHOLOGY OF THE SALIVARY GLANDS IN JACKAL (*Canis aureus*)

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Abstract:

The salivary glands raise intriguing questions about their courses, function, and distribution. The salivary glands in jackal consist of the four glands. The glands have the same topography like in domestic carnivores but differ morphological. Four cadavers from hunted jackals were dissected and the salivary glands were studied.

• Introduction

Similarities are evidenced in the comparative topographical anatomy during their evolution although were identified several differences.

Canis aureus is a member of the family Canidae that is native to Southeast Europe, Southwest Asia, and Africa. Compared to the wolf, the jackal is smaller and intermediate between fox and wolf. The wolf-like canids group includes the golden jackal, the black-backed jackal, and the side-striped jackal.

Some studies have described the anatomy of the *Canis aureus* with regard of superficial and deep lymph centers, the description of the skull and oral cavities.

In this context, the comparative anatomical description of the salivary glands in *C. aureus* provides information for the understanding of morphological and physiological characteristics that will allow its surgical or medical treatment, as these animals are easy targets of accidents, legal and illegal hunting.

• Material and method

In the present study four jackals were used. The dissections emphasized the head, both superficial and deep plans. The skin was removed and the fascia of the head and cutaneous colli dissected. Beneath the parotido-auricular muscle lies the parotid gland, while in the deep plan near the angle of mandible the mandibular and sublingual glands were identified.

• Results and discussions

The parotid gland is located in the parotidian fossa and resemble the „Y” aspect. Proximal half extremity presents a preauricular and retroauricular lobes. Distal extremity covers the mandibular salivary gland and the angular process of mandibular (Fig. 1). The parotid canal opens more caudal to the upper carnassial tooth. Histologically, the glandular acinus presents pyramidal cells with central spherical nucleus, while the cytoplasm is darker (Fig. 3). Based on this the parotid gland is mainly serous.

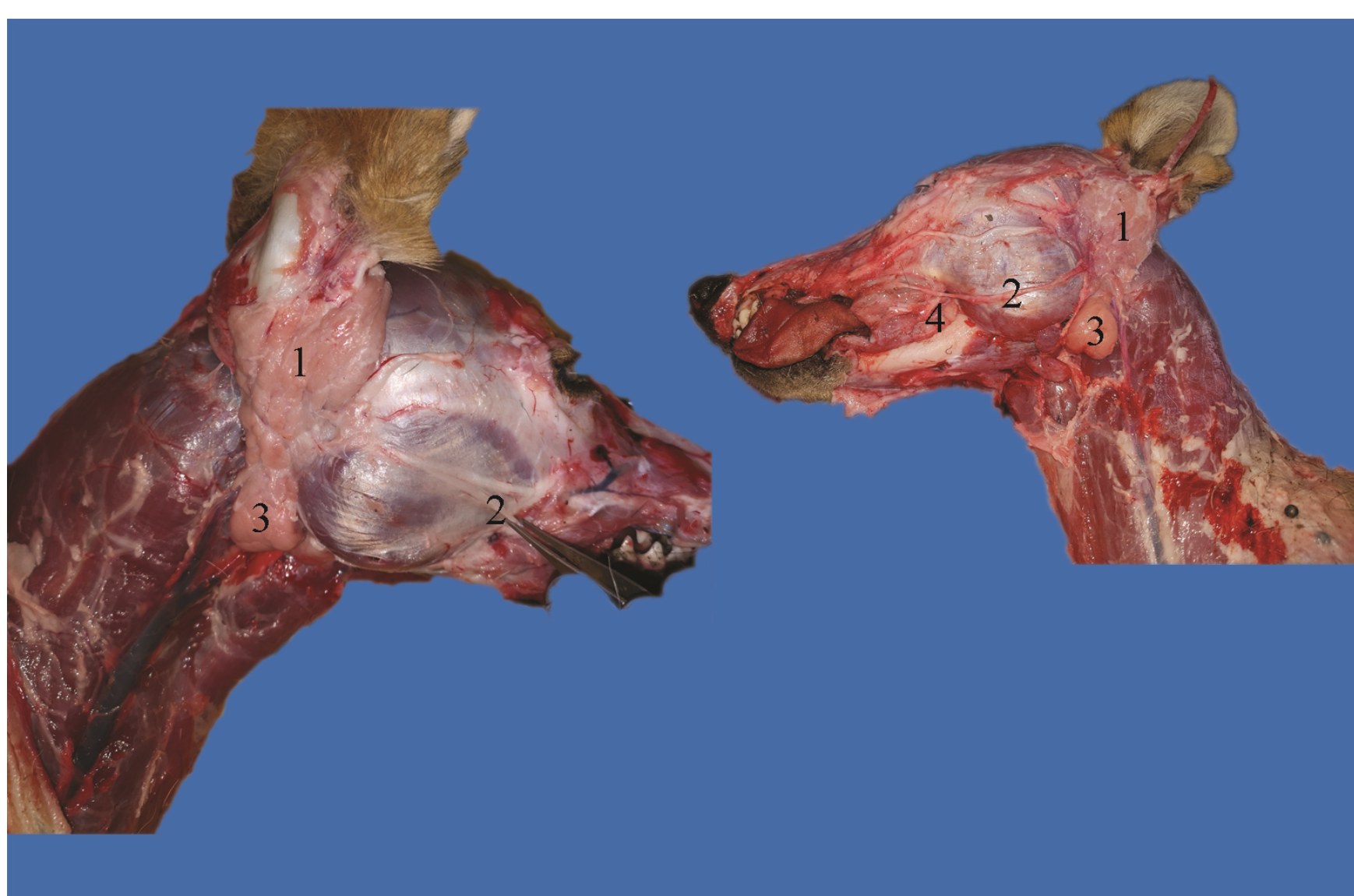


Fig. 1- Parotid, mandibular and ventral buccal salivary glands.

The mandibular salivary gland is located medial to previous gland, near the angular process of mandible. Has a valentine hearts shape with the dorsal apex and the ventral border is bilobated (Fig. 1). Histologically, the salivary acinus presents serous pyramidal shaped cells with central spherical nucleus and the cytoplasm is darker, while the mucous cells have peripheral aplatisated nucleus and a lighter cytoplasm (Fig. 3). The mandibular gland is predominately mucous.

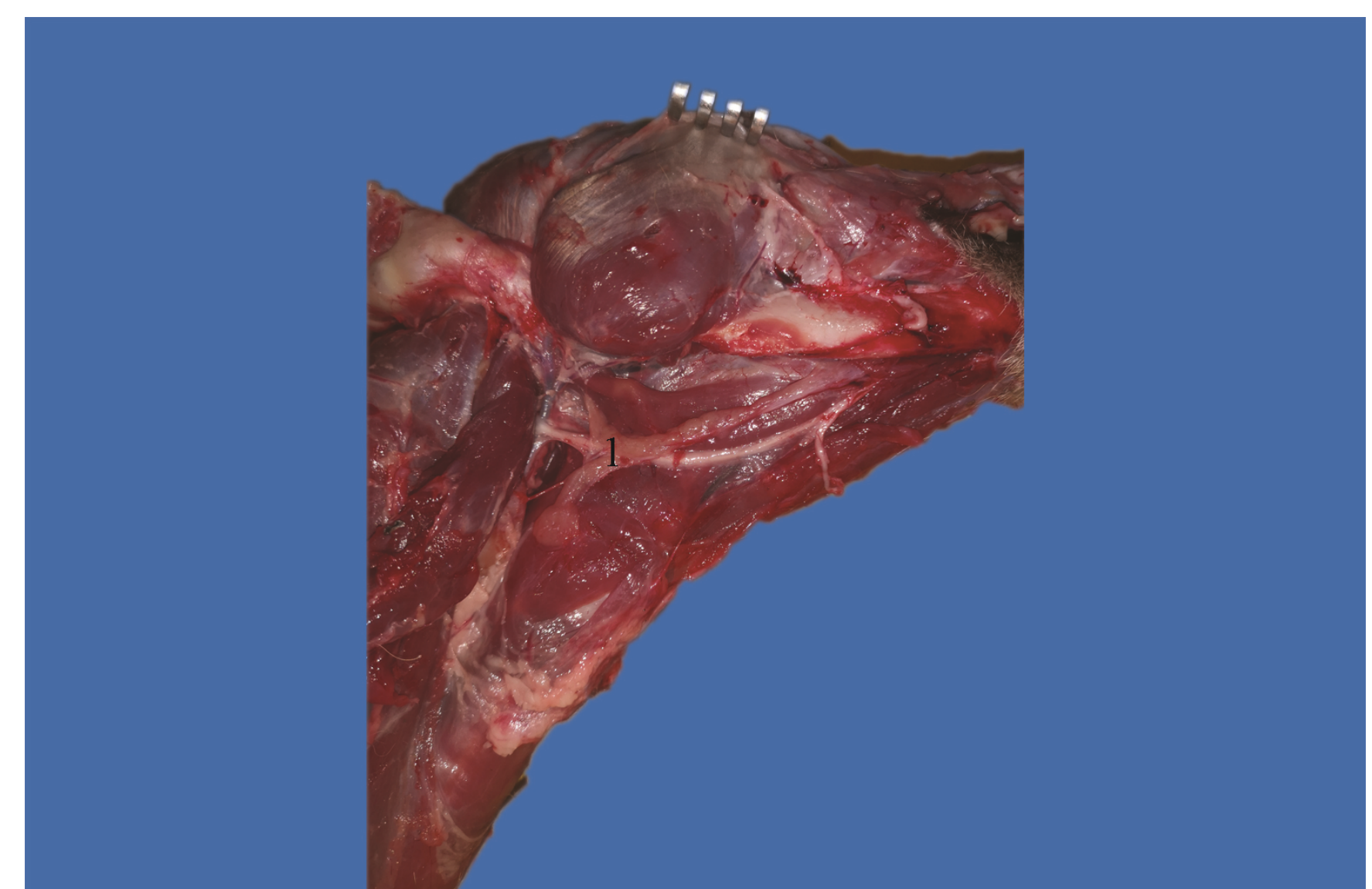


Fig. 2- Monostomatic sublingual salivary gland.

The monostomatic sublingual gland is located medial to the body of mandible and extends caudally to the branch of mandible. It is elongated in shape, bordered laterally by the digastric muscle and consist of rostral and caudal lobes (Fig. 2). Structurally, the salivary acinus presents mucous pyramidal shaped cells with a peripheral aplatisated nucleus and a lighter cytoplasm (Fig. 2).

The ventral buccal gland has a similar structure and function with the mandibular gland (Fig. 3)

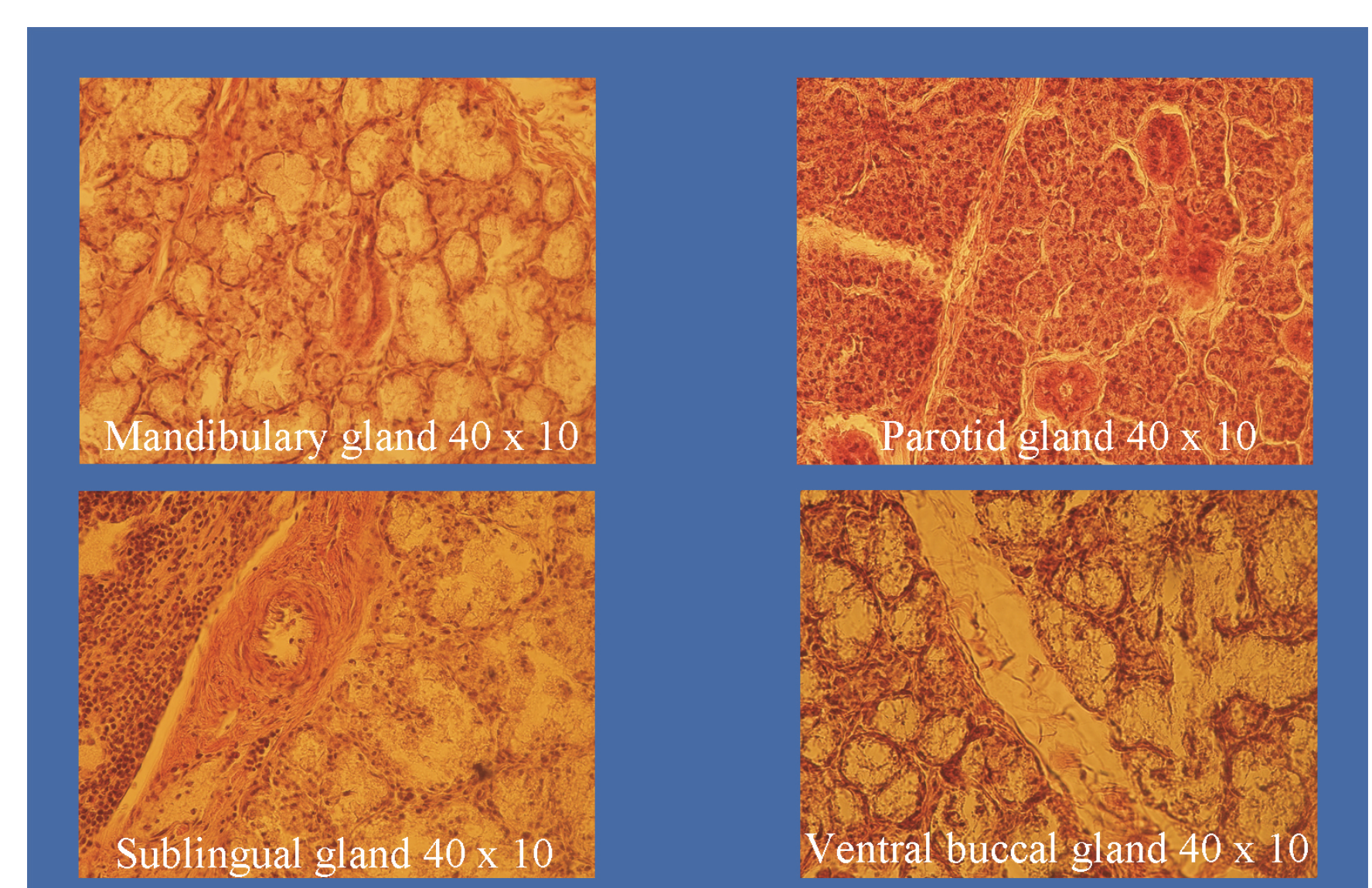


Fig. 3. Histological view of the salivary glands in jackal

• Conclusions

- Parotid gland has „Y” aspect and is mainly serous;
- Mandibular gland has a valentine hearts shape and the secretion is mixt;
- Monostomatic sublingual gland is elongated and is a mucous gland.