

SOME GROSS OBSERVATIONS ON THE TONGUE OF A TIGER (*Panthera tigris*)

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The tongue is a versatile organ with a number of functions in animals which include prehension, sorting of food, lapping of liquids, cleaning of skin and grooming the hair coats (Nickel *et al.*, 1979). The size and shape of tongue vary slightly from species to species. The dorsum presents various types of papillae some of which have mechanical function, while others serve as gustatory structures by virtue of the presence of taste buds (Ellenport, 1975). Reports on the tongue of wild carnivores are scanty.

Materials and methods

Tongue was collected at postmortem from a tiger which died at the Trichur zoo. The attachment of the tongue with the floor of the mouth was examined, and then it was carefully dissected out from the oral cavity. The tongue was washed in water and the length and width were recorded. Then the material was fixed in 10 per cent formalin and the different types of papillae and their distribution were studied.

Results and discussion

From the base of the epiglottis to the tip, the tongue measured 23 cm in length. The width in the central part was 6.7 cm. The free part (from the ventral attachment to the tip) was 8.8 cm long. The colour was bright pink without any pigmentation. These features resembled those of the cat and dog. Tip of the tongue was thin and spatula shaped, but the body and root were thicker. Lateral borders were relatively thick. The dorsum presented a well defined median sulcus which extended from the tip to the middle;

beyond this, the sulcus was poorly developed and terminated centrally near the root. In the cat and dog a continuous sulcus has been reported (Crouch, 1969; Gregory and Chibuzo, 1979).

Various types of papillae covered the dorsum (Fig.1). The shapes of papillae were similar to those of the domestic carnivores but the distribution varied.

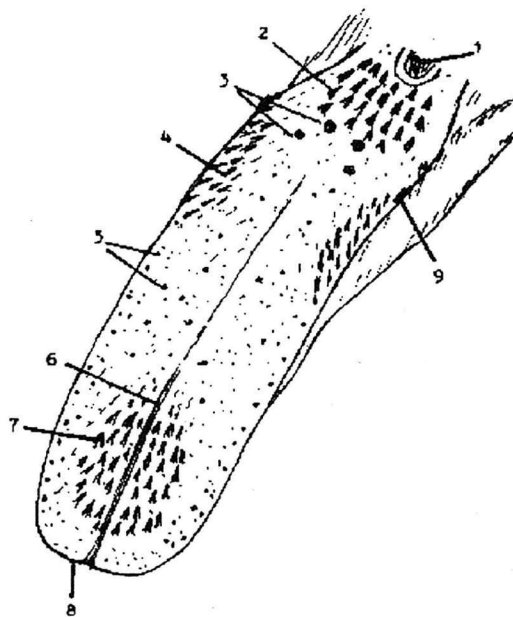


Fig.1 Tongue of tiger showing the sulcus and different types of papillae

1. epiglottis;
2. soft papillae on the root;
3. vallate papillae;
4. cornified papillae of the caudal part;
5. fungiform papillae;
6. median sulcus;
7. cornified papillae near the tip;
8. tip of the tongue;
9. foliate papillae.

Caudally directed filiform papillae of different sizes were seen throughout the dorsal surface. The lateral borders presented very small and somewhat smooth filiform papillae. About 1 cm caudal to the tip, the dorsum showed very coarse pointed conical papillae. This type extended upto the middle of the dorsum. These papillae probably help the animal to lick out flesh from the prey. On the caudal part also the filiform papillae were rough, but short. However, towards the root of the tongue, the lateral part of the dorsum presented cornified, long filiform papillae, directed caudomedially. In front of the epiglottis large soft and smooth papillae were noticed. Similar types of papillae were reported in cats and dogs by Sisson and Grossman (1953). Smooth conical papillae were seen on the ventral aspect of the tongue near the lateral borders.

Fungiform papillae were few in number and were distributed among the filiform. They were more in number but smaller in size on the lateral borders. This type was not seen beyond the level of the vallate papillae.

Vallate papillae were found in number arranged in two pairs. The larger pair was located caudally, close to the midline. The smaller pair was seen in front, and slightly lateral to the former.

On the lateral border, in front of the palatoglossal arch, on each side a row of foliate papillae was also present. Gregory and Chibuzo (1979) reported similar type of papillae in the dog

Frenulum was double with one on each side. Lyssa was absent.

Summary

The tongue of the tiger showed some special features with regard to the distribution of the various types of papillae. Filiform papillae near the tip were specially designed to lick out flesh from the prey.

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