

place; as the same would involve changes in land use pattern and loss of vegetation. Given remarkable species richness and endemism of butterfly species, Bondla Wildlife Sanctuary should not allow short term economic gains to prevail over its ecology.

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MACROMORPHOLOGY OF THE TONGUE OF AN ASIAN ELEPHANT (*Elephas maximus*)

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(web supplement 1653i)

Macromorphology of the tongue was studied of a sub-adult Asian Elephant which died of an accident. The tongue was fixed in 10% neutral buffered formalin.

The tongue is light pink in colour and consists of three parts – apex, body and root as in other domestic animals (Habel, 1975). The examined tongue was cone shaped, 24.50cm in length, 7.88cm wide and was 3.94cm thick at the torus linguae.

The free rostral portion was the apex which constituted 1/3rd of the total length. The remaining 2/3rd was attached to the floor of the oral cavity. The apex presented the dorsal and ventral surfaces which met at the thin lateral borders. It was 1.87cm in width and 1.66cm thick at the tip.

The body was massive having four surfaces – two lateral on either sides, dorsal and ventral (attached to the floor). The dorsal surface was slightly rounded. The lateral surfaces were nearly flat. The ventral surface was related to the geniohyoideus and mylohyoideus muscles.

The torus linguae was present on the dorsum of the body and was not as prominent as in ruminants (Nickel *et al.*, 1979). Fossa linguae were observed as a transverse shallow depression in between the apex and body. Similar observations were reported by Habel (1975) and Qayyum and Beg (1975) on ruminants. The mucosa on the torus was smooth. The root was caudal most part of the tongue being dorsoventrally flattened.

The dorsum of the tongue of elephant contained filiform, fungiform, lenticular and circum vallate papillae (Image 1^w). Conical papillae were not apparent. The numerous filiform papillae were observed throughout dorsum, fungiform were present on the rostral half of the dorsum and dorsolateral margins of the body. Lenticular papillae were observed on the lateral surfaces in the caudal 2/3rd of the tongue. Circumvallate were present on the lateral aspect of the root of the tongue.

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^w See Image 1 on the web at www.zoosprint.org



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