

### Bilocular epipharyngeal bursa in *Diceros bicornis*

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(With 1 figure in the text)

Attention has been directed (Cave, 1973, 1974a) to the presence of an obtrusive epipharyngeal bursa in four of the five extant rhinoceros forms, the structure and topography of the bursa being detailed in a total of nine specimens, viz. 2 *Rhinoceros unicornis*, 1 *Didermocerus sumatrensis*, 2 *Ceratotherium simum* and 4 *Diceros bicornis*. The bursa is

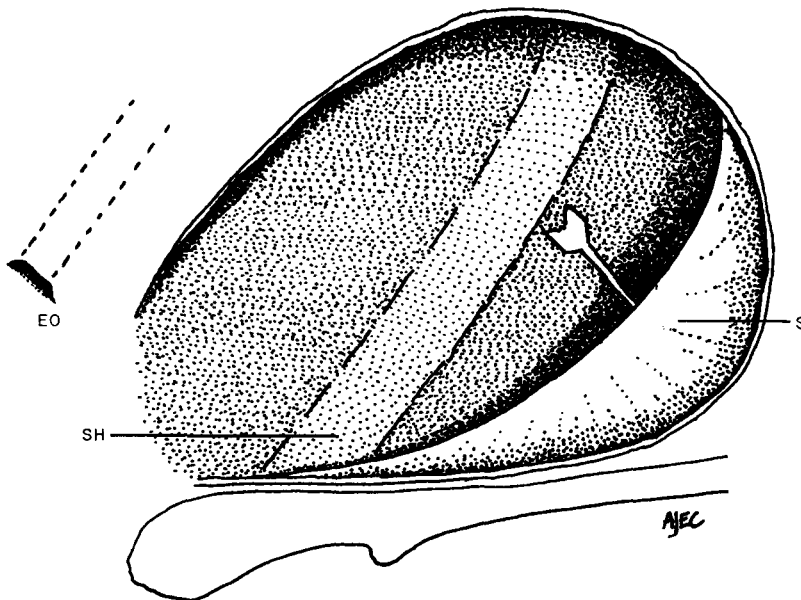


FIG. 1. *Diceros bicornis* ♂ ad. Bilocular epipharyngeal bursa in sagittal section. Showing Eustachian tube ostium (EO), stylo-hyal (SH), bursa septum (S) and arrow in bursa dextral loculus.

commonly mutilated during post-mortem examination, a greater or lesser portion of its wall remaining attached to the pharynx roof, the rest remaining adherent to the cranial base. Exceptionally, with special care, the bursa may be secured virtually undamaged and in continuity with the epipharyngeal mucosa. In two of the four *Diceros* specimens examined (a foetus and an adult female) the bursa was intact, but its mutilation in the remaining two specimens (a young male and a young female) nowise prevented adequate anatomical examination and description. Hence in all four *Diceros* specimens studied the epipharyngeal bursa proved to be, invariably and unmistakably, a single, fusiform saccule

devoid of the least exterior or interior indication of loculation—and so likewise did the bursae of all other rhinoceros specimens examined.

That, exceptionally, the rhinoceros bursa might manifest some degree of subdivision or bilocularity is indicated by the instance here recorded.

Examination (15 January 1974) of the sagittally-sectioned frozen head and neck of an adult male *Diceros* ("Paul") in the menagerie of the Zoological Society of London disclosed the following findings:—The epipharyngeal bursa was exceptionally capacious and unusually wide and extended no further caudalwards than the foramen magnum: it occupied the customary infra-cranial, suprapharyngeal position. Its thin wall was lined by an obviously respiratory mucosa, which, however, displayed no naked-eye evidence of the presence therein of lymphoid tissue. The bursa's lateral portion occupied the region of the guttural pouch in *Equus*, coming close to the Eustachian tube but (unlike the equine pouch) having no morphological connexion whatever with that tube: laterally the bursa abutted against the stylo-hyal, readily palpable through the bursal wall.

Interiorly a low, ventro-median septum was present, a mucosal fold with an anteriorly-directed crescentic free edge, which rendered the sacculi bilocular (Fig. 1). No such septal formation was observable in any *Diceros* (or other rhinoceros) specimen previously examined, in which no septum, however poorly developed, could have escaped notice.

That a canonically simple, medianly-disposed, sacculi should thus manifest a variant bilocularity is neither surprising on developmental grounds nor significant in any functional sense. This presently-recorded anatomical variation in *Diceros* may yet therefore be duplicated in other rhinoceros species as further investigation may show. Worthy of interim notice, therefore, this *Diceros* epipharyngeal bursa variation may be compared with a variation shown (Cave, 1974*b*) to involve the corresponding structure in *Ailuropoda*.

#### REFERENCES

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