

PROSTATE GLAND IN THE INDIAN FRUIT BAT, *ROUSETTUS LESCHENAULTI* (DESMAREST) DURING THE REPRODUCTIVE CYCLE

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ABSTRACT: The Indian fruit bat, *Rousettus leschenaulti* (Desmarest) was selected for the present study because of its unique reproductive habits. It shows two breeding periods one in the autumn and the other in the spring. The prostate gland undergoes significant cyclical changes during the breeding quiescence cycle of *Rousettus* and these changes occur concomitantly with the changes in the testis. Cyclical changes in the secretory tubules are reflected in the size of the tubules, height of the glandular cells, secretory products in their lumina and the amount of intertubular connective tissue. During the sexually quiescent period, the prostate is hypotrophied, the tubules are lined by cuboidal epithelium, lumina are narrow and without secretion. During the prebreeding period, tubules are lined by columnar epithelium and cytoplasm is filled with coarse secretory granules. The process of cytoplasmic bleb formation is initiated and blebs are seen to be oozing out of the secretory cells. Maximum height of the secretory cells and diameter of the tubules are attained during the active breeding period. The bleb formation from the secretory cells is continued even during the breeding period and lumina of the tubules contain copious secretion in the form of blebs or homogenous secretion.

KEYWORDS: Bat, Prostate gland, Secretory activity, Reproductive cycle.

INTRODUCTION

Considering the worldwide distribution and immense diversity exhibited by members of the order Chiroptera, remarkably limited attention has been given to reproduction in male. The details of the structure of the reproductive system are generally not described and even less is known about the function and physiological control of reproduction in male¹².

The reproductive tract of Pteropids shows relatively little variations in the gross organization.

The basic design consists of paired testis and

a series of accessory sex glands: seminal vesicles, prostate and Cowper's glands. The microscopic appearance of the accessory sex gland varies seasonally: reproductively active individuals have hypertrophied glands filled with secretion whereas in sexually quiescent males the glands are small and empty^{4,8,11}. The male accessory sex organs show great plasticity in form and species distribution. These glands contribute various substances (fructose, cialic acid and zink) to the ejaculate^{13,18,20}. The prostate secretes glycogen, neutral and acidic mucins^{3,4,5,15}.

In *R. leschenaulti* spermatogenesis occurs from the beginning of October to the