C H A P T E R - V

CONCLUDING REMARKS

A detailed investigation of testis, epididymis and vas deference mucopolysaccharides throughout the breeding cycle has been given in first four chapters.

The observations show that the epididymal development, hypertrophy and hypotrophy especially of the secretory epithelium depend on the testicular development. The detailed study on the mucopolysaccharides in testis shows that the neutral mucopolysaccharides are playing a major role in the formation of acrosome of sperm.

This process of spermatogenesis is under the control of hypophysis in H. flaviviridis, so changes appeared in the acrosome formation and the neutral mucopolysaccharides may also be under the hypophysial control.

The sperms formed are transported to the epididymis which exhibits the histological differentiation in two parts. Anterior part which is practically remaining unchanged and the posterior part duly showing significant changes. The posterior part showed the cyclic secretory changes in the ductal epithelium. The secretion in the epididymis is mainly containing neutral mucins and moderate amount of the sulfomucins. These mucins may be playing key role in the sperm maturation and sperm nutrition. These sperms are then transported to vas deference during breeding period when

copulatory processes were observed. The study on vasa deference mucopolysaccharides possibly indicates the role of vasa deference only as a passage to cloaca for seminal fluid.

Though the kidney gonadal segment, some of the cloacal gland and hemipenis are also dependent on the testicular development in other lizards. In the present studies these are not included as accessory reproductive organs. As the kidney gonadal segments are not directly taking part in the transport of sperms. As the cloaca is transporting the seminal fluid but it also transports excretory material and hence the changes observed in these cloacal glands may not be reflecting the changes related to the seminal fluid hence these studies have been excluded. The hemipenis is very small in H. flaviviridis and is a fold like structure and acts only as copulatory organs. So to limit the studies related to the passage of sperms these organs have not been included, in the present studies.

Though the present work is limited and aim is to study only the mucopolysaccharides, few other techniques like lysosomal enzymes and lipids have been studied for as only confirmatory tests. Author is concious of the fact that the submammalian reproduction is dependent on the environmental factors like, photoperiodism, temperature and moisture. But this has not been dealt in this project as the environmental factors and reproduction is much a vast approach and may form a subject of the other big research project.

To clarify the physiology and endocrine control of testes, epididymis and vasa deference the studies with hypophysectomy and administration of gonadotropins is necessary. The biochemical analysis of mucopolysaccharides with chromatographical fractional methods, electrophoretic separation methods would have helped to clarify the physiology of reproduction in this lizard; but these studies form a very vast subject of research and author is unable to include it in this project and it is proposed to be taken in future studies.

Author is also concious of the fact that this work is no way complete here. When concluding this small plan of study author wish to study the above stated approaches in future research studies.