



GOVERNO DO ESTADO DE SÃO PAULO
SECRETARIA DE ESTADO DA SAÚDE
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This 59th issue of “**Memórias do Instituto Butantan**” continues with the structure established in the preceding issue, including the **Activity Reports**, which provides a picture of the activities of the different Units of the Institute, characterizing them as to their current research lines, publications, Master degrees and PhD thesis, grants, students and collaborations in the period (2000-2001). As requested by the Direction of the Institute, the data collected was used for an analysis of the productivity of the Research Units. The **Research Projects** in this issue represents the Abstracts presented at the Instituto Butantan Annual Scientific Meeting, 2001.

In this period, 170 articles were published by the Institute, 74% of which, were in indexed journals. This percentage is increasing every year. Besides the contributions in Scientific Development, we also describe the activities carried out in Technological Development and Production and in Cultural Development and Education, which are all important features of the Institute.

On a whole we hope this issue provides a general view of the quality of the activities performed in Instituto Butantan, and that it is the association of these diverse fields that make the role of the Institute so unique and important to Public Health.

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1. BIOLOGY AND SYSTEMATICS OF VENOMOUS ANIMALS

1.1. SNAKES

Morphology of The Copulatory Plug in the Rattlesnake *Crotalus durissus terrificus* (Viperidae: Crotalidae): Anatomy and Scanning Electron Microscopy

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In many vertebrate species the reproductive cycle is asynchronous with fertilization occurring a long time after mating. This is true for many reptiles in which the females have developed sperm store until ovulation period. In *Crotalus durissus terrificus* sperm storage during winter is related to a conformational change of the uterus which remains contracted and convoluted, forming the copulatory plug. We have described the macroscopic anatomy and the scanning electron microscopy (SEM) of the copulatory plug of *Crotalus durissus terrificus* aiming to contribute to the understanding of where and how sperm storage occurs within the female oviduct. Adult females, were examined from March to October, for identification of the reproductive stage. The uteri were bilaterally removed and prepared for SEM. All regions of the posterior uterus were examined to verify the presence of spermatozoa in the lumen. Each oviduct, in cranial to caudal direction, presented infundibulum, uterus (anterior and posterior) and vagina. In females with vitellogenic follicles, spermatozoa were found in the lumen and within the folds of the posterior uterus, indicating recent mating. Macroscopical anatomy of the uterus after mating was characterized by the copulatory plug forming a spiral due to convolution and contraction of the external muscular layers and remaining visible until ovulation occurred. At the SEM, the internal view of the fractured copulatory plug showed spiraled and convoluted folds lying from the vagina up to the posterior uterus. The folds were lined with epithelial ciliated cells and non-ciliated mucous cells. Spermatozoa tangles were observed on top of the epithelia. Spermatozoa often appeared in close contact with the cilia, sometimes with their heads within them.

The intimate association between spermatozoa and uterus lining epithelium may be related with the presence of mucous secretion from the glandular cells, which may serve as nourishment for the spermatozoa during storage until ovulation occurs and fertilization takes place.

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