

EPIDIDYMAL PROTEINS OF A DESERT RODENT *PSAMMOMYS*
OBESUS CRETZSCHMAR, 1828: CYTOHISTOLOGIC AND
BIOCHEMICAL STUDIES

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Psammomys obesus is a desert rodent of the Gerbillidae family, adapted perfectly to the arid conditions of the Sahara. Its burrows are located under Chenopodiaceae bushes which represent the staple food of the diet. In the area of Beni Abbès, (30°7 North and 2°10 west), northern west of the Algerian Sahara, its reproduction presents a seasonal cycle.

The epididymis, key organ in the maturation of the spermatozooids, was studied throughout the year, and after castration. Their structure and ultrastructure were studied thanks to the histological and cytological techniques. The soluble proteins were highlighted by the monodimensional electrophoresis in denaturing conditions (SDS PAGE).

The principal cells of the epididymis in active period (autumn, winter, beginning of spring) present a rough endoplasmic reticulum (RER) with dilated saccules and a significant apocrine secretion. In period of rest (end of spring, beginning of the summer), the cisterns of RER are tubular and apocrine secretion disappears.

One month after castration in period of reproduction involving the regression of the RER, the disappearance of apocrine secretion and numerous lysosomes are observed. The treating of castrated animals and animals in non-breeding season by testosterone for 21 days induces the reactivation of the principal cells of the epididymis.

The proteins of 98, 74, 26, 21, and 13 kDA in the caput epididymis and proteins of 21 kDA in the distal epididymis present seasonal variations. The experiments of castration and testosterone injection show that the proteins of 74, 26, 21, and 13 kDA of the caput epididymis are androgen-dependent. Other proteins seem to be regulated in a different way.