

## **Synthèses des travaux sur la reproduction de quelques rongeurs de désert *Meriones crassus*, *Meriones libycus*, *Pasammoyes obesus* et *Gerbillus gerbillus*.**

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Thyroid and testicular seasonal variation were studied in Sundevall's jird (*Meriones crassus*) (*Meriones Libycus jird* (*M. libycus*), and the Gerbil, (*Gerbillus Gerbills*) (Nocturnal species) and in *Psammomys obesus* (diurnal species) Rodentia, Gerbillinea caught in its natural biotope in the Algerian Sahara Desert. In nocturnal species, the testis activity is characterized by a maximum in spring, a regression during summer, a minimum in autumn, and a lower activity in winter. The plasma concentrations of total T3 and T4 varied non-significantly during the seasons. However, thyroid activity varied in contrast to testicular structure, especially during the breeding season when the testis activity is maximum. Similar results were shown in the Libyan jird and fellow opposite manner. Whereas, in *Psammomys obesus*, the diurnal species, seasonal cycle of testis and thyroid function involved in opposite manner. In Libyan jird (*Meriones libycus*) seasonal variation of testis function were study at at molecular levels and at the hypothalamo hypophysial levels. Kiss-1 cDNA sequence analysis showed high homology between *M. libycus* and all other rodents (94%) and humans (92%). Kiss-1 expression was higher during the breeding season than that during the non-breeding season. In contrast, LH $\beta$  and FSH $\beta$  expression levels were higher during the non-breeding season in autumn and varied in an opposite manner with testicular, seminal vesicle weights and plasma testosterone levels. Our results extend the role for Kiss-1 in activating the HPG axis in this desert rodent in its natural biotope by relaying environmental cues as in other seasonal non-desert rodent models. In this species Lhcgr mRNA expression is increased in autumn and decreased in spring. This expression varied in an opposite manner to testicular and seminal vesicle structures.

**Keywords :** Kiss-1 sequences - Kiss-1, LH $\beta$  and FSH $\beta$  levels - Seasonal variations - Testis and thyroid activities.