

ACTIVITY PATTERNS OF WILD RABBIT (*Oryctolagus cuniculus*, L.1758), UNDER SEMI-FREEDOM CONDITIONS, DURING AUTUMN AND WINTER.

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INTRODUCTION AND OBJECTIVE.

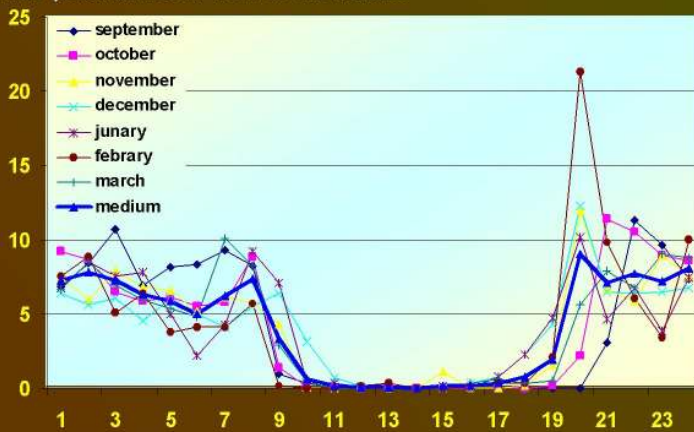
- Wild rabbit (*Oryctolagus cuniculus*, L. 1758) is one of the most emblematic species of the Iberian Peninsula (CAMPS, 1994), being main food of species so outstanding as the Imperial Iberian Eagle (*Aquila Adalberti*) or Iberian Linx (*Linx pardina*), which depends on it directly, for its survive.
- Now a day, the specie's situation can be described, as bad (Calvete, 2001). This marked recession's causes can be justified by several factors, as epizooties (myxomatosis or haemorrhagic viral disease), habitat alterations, hunting activity's increase or increment of opportunist's predators.
- The main objective of this work is the one of knowing European rabbit activity biorhythms, maintained in an enclosure, between September and March, being this a first step to be able to manage wild rabbit populations successfully, to improve their situation.

MATERIALS AND METHODS .

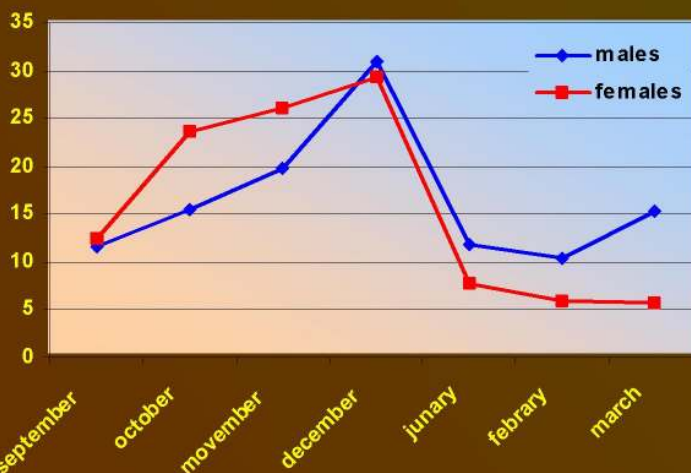
- Study area.- The work was carried out in a game zone, which is in the north of County of Valladolid (Spain), with about 700-720 m high. It presents a continental extreme weather, and about 360 mm/year pluviometry.
- Animals.- Nine wild adult animals, 2 males and 7 females, were used. They were marked individually with microchip (AVID®). These animals were lodged in a 0,5 ha. enclosure. It was composed for two areas, one smaller, in which were located the burrows, and another bigger, in which animals had green food and water. Both areas were separated by a metallic mesh that had two communication exits, in which, two microchips readers were placed to register animals activity. Each fact indicated date, hour and animal code that had gone in or out.
- An activity index (Graph 1) was determined for the number of times that the total of the animals passed by all the exits, for hour, day and month of study. A monthly rate of activity (Graph 2) was also calculated by the half number of passing that were registered for day and considered month.

RESULTS AND DISCUSSION .

- It was observed that wild rabbit presents a pronounced twilight and night activity, with two coincident activity picks with the sunrise and sunset. It was also determined that the activity of the animals in the central hours of the day was practically null (Graph 1), being this pattern of activity common in both sexes. The activity pattern was changing gradually in function of the hour of sunrise and sunset on each month of study. This fact is similar with another picked up by other authors like BORREGO (1997), for who wild rabbit daily begins at dusk and it decreases with sunset, disappearing in the central hours of the day. The presence of several activity picks, during the different hours of the twilight and the night, demonstrates us the existence of several entrances and exits to the feeding area, fact that coincides with other authors (Wallage-Drees, 1989) that indicate that, the animals present several cycles of entrances and exits from burrows to the out.
- The activity rate (Graph 2), acquired a growing character from September, reaching a maximum pick during December, and it stopped later on take a descending pattern until February, month in which, this index, increased a few until the finalization of the study, on march. This pattern can associate to the reproductive rhythms of the wild rabbit in the study area, during this period. These data differ with the dates published by J. MARIJKE WALLAGE-DREES (1989), for who wild rabbits circadian activity doesn't change with sunset or sunrise hours. However, our results are similar with those found by ROWLEY (1957) that finds that rabbits activity modifies in function of the climatology, being smaller in coldest days, as well as in days of strong rains or wind. Moreover these fact coincides with other authors' observations like MYERS AND POOLE (1961) and it can be justified keeping in mind that the study was carried out during the reproductive season, moment in which the males have to demonstrate in a more evident way their potentialities in front of the females



Graph 1.- Daily activity index, differences between months.



Graph 2.- Monthly activity rates.



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