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AUTUMN HOME RANGE AND ACTIVITY OF A STONE MARTEN (*MARTES FOINA* ERXLEBEN, 1777) IN NORTHEASTERN SPAIN

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Unlike central Europe where stone marten *Martes foina* is a species characteristic of human influenced habitats (see bibliography in LIBOIS & WAECHTER, 1991), in the Iberian peninsula this mustelid lives in natural habitats, far away from humans or less associated with them (DELIBES, 1983; RUIZ-OLMO et al., 1991). Very little is known of the spatial and temporal activity of this animal in the Iberian peninsula.

The area studied is situated in the NE of the Iberian peninsula (41°47'N, 2°33'E). The altitude is between 160m and 610m. The bottom of the valley is cut by the river Arbúcies, which has an average width of 10m. A local road runs close to the river and crosses it at some points.

The habitat is composed largely of mediterranean woods of *Quercus suber* (*Quercetum ilicis galloprovinciale suberatum*) with some patches of *Pinus halepensis*. In the lower parts of the valley small agricultural holdings are found. There are also some small plantations of *Populus canadensis*. Some rock formations stand out on the slopes of the mountains.

The 24th October 1991, one male of stone marten was captured. Its weight was of 1650g, the head and body length 69.5cm and the tail length 24.5cm.

The method of capture used was that of leg-hold trapping, Victor Coil (Pennsylvania, USA) with the jaws without teeth and protected with leather covered with material. These were located on the banks of the river.

The stone marten was anesthetized with Ketamine hydrochloride and fitted with a radio-collar from Urmeneta © (Navarra, Spain), weighting 21.5g (1.3 % of the weight of the animal). The frequency was in the band of 150 MHz and it was fitted with an activity sensor. For radiotracking triangulations were carried out using a CE-12 receiver from Customs Electronics Inc. (Illinois, U.S.A.).

Captures were authorized by the Wildlife Protection and Management Service; Government of Catalonia (27-9-1991/No. 6111).

This animal was tracked during 53 days (searching at least one time a day). Nevertheless, the animal was lost between the 13rd and the 28th of November. It was looked for unsuccessfully during this period, even using a light aircraft. Because some problems of interferences (principally during the day), only 26 distinct localizations were carried out, representing 27 different positions if the location of capture is included.

The home range occupied was of 52.5 hectares (method of minimum polygonus convexus), while, the area really occupied by the animal was 28% of it. It showed two centers of activity very close to each other in the southern part of its home range. In the southern part, in only six hectares (11.4 % of the total area), 15 of the radio-localizations were collected (57.7% of the positions). This zone is an area of cultivation and the stone marten visited these sites mainly at night.

The remainding positions are clearly peripheral.

Diurnal radio-localizations were mainly located in the woodland area (47% of the radio-localizations were inside the woods). More indications of locations in the wood within the day, but without triangulations.

The river and the road accurately marked the western and southern limits of the home range of the stone marten, which was located only once on the other side of the road, and never across the river.

Its activity was noted on 87 occasions covering 92% of hourly intervals. It was active on 45.6% of these occasions. The maximum activity was noted between 6 p.m. and midnight. In this time the animal was almost always found active. In the second period, between midnight and 8 a.m., its activity was more irregular, periods of activity alternating with those of inactivity. The rest of the day, the stone marten was found to be totally inactive. The animal studied showed a nocturnal pattern of activity (78.0% of night localizations being actives) and made only light use of the dawn and dusk periods.

These results, agree with those obtained in Europe (KALPERS, 1984; HERMANN, 1989; LODÉ, 1991). The home range found for an adult male is relatively small compared to BROEKHUIZEN (in press) and LABRID (1987). Just as LABRID (1987) indicates, the home range is not exploited in a homogeneous or regular way, there are patches of intensively used correlating with the distribution of the resources.

The utilization of time, is also in total agreement with the pattern already described, being principally nocturnal, and particularly so during the time of the year studied here (see compilation in LABRID, 1987). The results equally coincide with those indicated by WAECHTER (1975) with regard to the most intense periods of night-time activity, the first period (6 p.m. to midnight) comprising the largest proportion of total activity observed.

In summary, it can be stated that, despite the fact the data here are scarce, they agree well with the patterns already reported in the literature. On the other hand they are interesting with regard to mediterranean habitats, away from the region of sympatry with the pine marten (*Martes martes*).

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ABSTRACT

Autumn home range and activity of a stone marten (Martes foina Erxleben, 1777) in northeastern Spain.– The animal captured was tracked in a mediterranean habitat with a radio-transmitter during 53 days and 27 different positions was carried out. Home range was 52.5 ha with two centers of activity. The period of maximum activity occured in first half of the night (6-12 p.m.). Between 9 and 6 p.m. the stone marten was found to be totally inactive except on one occasion.

Key words: Stone marten, Home-range, Activity, NE Spain.

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