

RED SQUIRREL (*SCIURUS VULGARIS*) IN LOMBARDY: A REVIEW OF THE *SCIURUS* GROUP STUDIES

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The *Sciurus Group* was formed in 1992 by members of the Società Italiana di Scienze Naturali and collaborators of the Natural History Museum of Milan. The aim of the research group was to increase the knowledge about the ecology of the red squirrel (*Sciurus vulgaris*), a species threatened by the expansion of the introduced grey squirrel (*Sciurus carolinensis*), promoting researches and graduation theses in some areas of Lombardy.

The study areas embrace different aspects of our territory: the larch woods of the Stelvio National Park; the broadleaf woods of the Prealps; the Scots pine woods of the high Po plain; the mixed, broadleaf and coniferous, woods of the hilly southern part of Lombardy.

A starting base of data was obtained from the State Foresters (CFS), who replied to our simple questionnaires. Then, a strong campaign of observations on transects, carried out by researchers, students, Ecological Guards (GEV) and other volunteers, supplied data on the distribution of the two main colour phases and their relative frequencies upon environmental variables, such as altitude (climate) and forest type. On a total of 1346 individuals detected, 906 were assigned to the dark-brown phase while the other 440 were ascribed to the reddish one. Analysis of the relative frequencies showed significant differences in the distribution of the two phases, the dark-brown individuals being more frequent in the northern, alpine and prealpine, counties of Lombardy. Relative frequency of the dark-brown phase increases with altitude and appears to be well correlated with coniferous woods.

The number of red squirrel dreys is a population index which can be used to estimate squirrel density. Also the squirrel feeding remains, mainly coniferous cones, can be counted on several random chosen square parcels and results can be used as population index as well. In the whole study areas a total of 1179 dreys (52.8% on broadleaf trees; 47.2% on coniferous trees) were counted. More than two dreys out of three (69.2%) had a southern aspect (from South-East to South-West). Drey density ranges between 0.2 and 5.0 dreys/ha.

- The smaller densities were recorded in Val Veddasca (VA), a prealpine area with large broadleaf woods (chestnut trees, downy oaks and beeches).
- In Val Staffora (PV), a hilly area in the south of Lombardy with broadleaf and mixed woods and small coniferous patches, were counted 0.8 dreys/ha.
- In the Regional Park of Pineta di Appiano Gentile (CO), located in the high Po plain (mean altitude 325 m asl) and characterised by Scots pine and oak woods, density was 2.1 dreys/ha.
- In the areas of Orobie (BG), where woods are dominated by spruces and silver firs, density ranges between 3.4 and 4.1 dreys/ha.
- In the Uzza valley, Stelvio National Park (SO), where study area was in a larch wood, two counts were carried out: in 1993 were counted 4.5 dreys/ha while in 1994 the result was 5.0 dreys/ha.

Our results can give some indications and basic data for further investigations. As the relationship between red squirrel density and drey density was determined in different

kind of habitats, we cannot give a reliable evaluation of red squirrel population density. The feeding remains counts also gave good results but, again, we can only try to get some general indications, as few data are available about the average number of cones consumed by one squirrel per day and per coniferous species.