



FONDAZIONE EUROPEA IL NIBBIO

**POST-NUPTIAL MIGRATION
OF SONG THRUSH (*Turdus philomelos*):**

**DATA COLLECTED for 67 YEARS (1941-2007)
at the AROSIO BIRD OBSERVATORY (COMO, ITALY)**



OSSERVATORIO ORNITOLOGICO FEIN
via Cascina Perego n. 1, 22060 Arosio (CO)
Tel/Fax 031-762162 E-mail fein@nibbio.org Web Site www.nibbio.org

The *Fondazione Europea Il Nibbio* (FEIN), foundation for bird migration research and environmental protection, has been founded in 1988 in order to promote initiatives apt to contribute to the conservation of the fauna and the natural habitats. The FEIN manages the Ornithological Observatory of Arosio, Como, in Lombardy (Northern Italy, 45°43'N - 09°12'E), which since 1977 has been carrying out a standardized scientific bird ringing activity that has allowed to ring over 150.000 birds. The vegetation amounts to small shrubs and corridors of Hornbeam (*Carpinus betulus*), while the neighbouring wood is made up of Sweet Chestnut (*Castanea sativa*) and Black Locust (*Robinia pseudoacacia*).

A lot of data preceding 1977 are available at Arosio; the Observatory, in fact, has developed from the transformation of an ancient *Roccolo* (a typical facility of the Lombardy used to catch birds), dating back to 1710; the hunting with nets has been practised until the 1957, from 1958 to 1976 a ringing activity, not still controlled and coordinated, has been realized, finally a constant and standardized scientific ringing activity started in 1977.

From 1941 to 2007, for 67 years, the capture activity has been continuous and constant (except in 1969), in particular during the autumnal migration the station, equipped with about 700 meters of mist-nets, has been always active from 4 August to 31 December.

Therefore, it is possible to show for the Song Thrush (*Turdus philomelos*) the data collected in the period 1941-2007; the total number of captured Song Thrushes is 48.587. As the diagram (Figure 1) shows, the year with the highest number of captures is 1943, while the annual peak of capture, concerning the period of scientific ringing, is in 2007 (1041 birds).

During the autumn of 2007 (especially during October), Arosio and many localities of northern and central Italy have recorded a strongly migratory passage for almost all the species. Confronting the data concerning the three different stages that the Observatory has going through (hunting, not coordinated ringing activity, coordinated scientific ringing activity) there are not significant differences and the captures show a rather continuous trend; the little fluctuations recorded in some years belong to the normal trend of the avian migration phenology, because large variations in the passages of migrants can happen from year to year.

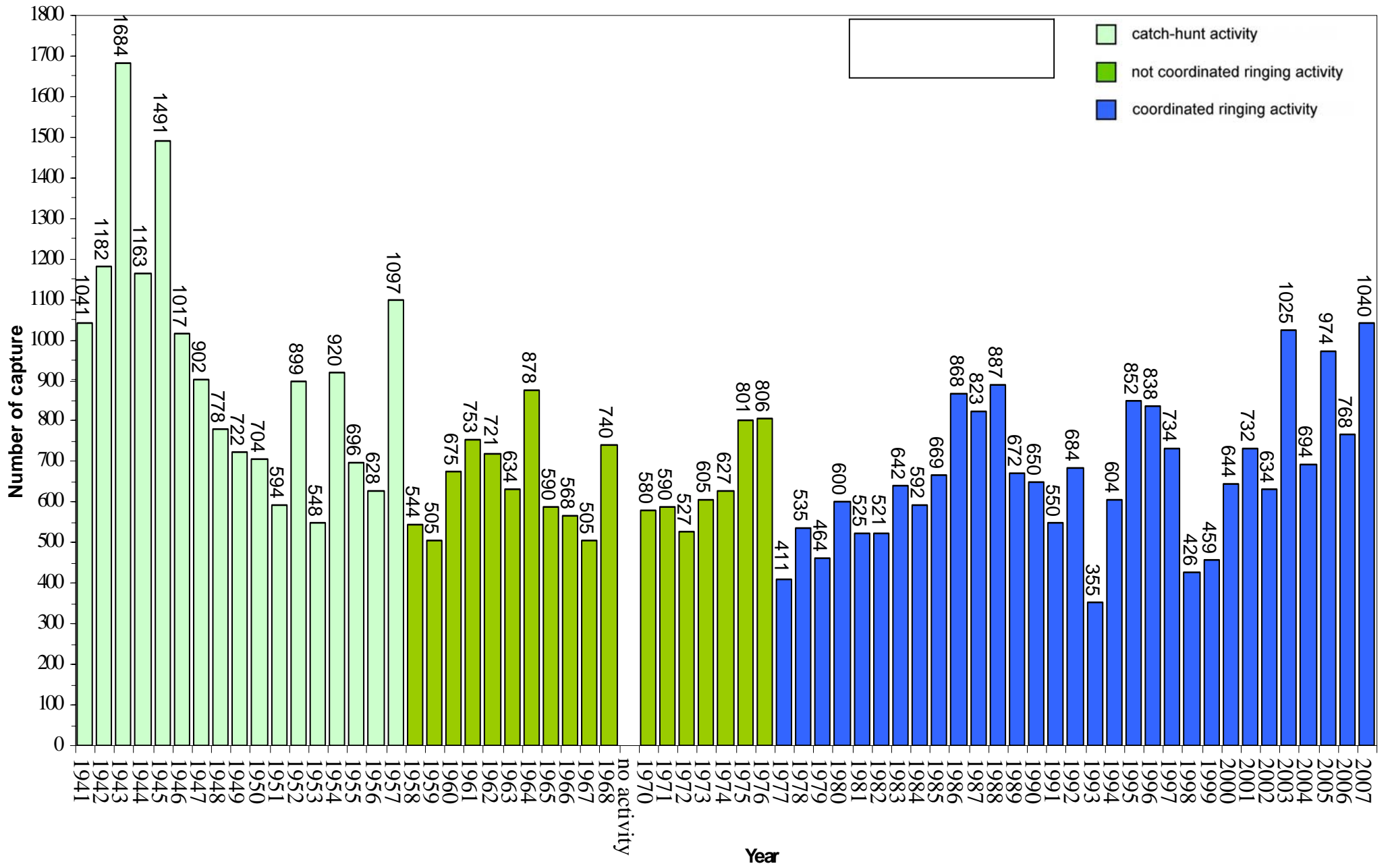


Figure 1: Number of capture for year, 1941-2007.

Table 1 represents the days of maximum captures and the respective number of Song Thrushes, from year to year; the trend of the peaks in the course of the 67 years is instead visible in the diagram of figure 2. Only in three years (1958, 1977 and 1993) the maximum capture day has happened in September, the most extreme date of peak is the 21th of October (years 1980 and 1982), while the 10th of October is the day in which the maximum of the captures has been recorded more times (9 years). From the diagram it seems to delineate an interesting cyclical trend of the days of peak, are in fact visible four cycles in which "belated" days of peak (after the 1st half of October) or "early" days of peak (end of September-beginning of October) are repeated every 15-18 years approximately.

YEAR	MAXIMUM CAPTURE DAY	NUMBER of CAPTURES	YEAR	MAXIMUM CAPTURE DAY	NUMBER of CAPTURES	YEAR	MAXIMUM CAPTURE DAY	NUMBER of CAPTURES
2007	2/10	96	1984	17/10	52	1961	03/10	65
2006	11/10	85	1983	14/10	38	1960	03/10	71
2005	6/10	136	1982	21/10	42	1959	07/10	71
2004	14/10	101	1981	08/10	40	1958	30/9	48
2003	14/10	151	1980	21/10	36	1957	10/10	178
2002	01/10	53	1979	08/10	34	1956	12/10	86
2001	10/10	50	1978	09/10	52	1955	04/10	62
2000	18/10	51	1977	28/09	62	1954	10/10	184
1999	14/10	54	1976	10/10	78	1953	10/10	108
1998	16/10	34	1975	09/10	71	1952	10/10	120
1997	14/10	59	1974	06/10	53	1951	06/10	62
1996	12/10	72	1973	04/10	104	1950	15/10	182
1995	11/10	61	1972	04/10	44	1949	09/10	108
1994	07/10	43	1971	04/10	39	1948	11/10	85
1993	30/9	42	1970	12/10	54	1947	12/10	102
1992	11/10	59	1969	No activity		1946	10/10	167
1991	05/10	71	1968	6/10	71	1945	09/10	173
1990	06/10	58	1967	15/10	49	1944	08/10	127
1989	05/10	49	1966	06/10	52	1943	11/10	277
1988	9/10	91	1965	10/10	81	1942	08/10	120
1987	02/10	132	1964	03/10	85	1941	03/10	102
1986	11/10	72	1963	10/10	76			
1985	18/10	46	1962	04/10	60			

Table 1: Day of maximum capture and respective number of Song Thrushes, 1941-2007 (bold type: more than 100 captures; red type: peaks in September)

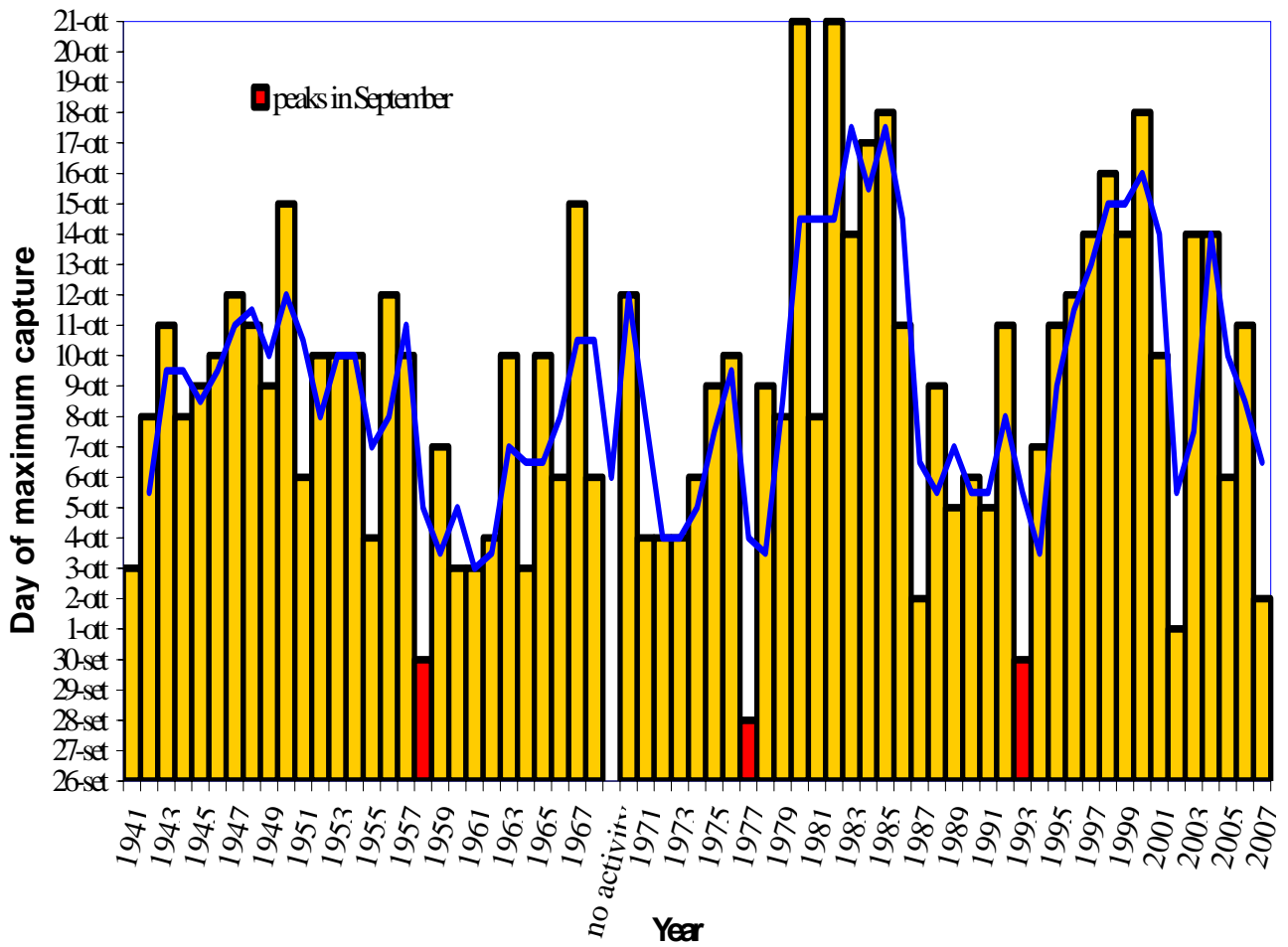


Figure 2: Days of maximum capture, 1941-2007.

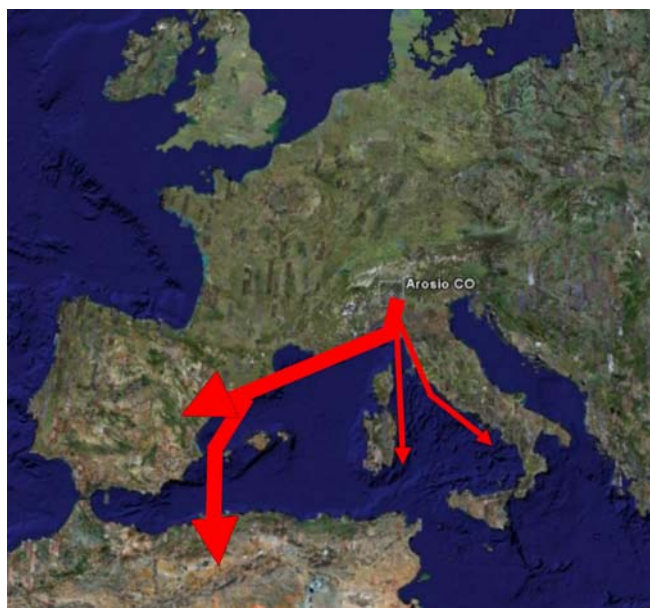


For last 15 years (1993-2007), for which a computerised archive is available, it has been possible to calculate the *age-ratio*: the sample is composed of 8.386 juveniles, 1.979 adults and 117 undetermined (total = 10.482). The young/adult is therefore equal to 4.2, while the percentage of young birds is equal to 81%.



*Wing of a young bird:
presence of juvenile
great coverts*

At last, table 2 represents a synthesis of the numerous recoveries (300) of Song Thrushes ringed in Arosio and recaptured elsewhere (period 1977-2007); the data allow to locate in France, Algeria, Spain and Corsica the main destinations for the wintering, and to confirm for Italy a pre-eminent migratory flyway towards the south-west, through the regions Piemonte and Liguria, and a branch southwards flyway, through Tuscany and Lazio (see figure to side).



RECOVERY PLACE	NUMBER of RECOVERIES	RECOVERY PLACE	NUMBER of RECOVERIES	RECOVERY PLACE	NUMBER of RECOVERIES	RECOVERY PLACE	NUMBER of RECOVERIES
FRANCE	76	GERMANY	1	ITALY - LIGURIA	14	ITALY - SARDINIA	2
ALGERIA	50	GREECE	1	ITALY - TUSCANY	9	ITALY - UMBRIA	1
SPAIN	23	LETTONIA	1	ITALY - LAZIO	4	ITALY - CAMPANIA	1
BALEARI	22	CZECH REPUBLIC	1	ITALY - VENETO	4	ITALY - CALABRIA	1
CORSICA	11	ITALY - LOMBARDY	75	ITALY - PIEMONTE	3		

Table 2: Recoveries of Song Thrushes, ringed in Arosio and recaptured elsewhere.