

NATAL DISPERSAL OF FIRST-WINTER PEREGRINE FALCONS

Salvatore Bondi* – Enrico Guzzo – Rosario Mascara – Laura Zanca – Maurizio Sarà

Section Animal Biology of STEBICEF Department, Palermo University, Italy

*e-mail: salvo.bondi@neomedia.it

Quantitative information about natal dispersal is available for many species, usually focused on their long-distance migration. Basic information on non-migrant Peregrine falcons is virtually lacking, despite the amount of scientific data on this species, and the sensitivity of this stage in the Peregrines' life history. Information on movements is crucial for the definition of young post-fledged areas, the behaviour of floaters and also gives key information about juvenile mortality.

Thanks to satellite telemetry, we were able to provide data about the destiny, movement and habitat use during both the phase of post-fledging dependence by parents (PFDP) and the dispersal period of 14 Peregrine falcons in Sicily (Italy), by standardized net displacement (ND) and coefficient of variation (ΔCV) methods. In this preliminary contribution, we considered dispersal until the first winter of life, ended the 28 of February. PFDP extended on average 42 ± 11 days, a phase in which young peregrines moved 3.0 ± 1.6 km from the nest, and explored an area of 1.5 km^2 on average. Dispersal started when young were about 80 ± 11 days old, on average the 29th of June. Brothers from same nests ($n=3$) had similar PFDPs and dispersal behaviours. During their first winter, young Sicilian Peregrine falcons did exploration flights mixed to sedentary periods spent in localized territories. During exploration, the average maximum distance from the nest was 109.3 ± 71.6 km and for 12 individuals corresponded to their first long flight, done immediately after the dispersal. Three falcons went outside Sicily and arrived to Aeolian islands and the southernmost Italian peninsula before to come back home after few days. 4 out 14 young falcons died few weeks (22 ± 2 days) after the start of dispersal. Three others falcons showed a peak of increasing distance during the first days of the dispersal period, but after that, they came back in areas close (≤ 20 km) to their birth-place to spent the winter. The remaining 7 spent their first winter in localized territories far from the nest (> 80 km). Only 7 out 14 individuals survived their first winter of life, and six of them have chosen the strategy of far dispersal from the birth-place. The average home range of the 7 overwintering falcons, calculated by kernel density estimation at 95% was $237.3 \pm 170.7 \text{ km}^2$, home ranges were mainly composed of open cultivated areas, like cropland, plus limited extents of natural scrublands. At night the 14 falcons used to roost on cliffs ($n=10$) and power line pylons ($n=4$), when sedentary; but exploited arboreal roosts (eucalyptus, olive trees) during exploration trips.



2017