

FEATURE ARTICLES

**THE EFFECTS OF PERMANENT LOCAL EMIGRATION AND ENCOUNTER  
TECHNIQUE ON STOPOVER DURATION ESTIMATES AS REVEALED BY  
TELEMETRY AND MARK-RECAPTURE**

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Manuscript received 8 December 2005; accepted 17 October 2006.

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*Abstract.* Studies of stopover durations of migrating birds using mark-recapture and resighting techniques are usually restricted to only a part of a stopover site. Therefore, estimates of stopover duration may be negatively biased if birds leave the trapping area permanently, but remain within the stopover site (permanent local emigration). We tested this possible effect by comparing stopover durations of Orphean Warblers (*Sylvia hortensis*) estimated from recapture and resighting data obtained from a trapping area covering only a part of a stopover site with durations estimated from relocation data of radio-marked individuals sampled over the entire stopover site. To test a possible effect of the different reencounter techniques on stopover duration estimates we compared estimates of stopover duration derived from the recapture and resighting data with those derived from the relocation data restricted to the same trapping area. Stopover duration estimated from relocation data obtained from the entire stopover site was twice as long as stopover duration estimated from recapture and resighting data. While similar estimates of stopover duration were obtained from relocation data when data from only the restricted trapping area were used, the proportion of transients was different between the two data sets. The different estimates of stopover duration were most likely not due to permanent local emigration, but rather to violations of essential model assumptions, such as equal catchability or that the probability of staying for another day is independent of the time a bird has already spent at the stopover site.

*Key words:* Cormack-Jolly-Seber models, encounter technique, migration, permanent local emigration, stopover duration, *Sylvia hortensis*, telemetry.