Variation in quality of stop-over sites on the southern Baltic coast indicated by the rate of fat deposition in autumn migrating adult dunlins *Calidris alpina*

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Feeding conditions show high variability in composition and availability across the latitudinal gradient not only of breeding and wintering areas, but also of stopover sites used by waders during their migration. On the Baltic coasts, windflats are main feeding areas for staging waders but they are highly changeable and unpredictable due to variable water level. In this study, we documented local variability in quality of stop-over sites as indicated by the fat deposition rate in autumn migrating adult dunlins captured on the southern Baltic coast.

The aim of the study was to compare feeding conditions based on the fat deposition rate of dunlins captured at different sites in the studied region and verify whether these were only emergency stop-over sites.
As the basis for this comparison we also used data on the fat deposition rates in dunlins held in captivity and provided with high quality food *ad libitum*.


Photo: D. Ożarowski


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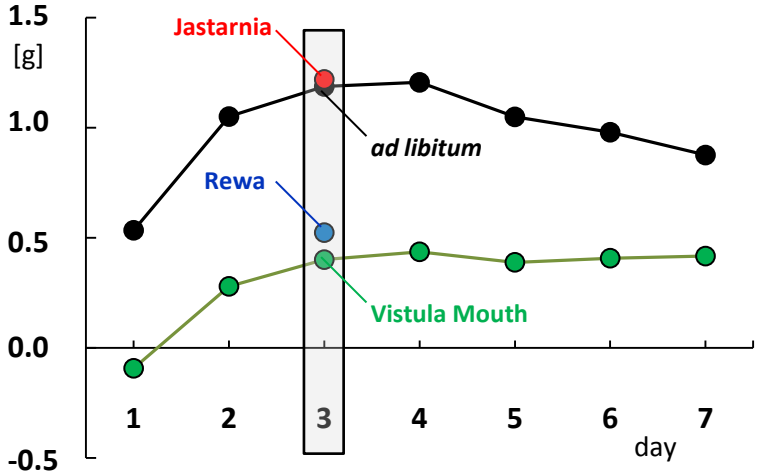

Fig. 1. Relation between the fat deposition rate of dunlins and length of their stay at the stop-over sites located on the S Baltic coast and the fat deposition rate of the individuals held in captivity.

- during first three/four days of stop-over, the fat deposition rate was almost two-fold lower in individuals captured in the Vistula Mouth and Rewa (3rd day: 0.40 g and 0.52 g/per day, respectively), which are typical stop-over sites in the studied region, than in captive individuals (3rd day: 1.19 g/per day). Then it stabilized at ca. 0.40 g/per day, while in captive individuals it started to decline but still exceeded 0.80 g/per day;
- the exceptions were dunlins captured at the local sewage treatment plant in Jastarnia, where birds had access to open sedimentation pond. The fat deposition rate in the individuals that have stayed there for three days was 1.22 g/per day and this result was comparable to the fat deposition rate of dunlins held in captivity.

Summary

The significantly lower fat deposition rate recorded in dunlins captured in the Vistula Mouth and Rewa (southern Baltic) when compared to the individuals fed *ad libitum* supported the thesis on the lower quality of these stop-over sites. Most probably these are only emergency stop-over sites.
The fat deposition rate in the individuals that have stayed in Jastarnia for three days was similar to dunlins held in captivity, which indicates good feeding conditions at this site. Yet, it should be bear in mind that sewage treatment plant was an artificial site, while the Vistula Mouth and Rewa were natural stop-over sites.

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