same basis as Roselaar (1995) described syriaca. However, in order to avoid further complications without contributing to the illumination of biological phenomena, it is recommended that this is not done and that syriaca is placed in synonymy at least until further morphological and/or other features have shown that syriaca is more than the northern end of a geographical cline.

The sexes do not differ in size according to Roselaar (1995). However, as Sugg (1974) found that females have longer wings and smaller bills than males at Lake Victoria, it would be worthwhile to compare individuals only with others of the same sex.

Zusammenfassung

Die Trennung von Ceryle rudis syriaca Roselaar, 1996 als eigene Subspezies basiert ausschließlich auf der etwas größeren Flügellänge. Da gezeigt werden konnte, dass die Flügellänge des Graufischers der Bergmannschen Regel folgt, wird vorgeschlagen, syriaca wieder zu eliminieren.

Literature


Microclimate in Communal Roost Sites of Starlings Sturnus vulgaris

Philippe Clergeau and Emmanuel Simonnet

Clergeau, P, & E. Simonnet (1996): Microclimate in communal roost sites of starlings Sturnus vulgaris. J. Orn. 137: 358–361. — Microclimate of 10 roost sites selected by Starlings was measured with minimum thermometers during two winter months. A significative difference between urban and surrounding countryside underlines the advantage to roost in the city.

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For many birds in temperate latitudes, winter is a period of potential energy stress due to low temperature combined with limited food supplies. The energy expenditure peaks for roosting during the winter nights and particularly affects small birds which lose more heat per unit surface area than large birds (Elkins 1988). Brenner (1965) suggested a meteorological reason for birds forming dense assemblies during the night. But it is clear now that communal
roosting behaviour cannot be explained by microclimatic advantages: communal roosts exist through the year (CLERGEAU 1981, 1993), communal roosts exist also in tropical zones (WARD 1973, FERNS 1992), the microclimate benefit of roost sites cannot compensate for the energy of flying times (GYLLIN et al. 1977, YOM-TOV et al. 1977) and heat production generated by numerous roosting birds is insignificant (WALSBERG 1986).

However the selection of a roost site involves shelter from wind (WALSBERG 1985) and differences in temperature are observed between the selected site and its surroundings: FRANCIS (1976) obtains 2°C and YOM-TOV et al. (1977) 5.0 to 8.5°C with bird presence. WALSBERG (1986) estimates that 'standard operative temperature' is increased by about 9.5°C with the use of appropriate nocturnal roost sites. JENNI (1991) who examines sites of a similar nature in close proximity and without birds, shows that the most wind protected site was chosen and finds a difference of 0.5 to 2.0°C. All these studies show that birds select microclimatically favorable sites to roost at a local scale. However it is not yet clear whether birds' selection is sufficiently good to balance some climatic differences between nearby zones, i. e. at landscape scale. For example, the temperature between the town centre and the periphery countryside usually amounts to 2—4°C (GYLLIN et al. 1977, GILBERT 1989). This difference is noticeable only for some kilometres, which is little in comparison with roost flights of up to 20 kilometres observed in numerous species. We can suppose that birds select the best sites in the two areas and it is not obvious that roost sites in urban areas present a different microclimate from roost sites selected in the nearby countryside area. If a difference exists, birds have an interest in choosing particular area in their home range. If no difference exists, birds select optimal sites in each area that eliminate slight differences in microclimatic features.

We have investigated this problem examining the minimum temperatures obtained in various roost sites selected by Starlings Sturnus vulgaris. Observations were made at Rennes (West of