

Farner D S & Follett B K. Light and other environmental factors affecting avian reproduction. *J. Anim. Sci.* 25(Suppl.):90-115, 1966.

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This *Citation Classic* summarized available information on the role of the hypothalamo-hypophysial system in the transduction of information on daylength into increased circulating levels of gonadotropins and thereby into gonadal function. Although emphasis was placed on the primary and essential role of daylength in the generation and control of annual cycles in some feral species, attention was drawn to the importance of other environmental information in the expression of photoperiodically induced functions and in temporal adjustment thereof to the phenologic succession of the breeding season. [The *SC*⁹ indicates that this paper has been cited in over 140 publications, making it the most-cited article in this journal.]

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Since childhood I have persistently retained a fascination with the annual cycles of reproduction and migration in birds. Spurred additionally by contributions of earlier and contemporary investigators,¹⁻⁶ I seized the opportunity of appointment as associate professor of zoophysiology at Washington State University in Pullman in 1946 to initiate investigations on the control of annual cycles in the white-crowned sparrow *Zonotrichia leucophrys gambelii*. This species became the principal subject of my research for 40 years. Among the two score graduate students and postdoctoral fellows who contributed extensively to the research program in Pullman before 1966 were: Andreas Oksche, now professor of anatomy at Giessen; Hideshi Kobayashi, emeritus professor, University of Tokyo; James R. King, professor of zoophysiology, Washington State University; A.H. Meier, professor of zoology, Louisiana State University; A.C. Wilson, professor of biochemistry, University of California, Berkeley; and the

junior author of this *Citation Classic*, B.K. Follett, professor of zoology, University of Bristol.

Follett, after completion of his doctoral studies in pharmacology at the University of Bristol, came to Pullman for two years, beginning in 1963. He, Meier, and King pioneered combined field and laboratory investigations of endocrine function in small feral species. Also during the 15 years prior to 1965, King, Wilson, and other members of the laboratory quantified the role of daylength in the generation of annual cycles in the white-crowned sparrow; Oksche, Kobayashi, Fred Wilson, and others made significant investigations on the nature of the hypothalamo-hypophysial system and its role in the generation of annual cycles in this species.

I suggest that the summary of this early progress in research on the nature and role of daylength as environmental information in the generation of annual cycles of the white-crowned sparrow and comparisons with other species were the primary reasons for extensive reference to this *Citation Classic*.

But there is doubtless an additional factor in its admonition that although annual cycles in this and other species are generated by the annual environmental photocycle, they are adjusted in expression by modifying and supplemental environmental information. This admonition has been increasingly sustained by field experiments with measurements of circulating hormones and quantitative observations of behavior.^{7,8}

It seems clear that this article was among the influences that catalyzed increased attention to avian physiology in ornithology, as reflected by programs of the international congresses of ornithology; it may well have been influential in my subsequent elections to the presidencies of the American Ornithologists' Union and the XVIIth International Ornithological Congress in Berlin in 1978.

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