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PREFACE

This volume deals with a subject which has been a recurring theme of the *Journal of Experimental Biology* for many years: the homeostatic control of the ionic and osmotic concentrations of the body fluids in vertebrate and invertebrate animals. Such control is primarily a consequence of the integrated activity of a number of transporting epithelia. The articles in this volume present an up-to-date review of the 'state of the art' of this important aspect of comparative physiology. The topics covered range from the basic cellular processes of ion transport and fluid secretion to the mechanisms involved in their hormonal integration and the evolution of this control.

The articles presented here were based on the fifth Discussion Meeting of the Company of Biologists Ltd. The meeting was held, in March 1983, at Wakulla Springs, in northern Florida – a venue made familiar to millions of cinema-goers of earlier decades as the setting of numerous Tarzan films. I am grateful to Joe Wilkie and John Harvey and to the staff at Wakulla Springs for providing such agreeable and efficiently organized facilities and to Chuck Daniels for introducing the participants to so many fascinating local examples of epithelial integration – especially the alligators and limpkins, and *The Simple Gold Band*.

I am also most grateful to Simon Lewis and John Phillips for recruiting such a stimulating collection of participants.

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