

PREFACE

This book contains the proceedings of the ninth in a series of international gatherings dedicated to understanding how animals survive cold conditions. The fact that these symposia have continued to occur every 3-5 years, even though no formal, organized society has been associated with or served as sponsor of the meetings, implies an enduring set of traditions and a high degree of enthusiasm on the part of the participants.

The series, beginning with the first meeting in 1959, originally focussed almost exclusively on mammalian hibernation. Beginning with the fourth meeting in 1971, the scope has been expanded to consider the wealth of problems encountered by vertebrates living in cold climates and the diversity of solutions brought to bear on these problems. This symposium continues this tradition with papers on eutherian mammals, including man, prototherian mammals, birds, and amphibians. Multidisciplinary approaches have been another tradition associated with these meetings. In this volume, topics range from field research using doubly labelled water and radiotelemetry devices to cellular and molecular studies on gene expression and synthesis of messenger RNA. The contributions of comparative and multidisciplinary approaches to the advancement of knowledge on life in the cold are eloquently summarized by William R. Dawson in his keynote address, the first paper in this volume.

Another tradition in the proceedings associated with these symposia has been the acknowledgement of the passing of those who have made major contributions to the understanding of how animals deal with cold, particularly through hibernation. Jack W. Hudson recently passed away. He coauthored the volume resulting from the fifth symposium and contributed importantly to the understanding of the role of endocrine glands, particularly the thyroid, in mammalian hibernation. We pay tribute to Jack as a friend, mentor, and leader in his field.

A new feature of this symposium is the presentation of several "point counterpoint" debates on controversial or contentious issues. These topics were addressed by proponents of various viewpoints as a

way of helping others understand the basis of the controversy and to propose experimental methods by which the issue could be clarified.

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