

Preface

We have collaborated on projects since 2001, and it became evident to us by 2004 that a book about reproductive skew incorporating theoretical, empirical, and review chapters might be timely. Because of our own research specializations, and because a large body of literature exists on skew in social insects, we generated a plan to prepare a volume on reproductive skew in vertebrates, approaching Cambridge University Press with a proposal. The present text represents our attempt to provide a "state of the art" overview of reproductive skew in vertebrate societies by some of the most active and highly regarded researchers in this field. It is our intention to highlight the most fundamental questions for students of reproductive skew, to assess the strengths and weaknesses of skew models, to critically evaluate skew in insect societies and skew in social vertebrates, and to identify important directions for future theoretical and empirical work.

In her foreword to our volume, Sandra Vehrencamp has provided a brief overview of the history, theory, and empirical highlights of models of reproductive skew. It is clear from her personalized account that advances in the study of reproductive skew (the within-sex partitioning of reproduction within social groups) were presaged by early work in behavioral ecology demonstrating a relationship between dispersion and quality of limiting resources, in particular, food and nesting sites, as well as variations in social behavior, social organization, and mating systems within and between populations. The relationship between these factors is analyzed in models of reproductive skew that attempt to explain the partitioning of reproduction among individuals of the same sex in animals and offer a theoretical framework for understanding the formation of social groups. In addition to the central role of kin selection, skew theory identifies other fundamental processes that are key to the evolution of complex sociality, such as suppression of reproduction or the control of group membership, and it may thus enable us to

study one of the major transitions in evolution, from primarily solitary to social lifestyles, across a range of different taxa.

Our book provides the reader with theoretical, empirical, and review chapters on a variety of model vertebrate systems exemplifying high, intermediate, and low skew and the causes and consequences of biased reproduction within groups. Furthermore, since social insects have been the classic exemplars of high-skew societies, we include a chapter on these organisms and their similarities and differences to social vertebrates. We think that a particularly helpful feature of our text is its future value as a reference tool. A related utility is the book's presentation of many ideas for future research that have not been thoroughly investigated to date: for example, the evolution of low-skew societies and underlying mechanisms of suppression. An additional feature of *Reproductive Skew in Vertebrates: Proximate and Ultimate Causes* is its presentation of caveats about skew models for those who may be uncritically enthusiastic about these paradigms. The investigation of all aspects of reproductive skew is in its early stages, and we hope that our volume will help this field develop into a more mature, and critical, enterprise.

As editors, we would be remiss if we failed to acknowledge and to express gratitude to the many individuals who have facilitated the process of our book's actualization - from initial proposal to published text. We thank our initial contacts at Cambridge University Press whose interest in our ideas never faltered. Our editor at Cambridge, Martin Griffiths, has provided significant input, guidance, support and encouragement for our project. Without Martin's expert ability to diagnose and to resolve challenges, our book may not have gone to press. Subsequent to the decision by Cambridge University Press to invite our initial book proposal and to distribute it for review, we received helpful and constructive criticism and advice from several researchers investigating the topic of reproductive skew. These critiques influenced our final decisions regarding our volume's conceptual framework and organization, and also prompted us to include additional chapters on topics we had not previously considered. Indeed, the initial feedback we received from reviewers of our proposal was critical in stimulating our thinking about target questions and heightened our enthusiasm for our project, and we gratefully acknowledge the comments of these researchers.

Our most profound thanks are extended to our contributors, who have demonstrated professionalism, expertise, patience, and, most important, good humor at every stage of our project. Without the willingness of these individuals to engage in frequent communication about their submissions and to receive our suggestions with grace, even when they may have disagreed with them, our book would not have been realized. We hope that our contributors

will be pleased with the final text, as we are, and that they, their colleagues, and their students will value their contributions to *Reproductive Skew in Vertebrates: Proximate and Ultimate Causes* for many years to come. Among the contributors to our book that we wish to acknowledge by name are Sandra Vehrencamp and Bernard Crespi, who assumed responsibility for writing the foreword and the concluding chapter, respectively. These experts met unique challenges requiring the ability to summarize the field of reproductive skew, both retroactively and for the future. We hope that both of these contributions will help to place the book's chapters in a broad context by linking each topic with past work, with the present state of the field, and with the literature on reproductive skew and related topics yet to be published. Finally, we wish to express personal thanks to those who have been particularly influential in our careers. Reinmar Hager is especially grateful to Rufus Johnstone, his thesis advisor at Cambridge University, for introducing him to skew theory, and to Yfke Hager, for help with editing. Clara B. Jones, likewise, thanks her dissertation advisor at Cornell University, William C. Dilger, for encouraging her interests in plants and animals and for facilitating her research interest in the evolution of social behavior. In the final analysis, it may be both necessary and sufficient to stress that we hope you find our volume a "good read" that will provide information, stimulate thinking, and generate original research, both theoretical and empirical, for its readers and their extended academic families. We look forward to these outputs as well as your measured feedback.