Preface to Volume 2

MOST sexual and even many asexual organisms interact with conspecifics at some time during their lifespan and thereby engage in at least rudimentary social behaviour. Although Darwin recognized that natural selection acting in a social context might be a powerful evolutionary force, only over the past 30 years have relatively detailed, evolutionary investigations of behaviour been undertaken. A renewed appreciation of the role of natural selection in shaping behaviour has been in part responsible for this increased interest in the social interactions of a variety of organisms. Indeed, West-Eberhard (1983) argued that social selection may be among the most potent selective forces, shaping the behaviour and morphology of organisms in a variety of contexts including reproduction, foraging, and even predator-prey interactions.

Amphibians have served as subjects in a great many of these recent studies of social behaviour. The present volume begins with an examination of variation in reproductive behaviour among the sexes. Studies of alternative reproductive behaviour in urodeles and anurans have provided important insights into behavioural dimorphism both within and between the sexes. Female choice and structure of mating systems are reviewed in chapter two; amphibians have been instrumental in the refinement of hypotheses regarding the evolution of female preferences and the evolution of polygynous mating systems.

The tremendous diversity in reproductive modes exhibited by amphibians is reviewed by Crump in chapter three. This variation has proven useful in allowing investigators to examine relationships between environmental variables, phylogeny, and parental care. Likewise, the review of Blaustein and Walls in chapter four reveals that studies of kin recognition and aggregative behaviour in anuran larvae have been vital to an elucidation of mechanisms of conspecific recognition. As a result of these studies, investigators have gained a greater understanding of the ability of organisms to make fine-level distinctions among the individuals with which they interact.

In chapter five, Gerhardt and Schwartz discuss experimental manipulations of the acoustic communication systems used by anurans, and they derive a number of insights into social interactions among heterospecifics and mechanisms of species recognition. Mathis *et al.* review, in chapter six, the wealth of information that has been obtained from thorough studies of territoriality in a relatively small number of salamanders. Finally, Houck provides an overview of work concerning the endocrinological basis of sexual behaviour in male amphibians — a growing field given the great interest in mechanisms responsible for behavioural variation upon which selection can act.

In the task of preparing this volume, we have been assisted by a number of persons. We were encouraged by the enthusiastic response of the authors. Their competence and writing skills lightened our task. So often, extensive reviews, such as the present book, are out of date by the time they appear because of lags in publication time. The prompt publication of "Social Behaviour" is attributable to the conscientious and efficient professionalism of Ivor Beatty Sr and his staff. They virtually processed chapters as they were received, providing authors with galley proof of some of the earlier chapters even before we had received or edited later ones. Technical and clerical assistance was rendered by Audry Yoder Heatwole, Shirley Waters, Christine Smith and Betty Foster. Everett Allen converted the computer discs of various authors into a single format and Barbara Grimes assisted with proofreading.

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