Parasitology is an immensely important aspect of biological science. This manual presents 50 easy-to-follow laboratory exercises for student practical (lab) classes. All the exercises are tried and tested by the authors and are used in a wide variety of university undergraduate teaching departments. They range from relatively simple observational exercises, using local materials and requiring little in the way of equipment, to more technically demanding experiments in physiology and molecular parasitology.

Each exercise includes a list of necessary equipment, consumables and sources of parasite material, instructions for staff and students, including aspects of safety, expected results and some analysis provided by questions; there are ideas for further exploration and information on similar exercises, and lists of selected further reading.

This book should be an essential purchase for all teachers of parasitology at the university undergraduate level and for students taking laboratory practical classes in the subject.

Practical Exercises in Parasitology

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PREFACE

This manual describes a range of well-tried practical exercises, drawn largely from the membership of the British Society for Parasitology, and currently used in the teaching of parasitology at undergraduate level. The primary aim is to promote and, hopefully, stimulate practical teaching in parasitology in institutions where levels of experience and resources devoted to the subject vary from substantial to none. For this reason, the exercises selected range from the simple, requiring little in the way of sophisticated equipment, and focusing on locally-available materials, to the more elaborate, in the fields of molecular biology and immunology; it is not intended to provide comprehensive coverage of practical parasitology. Use of the manual outside of the UK may require alternative materials and/or sources of materials.

Although the seven sections presented comprise information and exercises in different aspects of the subject, it is recognised that merging of a number of the exercises cited, or other modifications, may suit the local situation. For example, the species used in Section 1 could be substituted depending on availability; these and other adaptations are to be encouraged and, in many instances, alternative sources of material are suggested by authors. The decision on how best to produce a bench-top handout is a personal one, but readers are welcome to use the text and ideas presented here.

It is important to note that while every consideration to health and safety has been given by the authors, editors and the Society, no responsibility can be accepted if things go wrong. In the UK, we advise each laboratary co-ordinator to carry out a hazard assessment for any of the exercises used so as to ensure that the Control of Substances Hazardous to Health Regulations (COSHH, 1986), part of the UK Health and Safety at Work Act, 1974, are fully met. Note that these now include the Categorisation of Biological

Agents, according to hazard and categories of containment, prepared by the Advisory Committee on Dangerous Pathogens, 1995.

A number of exercises include the use of laboratory animals. In the UK, it is essential that Home Office regulations are followed and the local laboratory co-ordinator and/or department must take responsibility for this. The transfer of animals from one laboratory to another also requires Home Office approval.

The editors hope that the ideas presented here will contribute to securing the future of teaching in parasitology, and welcome any suggestions or comments for possible improvement and further development of the content.

Finally, we are indebted to the authors of the exercises that have been selected for this publication, but equally grateful to those who submitted exercises which, for a variety of reasons, we have been unable to include. We would also like to record our thanks and appreciation to many other colleagues for their encouragement, criticisms and comments, and especially the Council of the British Society for Parasitology for their continued support.

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